CEQA
FINAL - INITIAL STUDY

CITY OF EUREKA

PROJECT TITLE: Eureka Waterfront Trail Project Phase A

PROJECT APPLICANT: City of Eureka Parks and Recreation Department

CASE NO: ED-14-0001

PROJECT LOCATION: The project is located in northwestern Eureka paralleling the coast of Humboldt Bay from Del Norte Street (northern terminus) to Truesdale Street (southern terminus). The project alignment would be within the right of way (ROW) of the North Coast Railroad Authority (NCRA) railroad, which follows the coastline south, with the exception of two short segments of the trail that would temporarily leave the NCRA alignment — one that enters into a former Pacific Lumber Company (PALCO) property referred to as "Parcel 4" and the other that parallels the northerly portion of the west boundary of PALCO Marsh — before rejoining the railroad ROW and continuing south past the Chevron Terminal to Truesdale Street. The project alignment would pass through Assessor's Parcel Numbers (APN) 007-031-004, 007-031-003, 007-031-002, 007-051-002, 007-051-009, 007-061-002, 007-071-003, and 007-071-014, and would cross through Sections 21, 22, 28, and 33 in Township 5 North, Range 1 West on the Eureka, California 7.5-minute U.S. Geological Survey quadrangle, Humboldt Base and Meridian. A regional map showing the project location is provided as Figure 1; Figure 2 shows the route of the proposed Phase A trail alignment (Appendix A).

ZONING & GENERAL PLAN LAND USE DESIGNATIONS: Zoning—Public (P); Coastal-Dependent Industrial (MC); and Natural Resources (NR). **Land Use**—Coastal Dependent Industrial (CDI); Community Commercial (CC); and Natural Resources (NR).

PROJECT DESCRIPTION: The City of Eureka (City) is proposing to construct an approximately 1.2-mile long segment of Class 1 multi-use trail from Del Norte Street south to Truesdale Street (project) (Figure 2, Appendix A). The project, also known as "Phase A," would be an extension of a trail ("Phase B") that is proposed to follow the Humboldt Bay coastline along the Eureka waterfront. (A Mitigated Negative Declaration was adopted for Phase B in July 2012, State Clearinghouse Number 2012052053). The project purpose is to further enhance non-motorized and pedestrian connectivity, and increase public access to and along Eureka's waterfront on Humboldt Bay. The project is intended to encourage nature study, appreciation of the environment and historic uses of the area, increase opportunities for active living to improve public health, increase the safety of non-motorized transportation, improve public safety, and recover native vegetation community values where possible. In addition, the project seeks to reclaim an area that is frequented by transients and the local homeless population and in which significant accumulations of trash and other waste have occurred. The proposed alignment is an important piece in the statewide initiative to complete the California Coastal Trail (CCT). The proposed Eureka Coastal Trail system (which includes Phase A) and associated coastal access improvements are key elements in the City's General Plan (City of Eureka 1999) and Eureka City Council's Strategic Plan 2013-2018 (Lyle Sumek Associates, Inc. 2013).

The Phase A trail would generally consist of a paved section designed to accommodate emergency vehicle access and two unpaved shoulders. The following sections describe five segments of the project from north to south, the alignment of which is shown on Figure 2 (Appendix A). These segments are differentiated herein for clarity, but may or may not represent distinct segments during design or construction. Project-specific improvements such as elements of the multi-use trail, trailheads, parking, landscaping, street crossing(s), roadway/sidewalks, lighting, signage, and design standards are further described below under specific headings for Segments 1-5. Improved safety elements are integrated within the information below and would include improved trail surfaces (as deemed appropriate), American's with Disability Act (ADA) access, and signage.

The Phase A trail segment of the Eureka Waterfront Trail is a distinct project from any other trail sections to which it may connect under the proposed project or in the future, and it is a separate project from the overall California Coastal Trail system. The Eureka Waterfront Trail is not dependent on the success of other segments of trail and can be funded, implemented, and operated independently from other area trail segments.

Segment 1: Del Norte Street to Parcel 4

This section of trail would be constructed beginning at Del Norte Street adjacent to PALCO Marsh and extend south approximately 850 feet to a pedestrian footbridge that would cross the drainage ditch to the west, and then it will enter the NCRA ROW. From there, the trail would be constructed along an existing gravel pathway within the railroad corridor. The trail would consist of a 10-foot paved section and two 2-foot unpaved shoulders on each side. In those areas where there is wetland or environmentally sensitive habitat area (ESHA) impacts, the trail would narrow to 8-feet wide with two 2-foot unpaved shoulders.

Signage Historical and nature study interpretive signage.

Trail Amenities A cluster of outdoor gym equipment would be installed just east of the trail in the open area approximately 2,100 feet south of Del Norte Street, near Vigo Street. The footprint would be approximately 30 feet in diameter. There would also be two benches installed in viewing areas approximately 1,000 feet and 2,000 feet south of Del Norte Street.

Segment 2: Parcel 4

The trail section described above would be continued through Parcel 4. The trail would cross the railroad tracks on the existing unpaved road that provides entry into the north portion of Parcel 4 and continue to loop through Parcel 4 on the existing unpaved road, consistent with the Parcel 4 Feasibility Study (Redwood Community Action Agency no date), until it reconnects with the NCRA ROW approximately 200 feet north of the Chevron facility. This section of trail would be approximately 1,150 feet in length.

Signage Historical and nature study interpretive signage.

Segment 3: Parcel 4 to North Boundary of Chevron

The trail would continue south parallel to the NCRA railroad tracks, but would now be located on the west side of the railroad corridor. This 250-foot long section of trail would be narrowed to an 8-foot paved section with two 2-foot unpaved shoulders to minimize impacts to adjacent wetlands and willows located on the west side of the tracks.

Segment 4: Chevron Terminal

This 450-lineal-foot trail section would start on the west side of the tracks from the northern edge of Chevron's property until it connects with Chevron's driveway. At the driveway, the trail would cross to the east side of the railroad tracks and then continue south towards Truesdale Street. Where the trail would cross the Chevron access driveway, the driveway/trail intersection would be designed to reduce conflicts between trail users and vehicles.

Signage Safety-related signage associated with crossing of driveway and street intersection.

Segment 5: Chevron Terminal to Truesdale Street

From the south Chevron property line, the trail would continue south within the railroad corridor on the east side of the tracks. A crossing would be designed at Truesdale Street to connect the trail with the sidewalk that leads to the Truesdale Vista Point parking lot and Hikshari' Trailhead, on the southwest corner of the Truesdale Street/Howell Street intersection.

Signage Safety-related signage associated with crossing of street intersection.

Trail Design

For portions that are within the NCRA ROW, the project will conform to NCRA Policy 0907 – Trail Projects on the NWP Line Rights-of-Way: Design, Construction, Safety, Operations, and Maintenance Guidelines (North Coast Railroad Authority 2009). This document outlines the NCRA's policies regarding "Rails-with-Trails" projects and provides uniform and consistent standards on NCRA's ROW for the design, construction, safety, operations, and maintenance of Rails-with-Trails projects. Setbacks from the railroad track required in this plan influenced the location and footprint of the proposed trail. The project has been designed to meet the operational needs of adjacent and intersecting roadways, the railway system, area businesses, and a variety of potential trail users.

The following General Design Characteristics would be used:

- Minimum Tread Width: 8 feet, but trail is primarily 10 feet wide
- Minimum shoulder width: 2 feet on each side of trail tread surface where space allows
- Minimum setback from edge of roadway to edge of tread: 5 feet (without a barrier)
- Minimum setback from edge of roadway to edge of tread: 2 feet (with barrier)
- Minimum setback from railroad track centerline to obstructions or edge of trail tread: 8.5 feet on tangent sections of tracks and 9.5 feet on curved sections of tracks
- Minimum setback from edge of tread to obstructions and buildings: 2 feet
- Minimum Vertical Clearance: 8 feet (10 feet if emergency vehicles use trail)
- Minimum Design Speed: 20 miles per hour
- Maximum Gradient: 5 percent
- Minimum Curve Radius: 90 feet
- Maximum Fence Height: 48 inches
- Minimum Fence Height: 36 inches
- Minimum Angle at which Trail can cross Railroad Tracks: 45 degrees
- ADA Accessibility: the trail would be ADA accessible

Additional project design specifications include:

- **Segments Adjacent to Roadways:** In compliance with Federal Highway Administration (FHWA) and Caltrans standards for a Class I Bikeway, segments of the trail adjacent to roadways would be separated by 5 feet and include a physical barrier (concrete barrier or fence).

- **Roadway and Driveway Crossings:** Would be ADA accessible and include warning signage and markings both on the trail and the approaching vehicular way.

- **Signage and Striping:** Trail would include yellow centerline striping and additional warning signage and striping approaching intersections with existing roads and railroad crossings. In addition, signage would be added along the trail warning users of curves, bends, and other hazardous situations.

- **Speed Control:** Speed control can only be maintained through signage and striping; speed bumps or other surface irregularities are not permitted to control the speed of bicycles and other non-motorized vehicles.

- **Bollards:** If determined necessary, bollards could be installed at trail intersections and entrances to prevent vehicles from entering a trail, with a maximum separation of 5-feet between bollards. Bollards could be located adjacent to the trail with a removable center bollard for emergency and maintenance access. Bollards would not be located in travel lanes. Bollards would be designed to be visible to bicyclists and others, especially at night time, with reflective materials and appropriate striping guiding bicyclists around the center bollards.

- **Intersection Crossings:** Intersections would be improved with crosswalks with striping and ADA accessible curb ramps that meet current design standards. Trail approaches to intersections would include stop signs and stop bar (limit line) striping to stop trail users (particularly bicyclists) before they cross the intersection. In addition, at these locations, pedestrian crossing signage and “no motor vehicle” signage would be installed. Bollards could be installed at the mouths to the trail to inhibit vehicles from accessing the trail.

- **Drainage:** Design standards for the project require a 2 percent cross slope, except along cut sections where uphill water must be collected in a ditch and directed to a catch basin, in which case water would be directed under the trail in a drainage pipe of suitable dimensions.

Typical Examples:

The Rail with Trail standards includes a minimum setback from the railroad track centerline to obstructions or edge of trail tread of 8.5 feet on tangent sections of tracks and 9.5 feet on curved sections of track. The multi-use trail has a minimum tread width of 8 feet, but a 10-foot width will be applied wherever possible. A 2-foot shoulder width is required on each side of the trail tread and can include a planting strip or buffer. A project goal is for the entire trail to meet Class I trail standards.

LEAD AGENCY/CONTACT: City of Eureka, Community Development Department, Lisa D. Shikany, Principal/Environmental Planner, 531 K Street Eureka, CA 95501 Phone: (707) 268-5265; Fax: (707) 441-4202 e-mail: lshikany@ci.eureka.ca.gov

SURROUNDING LAND USES AND SETTINGS: The city of Eureka is the westernmost city on the west coast of the United States and is located on the inner shoreline, buffered from the Pacific Ocean by the Samoa Peninsula and Humboldt Bay, the second largest bay in California. Eureka is approximately 275 miles north of San Francisco, 100 miles south of the Oregon border, and 216 miles northwest of Sacramento. As the county seat for 572-square-mile Humboldt County, Eureka is the center of business and government; the major industries include agriculture, fishing and tourism. The Eureka waterfront has long been the site of industrial development, much of which is now gone leaving only traces of its past as an area dominated by lumber mills, warehouses, and railroads. Within the project area and vicinity most buildings and other infrastructure have long since been removed or are no longer in use. Ruderal vegetation has taken over these areas and significant accumulations of garbage and other dumped debris have made much of the area between the Bayshore Mall (an important regional shopping center located a short distance east of the project area) and Humboldt Bay generally unappealing to the public. Transient and homeless encampments within the project area and vicinity add to concerns for public safety.

The project alignment lies within the state-designated Coastal Zone and within areas under the coastal permit jurisdiction of the California Coastal Commission and the City. The proposed trail corridor is largely within the NCRA ROW and is currently used as an unofficial pedestrian travel corridor. Industrial, commercial, and some residential development (the latter being near the south trail terminus at Truesdale Street), and other public recreational lands are immediately adjacent. The proposed project alignment leaves the NCRA ROW in two locations, where it runs along PALCO Marsh and when it enters an area known as "Parcel 4." The 39-acre PALCO Marsh has a land use and zoning designation of Natural Resources pursuant to the City's Local Coastal Program (LCP). The majority of remaining lands along Humboldt Bay, within or adjacent to the project alignment (including Parcel 4) have a land use and zoning designation of Coastal-Dependent Industrial or Community Commercial.

Biological resources, cultural resources, visual resources, and public access within the Coastal Zone are protected by the California Coastal Act of 1976 and the City's LCP. The City's Parks and Recreation Department will be seeking a consolidated permit from the California Coastal Commission under the Coastal Act. The Coastal Commission will provide the standard for review for the Coastal Development

Permit. A conditional use permit (CUP) will be required for the trail as it encroaches upon lands zoned as Coastal-Dependent Industrial and Natural Resources. As part of the CUP approval, the project must be found to be consistent with the City's LCP.

OTHER PUBLIC AGENCIES WHOSE APPROVAL IS, OR MAY BE REQUIRED (e.g. permits, financing approval, or participation agreement.):

- U.S. Army Corps of Engineers
- California Coastal Commission
- North Coast Regional Water Quality Control Board
- North Coast Unified Air Quality Management District
- California Department of Fish and Wildlife
- California Department of Transportation – District 1
- California Public Utilities Commission
- North Coast Railroad Authority
- Humboldt Bay Harbor, Recreation and Conservation District

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" (before any proposed mitigation measures have been adopted) as indicated by the checklist on the following pages.

- ☑ Aesthetics
- ☑ Biological Resources
- ❑ Green House Gas Emissions
- ☑ Land Use/Planning
- ❑ Population/Housing
- ❑ Transportation/Traffic
- ☑ Mandatory Findings of Significance
- ❑ Agricultural Resources
- ☑ Cultural Resources
- ☑ Hazards/Hazardous Materials
- ❑ Mineral Resources
- ❑ Public Services
- ❑ Utilities/Service Systems
- ☑ Air Quality
- ☑ Geology/Soils
- ☑ Hydrology/Water Quality
- ☑ Noise
- ❑ Recreation

DETERMINATION: 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** will be prepared.

☑ I find that although the proposed project could have a significant effect on the environment, there will 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** will be prepared.

❑ I find that the proposed project 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 those effects that remain to be addressed.

❑ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier **EIR** or **NEGATIVE DECLARATION** pursuant to applicable standards, and (b) have 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.

Lisa D. Shikany
Principal/Environmental Planner, City of Eureka

9-8-14
Date

CHECKLIST AND EVALUATION OF ENVIRONMENTAL IMPACTS: An explanation for all checklist responses is included, and all answers take into account the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts. The explanation of each issue identifies (a) the significance criteria or threshold, if any, used to evaluate each question; and (b) the mitigation measure identified, if any, to reduce the impact to less than significant. In the checklist below the following definitions are used:

- "**Potentially Significant Impact**" means there is substantial evidence that an effect may be significant.
- "**Less than Significant With Mitigation Incorporated**" means the incorporation of one or more mitigation measures can reduce the effect from potentially significant to a less than significant level.
- "**Less Than Significant Impact"** means that the effect is less than significant and no mitigation is necessary to reduce the impact to a lesser level.
- "**No Impact"** means that the effect does not apply to the proposed project, or clearly will not impact nor be impacted by the project.

Introduction and Regulatory Guidance

This document is an Initial Study (IS) that summarizes the technical studies prepared for the proposed Eureka Waterfront Trail Project – Phase A (project). It includes an evaluation of potential environmental impacts that could result from the project and provides justification for a Mitigated Negative Declaration (MND) for the project. This document has been prepared in accordance with the current California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq., and the State CEQA Guidelines. Mitigation measures have been proposed to avoid or minimize any significant impacts that were identified.

Lead Agency

The Lead Agency is the public agency with primary responsibility for implementing a project. The project would receive funding through federal and state sources and would require approvals from the Federal Highway Administration (FHWA) and the California Department of Transportation (Caltrans). FHWA has designated Caltrans to act as the National Environmental Policy Act (NEPA) Lead Agency on its behalf. The City is the CEQA Lead Agency. NEPA approval is anticipated to be in the form of a Categorical Exclusion supported by technical studies.

Supporting Technical Studies

The technical studies listed below are available for review at the City. Please contact:

Miles Slattery, Parks and Recreation Director
City of Eureka Parks and Recreation Department
1011 Waterfront Drive
Eureka, CA 95501
Phone: (707) 441-4184

Technical studies conducted for this project include:

- Archeological Survey Report (ASR)/Historical Properties Survey Report (HPSR)/Environmentally Sensitive Area (ESA) Action Plan (confidential; available to qualified readers only)
- Historic Resources Evaluation Report (HRER)
- Natural Environment Study (NES) Report
- Wetland Delineation Reports for Phase A and Phase B
- Phase I Environmental Site Assessment Reports for Phase A and Phase B
- Visual Impact Assessment (VIA) Report

I. AESTHETICS. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?			✓	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?				✓
c) Substantially degrade the existing visual character or quality of the site and its surroundings?			✓	
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?		✓		

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers whether the proposed project may have any significant effects on visual aesthetics because of: (a) the short-term or long-term presence of project-related equipment or structures; (b) project-related changes in the visual character of the project area that may be perceived by residents or visitors as a detraction from the visual character of the project area; (c) permanent changes in physical features that would result in the effective elimination of key elements of the visual character of the project area near a State scenic highway; or (d) the presence of short-term, long-term, or continuous bright light, such as from welding or nighttime construction, that would detract from a project area that is otherwise generally dark at night or that is subject to artificial light.

DISCUSSION: Specific to scenic vistas and scenic resources, the principle purpose of the proposed project is to provide self-guided access to Humboldt Bay and its viewsheds by utilizing a dedicated trail and existing day use areas. The project area is in the coastal zone, and therefore subject to applicable coastal scenic resource protection measures (California Coastal Act and City of Eureka LCP). The vistas in the area of the proposed trail include views of Humboldt Bay and PALCO Marsh, as well as existing Eureka waterfront development comprised of recreational and industrial uses. Some areas of the proposed trail alignment include views of Samoa Peninsula.

The proposed Phase A trail alignment is largely characterized by a lack of paved roads and absence of existing development. The landscape type is coastal with a mix of wetlands, passive recreation trails, and traces of past industrial land uses. A gravel trail and a closed gravel road/NCRA railroad corridor begin on the south side of Del Norte Street and continue south along the NCRA tracks to Parcel 4 where the proposed trail would temporarily leave the railroad corridor and follow an existing gravel road through the historic PALCO site before rejoining the railroad track alignment and continuing south past the Chevron Terminal. Parts of the northern segment of the proposed Phase A trail alignment would come close to the shoreline (less than 100 feet), thus allowing for expansive views of Humboldt Bay to the west and PALCO Marsh to the east. Topography and dense

ruderal vegetation obscure most other long distance views to the east and west from within the proposed trail alignment. Segments of the proposed trail near the shoreline may be visible from Samoa Peninsula, but most other views of the trail from outside of the proposed alignment are obstructed by a dense stringer of tall vegetation that extends along most of the back of the mall parking lot. Relatively flat topography contributes to the lack of west-facing views from the mall.

Implementation of the project would not block or alter any of these existing views. Signs associated with the project would be consistent with the existing signage in the project area. The alignment itself falls entirely within previously disturbed areas including streets, railroad tracks, and industrial yards.

I a) Less-than-Significant Impact. The project would have a less-than-significant impact on existing or planned scenic views of Humboldt Bay and vicinity. The proposed trail alignment through Parcel 4 would open a visual resource to the community that is unique to the Eureka coastline. There would be no changes to the waterfront as a result of project implementation or to the Truesdale Vista Point located near the southern terminus of the Phase A alignment. There would be no significant vegetation removal or addition of trail amenities associated with the Phase A trail alignment with the exception of a cluster of outdoor gym equipment and benches proposed on the east side of the trail near Vigo Street. Locating the benches and outdoor equipment on the east side of the proposed alignment would avoid impacting views from the trail of Humboldt Bay to the west. Existing (undesignated) vistas would not be significantly affected by the project as the proposed trail would consist of a narrow paved pathway and signage that is consistent with the current uses in the area.

I b) No Impact. The project does not include removal or alterations to any existing scenic resources, including trees, rock outcroppings, or historic buildings within sight of a state scenic highway; therefore, there would be no impact.

I c) Less-than-Significant Impact. The project is expected to improve aesthetics, overall visual quality, and enhance opportunities for the public to experience the scenic vistas of Humboldt Bay and the Eureka waterfront. Although there would be no significant changes to the visual character of the existing road and trail corridors that would become a part of the proposed trail, it is anticipated that the qualities of intactness and unity of the visual resources experienced from the trail would increase through project implementation and operation. Historical and nature study interpretive signage alerting trail users to points of interest along the route that might otherwise go unnoticed could enhance the visual experience of trail users.

Temporary adverse visual impacts may occur from construction disturbance. This may slightly detract from visitor experience on a temporary basis although long-term aesthetics throughout the corridor would improve with project implementation. Clean-up of debris and garbage currently found within the project area, and the orderliness that the proposed trail would bring to the area, would improve the visual character and the quality of views associated with the Phase A trail.

I d) Less than Significant with Mitigation Incorporated. The completed project includes use of nighttime safety lighting at locations where the trail would intersect roadways and railroads tracks (i.e., north and south termini). While this would be a new source of nighttime lighting, low-level, low-glare lighting would be used. The potential for glare from headlights (including bicycle lights), the expanded trail surface, and soils exposed by project construction and vegetation removal would

be consistent with existing conditions and not substantial. Nighttime views of the project area would be limited to artificial light sources at two existing trailheads at Del Norte and Truesdale, which may be visible for a distance from outside of the project area. *Mitigation Measure AES-1 – Light and Glare* requires that permanent lighting be designed to protect wildlife and nighttime views using various types of fixtures in combination with performance standards, thereby ensuring that impacts resulting from these new sources of light will be less than significant.

FINDINGS: Therefore, based on the discussion above, the project will not result in significant adverse aesthetic impacts. The project is expected to improve aesthetics and visitor access to scenic vistas in the project area.

MITIGATION MEASURES

Mitigation Measure AES-1 – Light and Glare: To avoid adverse impacts, new sources of light will be designed to protect wildlife and nighttime views, including views of the night sky. This design goal will be satisfied using a variety of means as applicable, including fixture types, cut off angles, shields, lamp arm extensions, and pole heights. Specific design preferences include not directing light upward or to other properties; avoiding brightly illuminated vertical surfaces where feasible, such as walls and lamp poles; and not directing lighting toward environmentally sensitive habitats. The current Recommended Practices and American National Standards Institute of the Illuminating Engineering Society of North America should be consulted for lighting levels and quality of light.

Timing/Implementation:	Prior to and during construction
Enforcement:	City Parks & Recreation Department
Monitoring:	City and/or its contractor
Evidence of Compliance:	Completion of and adherence to required documents.

II. AGRICULTURE RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?				✓
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				✓
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined by 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))?				✓
d) Result in loss of forest land or conversion of forest land to non-forest use?				✓

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?				✓

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree the proposed project would: (a) change the availability or use of agriculturally important land areas designated under one or more of the programs above; (b) cause or promote changes in land use regulation that would adversely affect agricultural activities in lands zoned for those uses, particularly lands designated as Agriculture Exclusive or under Williamson Act contracts; (c) change the availability or use of agriculturally important land areas for agricultural purposes; (d) loss of conversion of forest land; and (e) cause other changes to the environment that would result in a conversion of farmland or forest land.

DISCUSSION

II a and b) No Impact. The project area and vicinity supports a mix of commercial, industrial, residential, and natural resources uses and does not contain lands that have been mapped as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (California Department of Conservation 2008). There are no lands in the project area currently used for agricultural and none that are under a Williamson Act contract (California Department of Conservation 2014a).

II c and d) No Impact. The project are does not include any forestland and would not cause rezoning of forestland, timberland, or timberland zoned timber production.

II e) No Impact. There are no agricultural or forest lands in the project vicinity. Construction and operation of the project would have no impact on any farmlands or timberlands in the Eureka area.

FINDINGS: Therefore, as discussed above, the project would have no impact on farmlands, agricultural lands, or forest lands.

MITIGATION MEASURES

No project-specific mitigation is required under this subject.

III. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?		✓		
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?		✓		
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?			✓	
d) Expose sensitive receptors to substantial pollutant concentrations?			✓	
e) Create objectionable odors affecting a substantial number of people?			✓	

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree the proposed project would (a) directly interfere with the attainment of long-term air quality objectives identified by the North Coast Unified Air Quality Management District (NCUAQMD); (b) contribute pollutants that would violate an existing air quality standard, or contribute to a non-attainment of air quality objectives in the project's air basin; (c) produce pollutants that would contribute as part of a cumulative effect to non-attainment for any priority pollutant; (d) produce pollutant loading near identified sensitive receptors that would cause locally significant air quality impacts; or (e) release odors that would affect a number of receptors.

DISCUSSION

The project study area is located within the North Coast Air Basin (NCAB) and is under the jurisdiction of the NCUAQMD. The NCUAQMD establishes policies, regulations, and permit procedures for Humboldt, Del Norte, and Trinity counties. Air quality in the NCAB is influenced by a number of factors, including stationary sources such as residential wood heating, non-stationary sources such as motor vehicle exhaust, forest management (prescribed fire), and the meteorology of

a given area.

The NCAB is currently in attainment (or is unclassified) of all State and Federal ambient air quality standards, with the exception of the State standard for particulate matter less than ten micrometers in diameter (PM_{10}). PM-10 air emissions include chemical emissions and other inhalable particulate matter with an aerodynamic diameter of less than 10 microns. The greatest sources of PM_{10} are human-caused area-wide sources, such as motor vehicles, wood burning stoves and fireplaces, dust from construction, landfills, and agriculture, wildfires and brush/waste burning, industrial sources, and windblown blown dust from open lands, airborne salts and other particulate matter naturally generated by ocean surf (California Air Resources Board 2013). With regard to PM-10 air emissions, all of Humboldt County has been designated by the California State Air Quality Board as being in "non-attainment." Moreover, nearly all areas of the State are classified as non-attainment for PM_{10} (Air Resources Board 2010b). Humboldt County exceeds the State standard for PM-10 air emissions partially due to a large number of wood stoves, generally heavy surf, and high winds common to this area.

III a, b) Less than Significant with Mitigation Incorporated. Construction activities associated with the project would result in a relatively minor net increase in PM_{10}. While the amount of PM_{10} generated by the project would be minor, it would nevertheless be considered a significant impact because of the NCUAQMD's current non-attainment status for particulate matter. In addition to adhering to the current Caltrans Standard Specifications and North Coast Unified AQMD's PM_{10} Attainment Plan draft report (North Coast Unified Air Quality Management District 1995) for air quality, implementation of *Mitigation Measure AIR-1 – Fugitive Dust* will be used to reduce this impact to a less-than-significant level by requiring the preparation and implementation of a dust and emissions control program that will reduce PM_{10} emissions below a threshold of significance.

III c) Less-than-Significant Impact. As previously discussed, the NCAB is in non-attainment for PM_{10} under the State criteria. The project would generate some particulate matter during construction as a result of fugitive dust and exhaust emissions; however, because the minor amounts of particulate matter generated by project construction would be mitigated to a less-than-significant level using *Mitigation Measure AIR-1 – Fugitive Dust (as described above in III a, b)* the impact would not be cumulatively considerable. The proposed project would not obstruct implementation of the NCUAQMD Particulate Matter Attainment Plan, violate air quality standards, or contribute substantially to an existing or projected air quality violation.

Operation of the project would not directly contribute any air emissions upon completion of construction since the trail would be for non-motorized and pedestrian uses only. The proposed project would provide a multi-use, ADA-accessible trail that may have the benefit of reducing motor vehicle trips through the city in favor of trail use. The project may result in a minor increase in the number of cars using nearby roads to access trail parking areas, but considering that any increase in motor vehicles trips is likely to cause a corresponding increase in non-motorized activity on the trail, PM_{10} emissions related to project operation would be less than significant.

III d) Less-than-Significant Impact. The proposed project is not located directly adjacent to a sensitive receptor (e.g. hospitals, daycare centers, schools, etc.), with the exception of residential development at the extreme southern end of the alignment near Truesdale Street. The volume of air pollutants generated by construction of the project would be minor and consistent with existing

conditions associated with nearby roads and industrial land uses. Construction would meet all applicable local, State and Federal standards for building construction, debris disposal and pollutant control. The potential exposure of sensitive receptors to air pollutants during project construction would be less than significant. Operation of the proposed project would have no impact on sensitive receptors.

III e) Less-than-Significant Impact. The project would not create odors that could reasonably be considered objectionable by the general public. The project is, however, within an area of existing commercial and industrial activity that may expose trail users to objectionable odors. In addition, during times of low tide, the Bay may produce objectionable odors. However, the project area is already predominantly accessible to the public and users of the proposed trail would be able to use the trail to move beyond areas that may produce objectionable odors at any given time. Therefore, impacts would be less than significant.

FINDINGS: Based on the conclusions above and the mitigation measure listed below, the project will not result in any significant adverse air quality impacts or result in a cumulatively considerable increase in PM10 emissions. Therefore, impacts would be less than significant.

MITIGATION MEASURES

Mitigation Measure AIR-1- Fugitive Dust: The City shall include provisions in the construction bid documents that the contractor shall implement a dust control program to limit fugitive dust and vehicle emissions. The dust and emissions control program shall include, but not be limited to, the following elements, as appropriate:

- Water inactive construction sites and exposed stockpile sites at least twice daily, including during non-work days or until soils are stable.
- All earthmoving activities shall cease when sustained winds exceed 15 miles per hour.
- Pursuant to the California Vehicle Code, all trucks hauling soil and other loose material to and from the construction site shall be covered or shall maintain at least 6 inches of freeboard (i.e., minimum vertical distance between top of load and the trailer).
- Earth or other material that has been transported by trucking or earth moving equipment, erosion by water, or other means onto paved streets shall be promptly removed.
- Any topsoil that is removed during construction shall be stored onsite in piles not to exceed 4 feet in height to allow development of microorganisms prior to resoiling of the construction area. These topsoil piles shall be clearly marked and flagged. Topsoil piles that will not be immediately returned to use shall be revegetated with a non-persistent erosion control mixture.
- Soil piles for backfill shall be marked and flagged separately from native topsoil stockpiles. These soil piles shall also be surrounded by silt fencing, straw wattles, or other sediment barriers or covered unless they are to be immediately used.

- Equipment or manual watering shall be conducted on all stockpiles, dirt/gravel roads, and exposed or disturbed soil surfaces, as necessary, to reduce airborne dust.

- Construction vehicles shall minimize idling time and equipment shall be shut off when not in use pursuant to California Code of Regulations (Title 13, Division 3, Chapter 10 §2485).

- Construction equipment will be maintained in proper working conditions according to manufacturer's specifications. Equipment must be checked daily and determined to be in proper running condition before it is operated.

- The contractor shall keep a daily log of activities to control fugitive dust.

Timing/Implementation:	During construction
Enforcement:	City Parks & Recreation Department, North Coast AQMD
Monitoring:	City and/or its contractor
Evidence of Compliance:	Adherence to requirements.

IV. BIOLOGICAL RESOURCES. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?		✓		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		✓		
c) Have a substantial adverse effect on Federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?		✓		
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?			✓	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			✓	
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?			✓	

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers whether the proposed project would result in a significant adverse direct or indirect effects to: (a) individuals of any plant or animal species (including fish) listed as rare, threatened, or endangered by the Federal or State

government, or effects to the habitat of such species; (b) more than an incidental and minor area of riparian habitat or other sensitive habitat (including wetlands) types identified under Federal, State, or local policies; (c) more than an incidental and minor area of wetland identified under Federal or State criteria; (d) key habitat areas that provide for continuity of movement for resident or migratory fish or wildlife, (e) other biological resources identified in planning policies adopted by the City of Eureka, or (f) conflict with an adopted conservation plan.

DISCUSSION

The following responses are based on the *Natural Environment Study* (NES), *Eureka Waterfront Trail Project Phase A and B* (North State Resources 2014).

The project study area is surrounded by and includes several developed areas that lend a highly disturbed characteristic to an ecological landscape fragmented by urban influence. Increased human access due to this adjacent development has resulted in degradation to native biological communities. Causes of degradation include, but are not limited to, transient activity, dumping, and the invasion of exotic plants. Nevertheless, biological communities in the project area include several generally intact native plant communities and wetland systems including the PALCO Marsh complex.

Vegetation communities mapped within the project study area are based partly on habitat descriptions provided in *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988). The vegetation communities within 100-feet of the project study area include barren, riparian scrub, ruderal, and urban; and aquatic habitats that were classified based on the Cowardin classification system (Cowardin et al. 1979; Mitsch and Gosselink 2000): estuarine emergent wetland, estuarine unconsolidated bottom, and palustrine emergent wetland. Figure 3 (Appendix A) shows the vegetation communities within the project's biological study area. All vegetation communities included in this report are described below beginning with the aquatic habitats.

Estuarine Emergent Wetlands: Estuarine refers to tidal, brackish water wetlands. Estuarine emergent wetlands are associated with deepwater tidal channels and adjacent tidal wetlands. These areas are usually partly obstructed by land but have open, partly obstructed, or occasional access to the ocean. In addition, these areas receive at least occasional freshwater runoff that dilutes the otherwise saline conditions. Irregularly flooded areas receive tidal inundation on a less-than-daily basis, whereas regularly flooded areas are tidally flooded and alternately exposed at least once daily. Both within and adjacent to the Phase A project study area, estuarine emergent wetland includes predominately salt marsh that is west of the NRCA rail corridor. Dominant plants include salt grass (*Distichlis spicata*), pickleweed (*Salicornia virginiana*), and dense-flowered cord grass (*Spartina densiflora*). In Parcel 4, the estuarine emergent wetlands west of the proposed trail are intermixed with riparian scrub vegetation (i.e., willows, red alder, and wax myrtle).

Estuarine Unconsolidated Bottom: Estuarine refers to tidal, brackish water wetlands. Unconsolidated bottoms are characterized by the lack of large stable surfaces for plant and animal attachment. Exposure to wave and current action, temperature, salinity, and light penetration determines the composition and distribution of organisms. In the Phase A project study area, estuarine unconsolidated bottom includes a tidal slough, that is immediately south of Del Norte Street, and a portion of Humboldt Bay at the mouth of the tidal slough. Eel grass (*Zostera marina*) has been documented to occur within this tidal slough in previous studies, and the City is currently

monitoring the eel grass in the lower tidal slough as part of their permit requirements for the PACLO Marsh Phase 1A culvert installation.

Palustrine Emergent Wetlands: Palustrine refers to non-tidal freshwater wetlands, and wetlands occurring in tidal areas with salinity from ocean-derived salts of less than 0.5 parts per thousand (Cowardin et al. 1979; Mitsch and Gosselink 2000). Palustrine emergent wetlands are usually characterized by the presence of erect, rooted, herbaceous hydrophytes (plants typically found in water or in a substrate that is at least periodically deficient in oxygen due to excessive water content). In the project area, these wetland types are persistent (support perennial vegetation that remains standing until at least the beginning of the next growing season), and likely remain saturated and/or inundated for long to very long periods during the growing season. Palustrine emergent wetland is abundant in the Phase A project study area and vicinity, and is represented by PALCO Marsh and the adjacent smaller marshes and ditches. This community has several dominant plants in common with estuarine emergent wetland including saltgrass, pickleweed, and seaside arrow-grass. Other common plants in the palustrine emergent wetlands in the project study area and vicinity include cattail (*Typha latifolia*), common rush (*Juncus effusus*), common reed (*Phragmites australis*), pennyroyal (*Mentha pulegium*) and slough sedge (*Carex obnupta*).

Barren: Barren habitat occurs includes roadways, sidewalks, residential areas, and commercial areas. The barren portions of the study area are denuded of vegetation, although sparse opportunistic grasses and forbs or weedy species may occur.

Riparian Scrub: The riparian scrub community within the Phase A project study area consists primarily of areas dominated by willows (*Salix* sp.), red alders (*Alnus rubra*), and Pacific wax myrtle (*Myrica californica*). Patches of coyote brush (*Baccharis pilularis*) west of the old railroad line are included in this vegetation community, as are areas dominated by brambles (*Rubus ursinus*, *R. armeniacus*). Much of the riparian scrub is adjacent to freshwater wetlands that are not truly "riparian" from a strict wetland definition (i.e., near a flowing channel or large body of water), but rather are best characterized by this structural habitat type. Within the project study area, this community includes forested areas on Parcel 4, and the willow/alder corridor between the old railroad line and the Bayshore Mall , which was planted by the mall as partial mitigation for impacts to wetlands resulting from mall construction.

Ruderal: Ruderal vegetation is characterized by weedy non-native, herbaceous species that tend to favor disturbance. Representative grasses and forbs in the project study area include sweet vernal grass (*Anthoxanthum odoratum*), ripgut brome (*Bromus diandrus*), rattail fescue (*Festuca myuros*), fennel (*Foeniculum vulgare*), burclover (*Medicago polymorpha*), yellow parentucellia (*Parentucellia viscosa*), and plantain (*Plantago* sp.). Ruderal vegetation occurs throughout the project study area and includes nearly all of the NCRA corridor, roadsides, former industrial areas, and other areas altered by human disturbance.

Urban: Urban vegetation community is the landscaped area consisting of introduced species and/or native species associated with human development(s). Species composition varies with planting design and climate. Landscape planting habitats are not limited to any particular physical setting.

Environmentally Sensitive Habitat Areas (ESHA): The Coastal Act Section 30107.5 defines "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. Generally, the Coastal Commission considers wetland to be ESHA.

The City's Local Coastal Program specifically, General Plan/Coastal Land Use Plan Policy 6.A.6 and Zoning Ordinance section (10-5.2942.3 (156.052(c)) specifically defines ESHA, which includes wetlands, within the City:

The City declares the following to be environmentally sensitive habitat areas within the Coastal Zone:

a. Rivers, creeks, sloughs, gulches and associated riparian habitats, including Eureka Slough, Fay Slough, Cut-Off Slough, Freshwater Slough, Cooper Slough, Second Sloughs, Third Slough, and Elk River.
b. Wetlands and estuaries, including that portion of Humboldt Bay within the city's jurisdiction, riparian areas, and vegetated dunes.
c. Indian Island, Daby Island, and Woodley Island wildlife area.
d. Other habitat areas, such as rookeries, and rare or endangered species on state or federal lists.
e. Grazed or farmed wetlands.

Regional Hydrology: Humboldt Bay drains four main sub-watersheds (Jacoby Creek, Freshwater Creek, Elk River, and Salmon Creek) which support native wild populations of salmon and steelhead. Streams in the watershed are used by salmon and steelhead (salmonids) for spawning and rearing.

IVa) Less than Significant with Mitigation Incorporated. The NES report (North State Resources 2014), which analyzes the project effects on biological resources, identified the following special status plant, wildlife, and fish species as having the potential to be impacted as a result of project construction and/or operation:

Plants

- Lyngbye's sedge (*Carex lyngbyei*) – California Native Plant Society (CNPS) Rare Plant Rank (RPR) 2B.2[1]
- Point Reyes bird's-beak (*Chloropyron maritimum* ssp. *palustre*) –RPR 1B.2[1]
- Humboldt Bay owl's-clover (*Castilleja ambigua* var. *humboldtiensis*) – RPR 1B.2[1]
- Dwarf alkali grass (*Puccinellia pumila*) – RPR 2B.2[1]

1 California Native Plant Society Rare Plant Rank (RPR) Codes and Extensions:

1B	Plants rare, threatened, or endangered in California and elsewhere.
2B	Plants rare, threatened, or endangered in California, but more common elsewhere.
xx.2	Moderately threatened in California
xx.1	Seriously threatened in California

- Western sand-spurrey (*Spergularia canadensis* var. *occidentalis*) – RPR 2B.1[1]

Fish

- Green sturgeon Southern Distinct Population Segment (DPS) (*Acipenser medirostris*) – Federally Threatened; State Species of Special Concern
- Southern Oregon/Northern California Coasts (SONCC) Evolutionarily Significant Unit (ESU) coho salmon (*Oncorhynchus kisutch*) – Federally Threatened and Critical Habitat; State Threatened and Critical Habitat/Essential Fish Habitat
- Northern California DPS steelhead (*O. mykiss*) – Federally Threatened and Critical Habitat
- California Coastal ESU Chinook salmon (*O. tshawytscha*) – Federally Threatened and Critical Habitat
- Longfin smelt (*Spirinchus thaleichthys*) – Federal Candidate; State Threatened and Species of Special Concern
- Southern eulachon DPS (*Thaleichthys pacificus*) - Federal Threatened; State Species of Special Concern
- Tidewater goby (*Eucyclogobius newberryi*) – Federal Endangered; State Species of Special Concern
- Green sturgeon Northern DPS (*A. medirostris*) – State Species of Special Concern
- Coastal cutthroat trout (*O. clarkii clarkii*) – State Species of Special Concern

Amphibians

- Northern red-legged frog (*Rana aurora*) – State Species of Special Concern

Birds

- Brown pelican (*Pelecanus occidentalis californicus*) – State Fully Protected
- Northern harrier (*Circus cyaneus*) – State Species of Special Concern
- White-tailed kite (*Elanus leucurus*) – State Fully Protected
- Short-eared owl (*Asio flammeus*) – State Species of Special Concern
- Bald eagle (*Haliaeetus leucocephalus*) – State Endangered and Fully Protected
- Peregrine falcon (*Falco peregrinus anatum*) – State Species of Special Concern and Fully Protected
- Vaux's swift (*Chaetura vauxi*) – State Species of Special Concern

- Purple martin (*Progne subis*) – State Species of Special Concern
- Loggerhead shrike (*Lanius ludovicianus*) – State Species of Special Concern
- Little willow flycatcher (*Empidonax traillii brewsteri*) – State Endangered
- Yellow-breasted chat (*Icteria virens*) – State Species of Special Concern
- Yellow warbler (*Dendroica petechia brewsteri*) – State Species of Special Concern

Mammals

- Pallid bat (*Antrozous pallidus*) – State Species of Special Concern
- Townsend's big-eared bat (*Corynorhinus townsendii*) – State Species of Special Concern

Special Status Plants

In 2003, Point Reyes bird's-beak was observed outside of, but within 100 feet of, the proposed trail alignment near the northwest corner of PALCO Marsh and Del Norte Street (SHN 2003). Additional occurrences of this plant were found in tidal salt marsh habitat west of the railroad tracks.

A 2002 botanical survey (Mad River Biologists 2002) found Humboldt Bay owl's-clover in tidal salt marsh habitat just outside of the proposed trail alignment, west of the railroad tracks. An additional large population (approximately 2000 plants) of Humboldt Bay owl's-clover was observed during NSR's 2014 survey (North State Resources 2014) on the salt marsh at the west edge of Parcel 4 approximately 250 west of the proposed trail alignment.

Lyngbye's sedge was observed in Parcel 4 (outside of the proposed project area) in 2003 (SHN 2003) and found to still be present during NSR's survey (North State Resources 2014).

Based on the habitat requirements for dwarf alkali grass and western sand-spurrey, there is potential for these species to occur; however, neither species was detected during any of the botanical surveys conducted in the proposed project area or vicinity.

Development of the proposed trail could indirectly affect Lyngbye's sedge, Point Reyes bird's-beak, Humboldt Bay owl's clover, dwarf alkali grass and western sand-spurrey. Potential indirect effects include disturbance or mortality of individuals as a result of construction activities. Construction activities typically include the refueling of construction equipment on location. As a result, minor fuel and oil spills could occur. In addition, adjacent ground disturbance could result in indirect impacts due to sediment mobilization. Project operation, including the increased presence of pedestrian traffic through the project area is not anticipated to adversely impact special-status plant species since the proposed trail alignment would follow existing roads and trails. *Mitigation Measure BIO-1 – Prevention of Accidental Spills of Pollutants*, which includes the preparation and implementation of site-specific spill prevention plan, as well the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) as part the Clean Water Act Section 402 permit, will protect special-status plant populations from exposure to contaminants as part of accidental spills and sediment mobilization. Further, *Mitigation Measure BIO-2 – Special-Status Plants* includes a new targeted protocol plant survey that will ensure that any sensitive plant populations within the study area will be mapped and excluded via fencing. If a population cannot be avoided,

the City will consult CDFW to determine appropriate salvage and relocation measures. Implementation of all of these measures shall ensure that any project-related impacts on special-status plant species will be less than significant.

Fish

Green Sturgeon Southern DPS. Green sturgeon southern DPS do not spawn in the project area. The species do not occur in or north of the Eel River. NMFS designated critical habitat for this species on October 9, 2009 (74 FR 52300), and Humboldt Bay is included as a designated estuarine area; however, the proposed project area is located outside of, but adjacent to, designated critical habitat for the species. The proposed project would not require any in-water construction activity. Project construction would have no direct impacts on green sturgeon or its habitat in Humboldt Bay. There is no planned use of herbicides associated with the proposed project. Indirect impacts to this species could occur as a result of the accidental spill of pollutants or the temporary mobilization of sediment as a result of construction activities. Implementation of *Mitigation Measure BIO-1 –- Prevention of Accidental Spills of Pollutants* and *Mitigation* and *Mitigation Measure BIO-3 – Erosion and Sedimentation Control* will reduce the potential for indirect impacts to this species due to accidental spills of pollutants and the occurrence of erosion and sedimentation during construction to a less-than-significant level by developing and implementing a site-specific pollution prevention plan and SWPPP. There would be no impact on green sturgeon southern DPS or its habitat as a result of project operation.

Southern Oregon/Northern California Coasts Coho Salmon ESU. Suitable spawning habitat for coho salmon is not present in the proposed project area. However, salmonids use the estuarine environment of Humboldt Bay at least once when migrating to the ocean as juveniles and at least once when returning to spawn. Eelgrass beds in the proposed project area provide potential refuge and forging habitat for juvenile salmonids, and recent PALCO Marsh restoration activities have enhanced the connection between the marsh and the bay through actions such as culvert replacement, new channel construction, and tidal slough dredging. Coho salmon may move through the project area in the tidal channels leading to and from PALCO Marsh, which may serve as rearing habitat. Project construction would have no direct impacts on coho salmon or its habitat in Humboldt Bay or PALCO Marsh. There is no planned use of herbicides associated with the proposed project. Indirect impacts to this species could occur as a result of the accidental spill of pollutants or the temporary mobilization of sediment as a result of construction activities. Implementation of *Mitigation Measure BIO-1 – Prevention of Accidental Spills of Pollutants* and *Mitigation Measure BIO-3 – Erosion and Sedimentation Control* will reduce the potential for indirect impacts to this species due to accidental spills of pollutants and the occurrence of erosion and sedimentation during construction to a less-than-significant level by developing and implementing a site-specific pollution prevention plan and SWPPP. There would be no impact on Southern Oregon/Northern California Coasts coho salmon ESU or its habitat as a result of project operation.

Northern California Steelhead DPS. Suitable spawning habitat for the Northern California steelhead DPS is not present in the proposed project area. However, salmonids use the estuarine environment of Humboldt Bay at least once when migrating to the ocean as juveniles and at least once when returning to spawn. Eelgrass beds in the proposed project area provide potential refuge and forging habitat for juvenile salmonids and recent PALCO Marsh restoration activities have enhanced the connection between the marsh and the bay through actions such as culvert replacement, marsh channel clearing and construction, and tidal slough dredging. Steelhead may move through the project site in the tidal channels leading to and from PALCO Marsh, which may

serve as rearing habitat. Project construction would have no direct impacts on steelhead or its habitat in Humboldt Bay and PALCO Marsh. There is no planned use of herbicides associated with the proposed project. Indirect impacts to this species could occur as a result of the accidental spill of pollutants or the temporary mobilization of sediment as a result of construction activities. Implementation of *Mitigation Measure BIO-1 – Prevention of Accidental Spills of Pollutants* and *Mitigation Measure BIO-3 – Erosion and Sedimentation Control* will reduce the potential for indirect impacts to this species due to accidental spills of pollutants and the occurrence of erosion and sedimentation during construction to a less-than-significant level by developing and implementing a site-specific pollution prevention plan and SWPPP. There would be no impact on Northern California steelhead DPS or its habitat as a result of project operation.

California Coastal Chinook Salmon ESU. Chinook spawn in upstream reaches of larger streams tributary to Humboldt Bay and young fish are believed to rear in the estuary. Eelgrass beds in the proposed project area provide potential refuge and forging habitat for juvenile salmonids and recent PALCO Marsh restoration activities have enhanced the connection between the marsh and the bay through actions such as culvert replacement, new channel construction, and tidal slough dredging. Steelhead may move through the project site in the tidal channels leading to and from PALCO Marsh, which may serve as rearing habitat. Project construction would have no direct impacts on Chinook salmon or its habitat in Humboldt Bay or PALCO Marsh. There is no planned use of herbicides associated with the proposed project. Indirect impacts to this species could occur as a result of the accidental spill of pollutants or the temporary mobilization of sediment as a result of construction activities. Implementation of *Mitigation Measure BIO-1 – Prevention of Accidental Spills of Pollutants* and *Mitigation Measure BIO-3 – Erosion and Sedimentation Control* will reduce the potential for indirect impacts to this species due to accidental spills of pollutants and the occurrence of erosion and sedimentation during construction to a less-than-significant level by developing and implementing a site-specific pollution prevention plan and SWPPP. There would be no impact on California Coastal Chinook salmon ESU or its habitat as a result of project operation.

Longfin Smelt. Historically, longfin smelt was common in Humboldt Bay. However, no longfin smelt have been collected from Humboldt Bay in recent years despite extensive sampling of the estuary. Project construction would have no direct impacts on longfin smelt or its habitat in Humboldt Bay. There is no planned use of herbicides associated with the proposed project. Indirect impacts to this species could occur as a result of the accidental spill of pollutants or the temporary mobilization of sediment as a result of construction activities. Implementation of *Mitigation Measure BIO-1 – Prevention of Accidental Spills of Pollutants* and *Mitigation Measure BIO-3 – Erosion and Sedimentation Control* will reduce the potential for indirect impacts to this species due to the accidental spills of pollutants and the occurrence of erosion and sedimentation during construction to a less-than-significant level by developing and implementing a site-specific pollution prevention plan and SWPPP. There would be no impact on longfin smelt or its habitat as a result of project operation.

Southern Eulachon DPS. Suitable spawning habitat for southern eulachon DPS is not present in the proposed project area. However, anadromous fish use the estuarine environment of Humboldt Bay at least once when migrating to the ocean as juveniles, and at least once when returning to spawn. Eelgrass beds in the proposed project area provide potential refuge and forging habitat for anadromous fish and recent PALCO Marsh restoration activities have enhanced the connection between the marsh and the bay through actions such as culvert replacement, new channel construction, and tidal slough dredging. Eulachon may move through the project site in the tidal

channels leading to and from PALCO Marsh, which may serve as rearing habitat. The critical habitat unit closest to the proposed project area is over 8 miles north, along the Mad River, which is not tributary to Humboldt Bay. Project construction would have no direct impacts on southern eulachon DPS or its habitat in Humboldt Bay or PALCO Marsh. Indirect impacts to this species could occur as a result of the accidental spill of pollutants or the temporary mobilization of sediment as a result of construction activities. There is no planned use of herbicides associated with the proposed project. Implementation of *Mitigation Measure BIO-1 – Prevention of Accidental Spills of Pollutants* and *Mitigation Measure BIO-3 – Erosion and Sedimentation Control* will reduce the potential for indirect impacts to this species due to accidental spills of pollutants and the occurrence of erosion and sedimentation during construction to a less-than-significant level by developing and implementing a site-specific pollution prevention plan and SWPPP. There would be no impact on southern eulachon DPS or its habitat as a result of project operation.

Tidewater Goby. The extent, numbers and regularity to which tidewater goby utilize Humboldt Bay, PALCO Marsh, and habitats in the proposed project area are unknown. Habitat in the proposed project area is likely above the typical salinity for tidewater goby and none have been detected in Humboldt Bay environs as recently as 2010. The species is known to occur in Humboldt Bay—portions of which are designated as critical habitat. The proposed project area does not contain any critical habitat and tidewater goby has not been documented in the project area; therefore, the likelihood of the species occurring in the proposed project area is very low. Project construction would have no direct impacts on tidewater goby or its habitat in Humboldt Bay or PALCO Marsh. There is no planned use of herbicides associated with the proposed project. Indirect impacts to this species could occur as a result of the accidental spill of pollutants or the temporary mobilization of sediment as a result of construction activities. Implementation of *Mitigation Measure BIO-1 – Prevention of Accidental Spills of Pollutants* and *Mitigation Measure BIO-3 – Erosion and Sedimentation Control* will reduce the potential for indirect impacts to this species due to accidental spills of pollutants and the occurrence of erosion and sedimentation during construction to a less-than-significant level by developing and implementing a site-specific pollution prevention plan and SWPPP. There would be no impact tidewater goby or its habitat as a result of project operation.

Green Sturgeon Northern DPS. Green sturgeon northern DPS are known to spawn only in the Rogue, Klamath, and Eel Rivers. They are not expected to spawn in or adjacent to the proposed project area. However, green sturgeon are regularly taken in small numbers in Humboldt Bay and have been caught in coastal waters and in estuaries from Humboldt Bay to the Oregon border. Project construction would have no direct impacts on green sturgeon northern DPS or its habitat in Humboldt Bay. There is no planned use of herbicides associated with the proposed project. Indirect impacts to this species could occur as a result of the accidental spill of pollutants or the temporary mobilization of sediment as a result of construction activities. Implementation of *Mitigation Measure BIO-1 – Prevention of Accidental Spills of Pollutants* and *Mitigation Measure BIO-3 – Erosion and Sedimentation Control* will reduce the potential for indirect impacts to this species due to accidental spills of pollutants and the occurrence of erosion and sedimentation during construction to a less-than-significant level by developing and implementing a site-specific pollution prevention plan and SWPPP. There would be no impact on green sturgeon northern DPS or its habitat as a result of project operation.

Coastal Cutthroat Trout. Coastal cutthroat trout only rarely enter Humboldt Bay as they are primarily a freshwater species occurring in the streams in the Humboldt Bay basin. However, they may rear in the bay. Suitable spawning habitat for coastal cutthroat trout is not present in the

proposed project area. The eelgrass beds in the proposed project area provide potential refuge and forging habitat for juvenile coastal cutthroat trout. Further, following the planned restoration of PALCO Marsh, coastal cutthroat trout may move through the proposed project area in the channels leading to and from PALCO Marsh, which may be used as rearing habitat. Project construction would have no direct impacts on coastal cutthroat trout or its habitat in Humboldt Bay and PALCO Marsh. There is no planned use of herbicides associated with the proposed project. Indirect impacts to this species could occur as a result of the accidental spill of pollutants or the temporary mobilization of sediment as a result of construction activities. Implementation of *Mitigation Measure BIO-1 – Prevention of Accidental Spills of Pollutants* and *Mitigation Measure BIO-3 – Erosion and Sedimentation Control* will reduce the potential for indirect impacts to this species due to accidental spills of pollutants and the occurrence of erosion and sedimentation during construction to a less-than-significant level by developing and implementing a site-specific pollution prevention plan and SWPPP. There would be no impact on coastal cutthroat trout or its habitat as a result of project operation.

Amphibians

Northern Red-legged Frog. Northern red-legged frogs were not observed during reconnaissance surveys of the site, but may occur in the fresh emergent wetlands in the project area. If present, they would likely disperse into adjacent riparian scrub during the non-breeding season. Northern red-legged frogs have been recorded in the project vicinity approximately 6-7 miles to the south and to the east in the Little Freshwater and Ryan Creek drainages; along the South Fork Elk River; and near an unnamed tributary to Willow Brook. During construction, activities in or near occupied habitat could result in the direct loss of the species. The species may also be indirectly affected if construction activities result in degradation of aquatic habitat and water quality due to erosion and sedimentation, accidental fuel leaks, and spills. Implementation of *Mitigation Measure BIO-1 – Prevention of Accidental Spills of Pollutants* and *Mitigation Measure BIO-3 – Erosion and Sedimentation Control* will reduce the potential for indirect impacts to this species due to accidental spills of pollutants and the occurrence of erosion and sedimentation during construction to a less-than-significant level by developing and implementing a site-specific pollution prevention plan and SWPPP. *Mitigation Measure BIO-4 – Frogs* includes presentation of a construction worker awareness program, pre-construction surveys for the species, and relocation of any observed frogs to a safe location outside of the construction. Implementation of these measures will ensure that any project-related impacts on northern red-legged frogs will be less than significant.

Birds

Brown Pelican. Brown pelicans commonly frequent Humboldt Bay for foraging, loafing, and roosting during the non-breeding season. Project activities would have little or no direct impact on brown pelicans as the project footprint does not extend into Humboldt Bay or PALCO Marsh. However, construction of the proposed trail could increase local ambient noise and may increase the number of people accessing the immediate shoreline for recreation and other activities. This could result in a small adverse effect on pelicans due to increased disturbance of foraging and roosting birds. Implementation of *Mitigation Measure BIO-5 – Management of Human Disturbance* will establish view and access sites along the new trail for the public, which will discourage unwanted access into sensitive habitat areas and reduce impacts resulting from increased noise and human disturbance to a less-than-significant level.

Northern Harrier. Locally, the northern harrier is a common migrant and winter resident, found in coastal marshes and grasslands near Humboldt Bay. It occurs in the area year around, but more

commonly in winter. Although northern harriers have not been recorded nesting in the proposed project area, suitable habitat is present. Thus, there is a potential for nesting to occur within the proposed project area and vicinity. If nesting occurs, construction disturbance (e.g., site grading) during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Loss of fertile eggs or nesting raptors, or any activities resulting in raptor nest abandonment, would be an adverse effect. In addition, vegetation management proposed along portions of the Phase A trail could slightly decrease the amount of suitable nesting and roosting habitat and could also result in a reduction in prey species (e.g., voles), a potentially adverse effect. Implementation of *Mitigation Measure BIO-5 – Management of Human Disturbance* will establish view and access sites along the new trail for the public, which will discourage unwanted access into sensitive habitat areas and reduce impacts resulting from increased noise and human disturbance to a less-than-significant level. *Mitigation Measure BIO-6 - Raptors* includes timing for vegetation removal to occur outside the nesting season for raptor species, pre-construction surveys to determine if nesting raptors are present or absent, and coordination with CDFW to establish construction-free buffer zones around active nests until young have fledged. These measures will reduce impacts on northern harrier to a less-than-significant level.

White-Tailed Kite. White-tailed kites occur regularly in the proposed project area and vicinity due to the presence of suitable foraging habitat—emergent marsh. Potential impacts on this species would be similar to those described for the northern harrier. Implementation of *Mitigation Measure BIO-5 – Management of Human Disturbance* will establish view and access sites along the new trail for the public, which will discourage unwanted access into sensitive habitat areas and reduce impacts resulting from increased noise and human disturbance to a less-than-significant level. *Mitigation Measure BIO-6 - Raptors* includes timing for vegetation removal to occur outside the nesting season for white-tailed kite, pre-construction surveys to determine if nesting kites are present or absent, and coordination with CDFW to establish construction-free buffer zones around active nests until young have fledged. These measures will reduce impacts on white-tailed kite to a less-than-significant level.

Short-eared Owl. Short-eared owls are known from wetland and agricultural areas surrounding Humboldt Bay, including the Humboldt Bay National Wildlife Refuge and Fay Slough, and Mad River Slough Wildlife areas. Nesting is very rare, but displaying birds have been seen at Humboldt Bay National Wildlife Refuge bordering the bay. Short-eared owls may occur in the proposed project area since suitable habitat is present. Potential impacts on this species would be similar to those described for the northern harrier. Implementation of *Mitigation Measure BIO-5 – Management of Human Disturbance* will establish view and access sites along the new trail for the public, which will discourage unwanted access into sensitive habitat areas and reduce impacts resulting from increased noise and human disturbance to a less-than-significant level. *Mitigation Measure BIO-6 - Raptors* includes timing for vegetation removal to occur outside the nesting season for shot-eared owl, pre-construction surveys to determine if nesting owls are present or absent, and coordination with CDFW to establish construction-free buffer zones around active nests until young have fledged. These measures will reduce impacts on short-eared owl to a less-than-significant level.

Bald Eagle. Nesting habitat for the bald eagle is not present in or near the proposed project area, however, during the winter, bald eagles may occasionally forage along the margins of Humboldt Bay near the proposed trail. Pruning of some willows within Parcel 4 would result in a very small reduction of foraging and roosting habitat for this species. Due to the regional abundance of foraging habitat and the infrequency with which these species are expected to occur in the proposed

project area, implementation of the proposed project will not result in a significant impact on bald eagles.

Peregrine Falcon. The peregrine falcon is present in the Humboldt Bay area where suitable coastal lowland habitats supporting prey species such as shorebirds and waterfowl occur. Peregrines forage along Humboldt Bay near the proposed project area, but the proposed project area does not provide breeding habitat. Due to the regional abundance of foraging habitat and the infrequency with which these species are expected to occur in the proposed project area, implementation of the proposed project will not result in a significant impact to peregrine falcon.

Vaux's Swift. The Vaux's swift is present in the Humboldt Bay area where suitable coastal lowland habitats supporting prey species such as shorebirds and waterfowl occur. Nesting habitat for the Vaux's swift is not present in the proposed project area. Potential impacts on this species would be similar to those described for northern harrier. Implementation of *Mitigation Measure BIO-5 – Management of Human Disturbance* will establish view and access sites along the new trail for the public, which will discourage unwanted access into sensitive habitat areas and reduce impacts resulting from increased noise and human disturbance to a less-than-significant level. *Mitigation Measure BIO-7 – Migratory and Special-Status Birds* includes timing for vegetation removal to occur outside the nesting season for Vaux's swift, pre-construction surveys to determine if nesting swifts are present or absent, and coordination with CDFW to establish construction-free buffer zones around active nests until young have fledged. These measures will reduce impacts on Vaux's swift to a less-than-significant level.

Purple Martin. Purple martin is an occasional visitor during the spring and fall, foraging in the coastal lowlands of Humboldt Bay. No suitable nesting sites occur in the proposed project area. Potential impacts on this species would be similar to those described for northern harrier. Implementation of *Mitigation Measure BIO-5 – Management of Human Disturbance* will establish view and access sites along the new trail for the public, which will discourage unwanted access into sensitive habitat areas and reduce impacts resulting from increased noise and human disturbance to a less-than-significant level. *Mitigation Measure BIO-7 – Migratory and Special-Status Birds* includes timing for vegetation removal to occur outside the nesting season for purple martin, pre-construction surveys to determine if nesting martins are present or absent, and coordination with CDFW to establish construction-free buffer zones around active nests until young have fledged. These measures will reduce impacts on purple martin to a less-than-significant level.

Loggerhead Shrike. Loggerhead shrike is a rare visitor during the spring, winter, and fall, foraging in the coastal lowlands of Humboldt Bay. No suitable nesting sites occur in the proposed project area. Potential impacts on this species would be similar to those described for northern harrier. Implementation of *Mitigation Measure BIO-5 – Management of Human Disturbance* will establish view and access sites along the new trail for the public, which will discourage unwanted access into sensitive habitat areas and reduce impacts resulting from increased noise and human disturbance to a less-than-significant level. *Mitigation Measure BIO-7 – Migratory and Special-Status Birds* includes timing for vegetation removal to occur outside the nesting season for loggerhead shrike, pre-construction surveys to determine if nesting shrikes are present or absent, and coordination with CDFW to establish construction-free buffer zones around active nests until young have fledged. These measures will reduce impacts on loggerhead shrike to a less-than-significant level.

Little Willow Flycatcher. Little willow flycatcher is an occasional visitor during the spring, winter, and fall, foraging in the coastal lowlands and riparian areas of Humboldt Bay. Although the proposed project area and vicinity provides suitable foraging and breeding habitat, there have been very few documented occurrences of nesting in Humboldt County since the 1930's. Little willow flycatcher have not been recorded nesting in the proposed project area, but suitable habitat is present. Thus, there is the potential for nesting to occur on the site. If nesting occurs, construction disturbance (e.g., site grading) during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Loss of fertile eggs or nesting songbirds, or any activities resulting in songbird nest abandonment would be an adverse effect. In addition, removal of trees and other vegetation along portions of the Phase A trail could result in the direct loss of a nest and would slightly decrease the amount of suitable nesting and roosting habitat in the proposed project area. Implementation of *Mitigation Measure BIO-5 – Management of Human Disturbance* will establish view and access sites along the new trail for the public, which will discourage unwanted access into sensitive habitat areas and reduce impacts resulting from increased noise and human disturbance to a less-than-significant level. *Mitigation Measure BIO-7 – Migratory and Special-Status Birds* includes timing for vegetation removal to occur outside the nesting season for little willow flycatcher, pre-construction surveys to determine if nesting flycatchers are present or absent, and coordination with CDFW to establish construction-free buffer zones around active nests until young have fledged. These measures will reduce impacts on little willow flycatcher to a less-than-significant level.

Yellow-breasted Chat. Yellow-breasted chat is present seasonally as a breeder in riparian areas in Humboldt Bay. Suitable breeding habitat is present in the willow thickets in Phase A. Potential impacts would be similar to those described for little willow flycatcher, except that there is a greater chance that yellow-breasted chat would be present as a nester. Implementation of *Mitigation Measure BIO-5 – Management of Human Disturbance* will establish view and access sites along the new trail for the public, which will discourage unwanted access into sensitive habitat areas and reduce impacts resulting from increased noise and human disturbance to a less-than-significant level. *Mitigation Measure BIO-7 – Migratory and Special-Status Birds* includes timing for vegetation removal to occur outside the nesting season for yellow-breasted chat, pre-construction surveys to determine if nesting chats are present or absent, and coordination with CDFW to establish construction-free buffer zones around active nests until young have fledged. These measures will reduce impacts on yellow-breasted chats to a less-than-significant level.

Yellow Warbler. Yellow warbler is present seasonally as a breeder in riparian areas in Humboldt Bay. Suitable breeding habitat is present in the riparian scrub in Phase A. Potential impacts would be similar to those described for little willow flycatcher, except that there is a greater chance that yellow warbler would be present as a nester. Implementation of *Mitigation Measure BIO-5 – Management of Human Disturbance* will establish view and access sites along the new trail for the public, which will discourage unwanted access into sensitive habitat areas and reduce impacts resulting from increased noise and human disturbance to a less-than-significant level. *Mitigation Measure BIO-7 – Migratory and Special-Status Birds* includes timing for vegetation removal to occur outside the nesting season for yellow warbler, pre-construction surveys to determine if nesting warblers are present or absent, and coordination with CDFW to establish construction-free buffer zones around active nests until young have fledged. These measures will reduce impacts on yellow warbler to a less-than-significant level.

Mammals

Bats. Potential bat roost structures are not present in the proposed project area and the abandoned buildings in Parcel 4 are unlikely to provide suitable roosting habitat due to disturbance related to the day-to-day activities of the homeless and transient individuals that inhabit Parcel 4. Project construction and operation are not likely to impact roosting bats due to the absence of suitable roosting habitat within the proposed project area. No impacts to bats or their habitat are anticipated as a result of this project.

Other Sensitive Biological Species

Migratory Birds. The proposed project area and vicinity provides habitat for numerous migratory birds including waterfowl, shorebirds, and songbirds, which are protected under the federal Migratory Bird Treaty Act. Humboldt Bay hosts a large winter waterfowl population and a small, but significant suite of breeding waterfowl species. The coastal wetlands of Humboldt Bay are a critical resource for shorebirds. Humboldt Bay is recognized as a site of International Importance for shorebirds by the Western Hemisphere Shorebird Reserve Network (i.e., greater than 100,000 shorebirds/year or greater than 10 percent of a flyway population). Wetlands within and adjacent to the proposed project area—particularly those associated with PALCO Marsh—provide shorebird habitat while riparian areas host numerous species of migratory songbirds.

Potential long-term effects to a number of migratory bird species found in the proposed project area revolve around the anticipated increased recreational use of the area. Increased human activity and noise along the bay waterfront and around habitats that are used extensively by migratory birds, such as PALCO Marsh and the adjacent riparian areas could discourage birds from using these areas for nesting. Implementation of *Mitigation Measure BIO-5 – Management of Human Disturbance* will establish view and access sites along the new trail for the public, which will discourage unwanted access into sensitive habitat areas and reduce impacts resulting from increased noise and human disturbance to a less-than-significant level. *Mitigation Measure BIO-7 – Migratory and Special-Status Birds* includes timing for vegetation removal to occur outside the nesting season for migratory birds, pre-construction surveys to determine if nesting migratory birds are present or absent, and coordination with CDFW to establish construction-free buffer zones around active nests until young have fledged. These measures will reduce impacts on nesting migratory birds to a less-than-significant level.

IVb) Less than Significant with Mitigation Incorporated. ESHA within and immediately adjacent to the proposed project area includes coastal salt marsh, sloughs, and ditches. Coastal salt marsh in the proposed project area and vicinity is largely comprised of PALCO Marsh, but extends into other plant community types within the project, including estuarine emergent wetland and palustrine emergent wetland. Permanent impacts would occur where the footprint of the proposed trail overlaps mapped waters of the United States and waters of the State. Project construction could result in the permanent loss of up to 0.042 acre of palustrine emergent vegetation (three-parameter wetland) depending on whether footings for the pedestrian bridge in Segment 1 (drainage ditch just south of Del Norte Street) are required. (Note – following completion of the geotechnical report, a determination will be made during the final design phase as to whether footings will be required. Impacted acreage may be further reduced during the final project design phase). The paved portion of the trail would be 10 feet throughout most of the project, but would narrow to 8-feet wide along portions of PALCO Marsh and just north of Chevron property to avoid direct impacts to jurisdictional waters and ESHA.

Approximately 0.009 acre of waters of the State (i.e., one- and two-parameter wetlands) could be permanently impacted by project construction at four locations along the Phase A trail alignment. These impacted wetland types, which are also considered ESHAs under the California Coastal Act and Policy 6.A.6 of the City's General Plan/Local Coastal Program, would consist of estuarine emergent wetland (0.005 acre east of the Chevron facility and south of Parcel 4), palustrine emergent wetland (0.002 acre just north of Vigo Street), and riparian scrub (0.002 acre in two adjacent locations south of Vigo Street). Construction activities associated with the proposed project could result in temporary impacts on a worst-case estimate of up to 0.241 acre of waters of the State, including the following vegetation communities: estuarine emergent wetland (0.044 acre), palustrine emergent wetland (0.134 acre), and riparian scrub (0.063 acre) along various segments of the proposed Phase A trail (Note – final impact acreages will be refined and likely reduced during the final project design phase, prior to project permitting).

Project construction would indirectly impact a part of a tidal slough where eelgrass (*Zostera marina*)—designated as Essential Fish Habitat—is known to occur. Degraded water quality such as would result from turbidity over an extended period of time could adversely impact eelgrass by decreasing the amount of light available for photosynthesis.

Although the project area is currently degraded due transient activity and lack of a formalized trail system for public use, project operation could have an impact on waters of the State and ESHAs due to increased public use of the new trail system. There is potential that increased public usage could result in off-trail foot traffic through sensitive areas. This would be a potentially significant impact.

Implementation of *Mitigation Measure BIO-3 – Erosion and Sedimentation Control* will reduce the potential for indirect impacts to waters of the State and ESHA's due to the occurrence of erosion and sedimentation during construction to a less-than-significant level by developing and implementing a site-specific SWPPP that will prevent sediment transport into adjacent surface waters. Implementation of *Mitigation Measure BIO-5 – Management of Human Disturbance* will establish view and access sites along the new trail for the public, which will discourage unwanted access into sensitive habitat areas and reduce impacts resulting from increased noise and human disturbance. Implementation of *Mitigation Measure BIO-8 – Eel Grass* will ensure that eel grass beds are not impacted by the project by surveying for eel grass beds and avoiding them during final project design. Implementation of *Mitigation Measure BIO-9 Prevention of Spread of Invasive Species* includes measures to avoid the spread of invasive species, including use of weed-free equipment, mulches, and native seed mixed and vegetation material. *Mitigation Measure BIO-10 – Waters of the United States/Waters of the State* will be implemented to ensure that project construction impacts on waters of the State, including wetlands, would be less than significant by avoiding impacts to jurisdictional waters to the extent feasible during final design and by providing compensatory mitigation for any unavoidable impacts, at a minimum 2:1 ratio or other ratio agreed to by the City and the pertinent regulatory agencies. All of these mitigation measures will reduce impacts on waters of the State and ESHA to a less-than-significant level and ensure that project complies with Policy 6.A.7 and 6.A.19 of the City's General Plan/Local Coastal Program and applicable sections of the California Coastal Act (Sections 30108, 30108.2, 30230, and 30233(a).

IVc) Less than Significant with Mitigation Incorporated. Implementation of the proposed project could permanently impact approximately 0.042 acre of waters of the United States (palustrine emergent wetland). (Note: this impact acreage is a worst—case assumption, the City will explore opportunities to further reduce impacts on jurisdictional waters during the final design

phase for the project). Permanent impacts would occur where the footprint of the proposed trail overlaps mapped waters of the United States. No temporary impacts on jurisdictional waters are anticipated to occur since all construction staging would be located in upland areas and construction equipment access would be limited to the same proposed trail footprint used for calculating permanent impacts. In those sections where there are jurisdictional wetlands the trail would be narrowed to an 8-foot paved section—instead of 10-feet—with two 2-foot unpaved shoulders to minimize impacts. Abutment footings for the pedestrian bridge proposed to cross a drainage ditch just south of Del Norte Street could result in the discharge of fill into 0.042 acre of palustrine emergent wetland. Complete avoidance of waters (i.e. the drainage ditch below the ordinary high water mark) may not be feasible (Note: following completion of the geotechnical report, a determination will be made as to whether footings would need to be constructed below the ordinary high water mark; if not; permanent impacts on the feature may be avoided). If complete avoidance is not feasible, *Mitigation Measure BIO-10 – Waters of the United States/Waters of the State* will be implemented to ensure that project construction impacts on waters of the United States, including wetlands, would be less than significant by avoiding impacts to jurisdictional waters to the extent feasible during final design and by providing compensatory mitigation for any unavoidable impacts, at a minimum 2:1 ratio or other ratio agreed to by the City and the pertinent regulatory agencies.

IV d) Less-than-Significant Impact. 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, or impede the use of native wildlife nursery sites. The proposed trail alignment would follow existing roads, trails, and railroad corridors.

IV e) Less-than-Significant Impact. The project would be constructed in compliance with City policies or ordinances protecting biological resources, including all applicable policies of the City's General Plan and Local Coastal Program (LCP). General Plan/Coastal Land Use Plan policies particularly germane to this project are provided below, followed by a discussion that describes how the proposed project is consistent with each policy. City of Eureka coastal zoning regulations mirror these policies.

LCP Policy 6.A.7 – Within the Coastal Zone, the City shall ensure that environmentally sensitive habitat areas are protected against any significant disruption of habitat values, and that only uses dependent on such resources shall be allowed within such areas. The City shall require that development in areas adjacent to environmentally sensitive habitat areas be sited and designed to prevent impacts which would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas. *Consistency Determination:* The purpose of the project is to improve coastal access for the public within an area that has already been degraded due to transient encampments. As provided under the Coastal Act policy consistency discussion below in this section, the trail would be allowable use in ESHA. As part of the final design phase, the City will reduce the width of the trail from 10 feet to 8 feet in ESHAs. Proposed mitigation measures addressing construction and operation of the trail will minimize impacts to sensitive species, water quality and other elements associated with ESHA. Therefore, the proposed project is consistent with this policy.

LCP Policy 6.A.9. – The City shall permit the diking, filling or dredging of open coastal waters, wetlands, or estuaries only under the following conditions:

a. The diking, filling or dredging is for a permitted use in that resource area;
b. There is no feasible, less environmentally damaging alternative;
c. Feasible mitigation measures have been provided to minimize adverse environmental effects;
d. The functional capacity of the resource area is maintained or enhanced.

Consistency Determination: As described above for LCP Policy 6.A.7, the City will design the trail to minimize impacts to ESHA by reducing trail width from 10 feet to 8 feet in sensitive areas. Since the area is already severely degraded due to prior human disturbance and on-going transient activity, the proposed project will actually enhance the functional capacity of the resource area through removal of encampments, associated trash and debris, and non-native vegetation. Additionally, the City is proposing several mitigation measures to avoid or minimize potential impacts to the environment associated with both construction and operation of the trail. As provided under the Coastal Act policy consistency discussion below in this section, the Phase A trail is an allowable use within the wetland and other ESHA in the project area. Therefore, the proposed project is consistent with this policy.

LCP Policy 6.A.11 – The City shall require that diking, filling or dredging of a wetland or estuary maintain or enhance the functional capacity of these resources. Functional capacity means the ability of the wetland or estuary to be self-sustaining and to maintain natural species diversity. In order to establish that the functional capacity is being maintained, all of the following must be demonstrated.

a. Presently-occurring plant and animal populations in the ecosystem will not be altered in a manner that would impair the long-term stability of the ecosystem, i.e., natural species diversity, abundance and composition are essentially unchanged as the result of the project;

b. A species that is rare, threatened, or endangered will not be significantly adversely affected; and

c. Consumptive (e.g., fishing, aquaculture and hunting) or nonconsumptive (e.g., water quality and research opportunity) values of the wetland or estuary ecosystem will not be significantly reduced.

Consistency Determination: As described under IV.a., the proposed project will not adversely affect a rare, threatened, or endangered species. For all other special-status plant and animal species potentially affected by the project, mitigation measures will be implemented by the City to avoid, minimize and/or reduce impacts to ensure that the long-term stability of the local ecosystem will not be impaired. Since the area is already severely degraded due to prior human disturbance and on-going transient activity, the proposed project will actually enhance both consumptive and nonconsumptive wetland and ecosystem values along Humboldt Bay. Therefore, the proposed project is consistent with this policy.

Section 30233(a) of the Coastal Act states that "*The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental*

effects, and shall be limited to the following..." Sections 30233(a)(1-7) then proceed to identify the seven permissible uses allowed, including (7) nature study, aquaculture, or similar resource dependent activities. Section 30233(c) requires that filling of wetland shall maintain or enhance the functional capacity of the wetland.

Consistency Determination: "Nature study" is formally defined as "the study of animals and plants in the natural world, usually at an elementary level." By providing opportunities for incidental exploration of the physical and biological world, trails in natural settings are generally recognized as one of the best ways to ensure continued public support to protecting ESHAs and to encourage the appropriate level of visitation. This trail, through riparian corridors and shoreline areas such as those present along the Phase A trail alignment, may similarly be considered a form of "nature study" as they are a development type integral to appreciation and comprehension of biophysical elements that comprise riparian areas and are dependent upon the presence of the natural area resource through which they pass to provide a nature study experience.

The Coastal Commission has considered the development of new recreational trail segments through wetlands and other environmentally sensitive resource areas, where design efforts have been made to minimize such intrusions to the smallest feasible area or least impacting routes, and where the trail segment functions as a nature trail, to be a form of "nature study... or similar resource dependent activities" as noted in the Coastal Commission coastal development permit staff report dated 2-23-12 for the Elk River Access Area/Hikshari' Trail Project. The Eureka Waterfront Trail Phase A Project would therefore be considered to be a form of "nature study", and thus considered an allowable use in or near a wetland or other ESHA pursuant to Section 30233(a)(7).

For uses allowed within a wetland or other ESHA, it must be demonstrated that there is no less environmentally damaging feasible alternative to locating the development in or near the wetland/ESHA; that locating development in a wetland/ESHA would not be disrupt habitat values; and that development adjacent to an ESHA is sited and designed to prevent impacts that would significantly degrade the ESHA and is compatible with the continuance of the habitat area. Similar to the Elk River Access Area/Hikshari' Trail Project, the City anticipates that the Eureka Waterfront Trail Phase A Project can be allowed within wetland and other ESHAs. Regarding feasible alternatives, as a coastal trail meant to provide access to and along the shoreline and nature study opportunities, proximity to the bay and associated ESHA is integral to fulfilling the purpose of the project. The project has been designed to avoid and/or minimize ESHA impacts to the extent practicable (e.g. by taking advantage of existing roadways and trails and by reducing trail width where the trail traverses ESHA), with final trail design anticipated to further minimize such impacts where feasible. Given that the project area is already severely degraded, removal of transient encampments, associated trash and debris, and non-native vegetation will actually enhance the overall habitat values. Proposed mitigation measures will serve to minimize construction impacts to the environment, including water quality, sensitive species, and other ESHA elements, as well as trail operation impacts to these various elements. Therefore, the proposed project is consistent with this Coastal Act policy.

As noted above, the proposed project is consistent with applicable local and Coastal Act policies protecting biological resources. This impact would therefore be less than significant.

IV f) Less-than-Significant Impact. The project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local,

regional, or State habitat conservation plan. The proposed project will be consistent with the Humboldt Bay Management Plan, the Humboldt Bay Watershed Salmon and Steelhead Conservation Plan, and the City's Local Coastal Program.

FINDINGS: With the incorporation of mitigation, the proposed project would have a less than significant adverse impact on biological resources (See also Mitigation Measures in the Hydrology and Water Quality Section of this Initial Study).

MITIGATION MEASURES

Mitigation Measure BIO-1 – Prevention of Accidental Spills of Pollutants: Construction specifications shall include the following measures to reduce potential impacts on vegetation and aquatic resources in the project area as a result of the accidental spill of pollutants (e.g., fuel, oil, and grease):

- A site-specific spill prevention plan shall be implemented for potentially hazardous materials. The plan shall include the proper handling and storage of all potentially hazardous materials, as well as the proper procedures for cleaning up and reporting any spills. If necessary, containment berms shall be constructed to prevent spilled materials from reaching surface water features.

- Equipment and hazardous materials shall be stored 50 feet away from surface water features, including but not limited to Humboldt Bay and PALCO Marsh.

- Vehicles and equipment used during construction shall receive proper and timely maintenance to reduce the potential for mechanical breakdowns leading to a spill of materials. Maintenance and fueling shall be conducted in an area at least 150 feet away from surface water including but not limited to Humboldt Bay and PALCO Marsh.

- Equipment operating within the mean high water line shall use non-toxic vegetable oil for operating hydraulic equipment instead of traditional hydraulic fluids.

- Equipment used during construction shall be equipped with an emergency spill kit for rapid containment and cleanup of a spill, and personnel shall be adequately trained to respond to an emergency spill.

Timing/Implementation:	During construction
Enforcement:	City Parks & Recreation Department, Corps, North Coast Regional Water Quality Control Board (RWQCB), California Department of Fish and Wildlife (CDFW)
Monitoring:	City and/or its contractor
Evidence of Compliance:	Completion of and adherence to required documents and measures.

Mitigation Measure BIO-2 – Special-Status Plants: In addition to the implementation of *Mitigation Measure BIO-1 – Prevention of Accidental Spills of Pollutants*, the following measures

will be used to avoid or minimize impacts on special-status plants:

- During the final design of the proposed project, the known populations of special-status plants, including, but not limited to Point Reyes bird's-beak within 100 feet of the project boundary shall be included in the engineering drawings, and all construction activities shall be designed and conducted to avoid impacts to the populations to the maximum extent feasible.

- As special-status plant locations may vary from year to year, a targeted protocol-level seasonally appropriate botanical survey of the proposed project area and an area within 100 feet of the project area shall be conducted prior to the start of ground disturbing activities during each year of construction.

- Prior to the start of construction activities in the proposed project area, exclusionary fencing shall be erected around the special-status plant populations. A qualified botanist shall be present to assist with locating the populations. The exclusionary fencing shall be periodically inspected throughout each period of construction and be repaired as necessary. All pedestrian and vehicular entry into the avoidance areas delineated by the fencing shall be prohibited during construction.

- If a population cannot be fully avoided, the City shall retain a qualified botanist who shall contact CDFW to determine the appropriate salvage and relocation measures, which shall be implemented.

Timing/Implementation:	Prior to, during, and after construction
Enforcement:	City Parks & Recreation Department, CDFW
Monitoring:	City and/or its contractor
Evidence of Compliance:	Completion of and adherence to required documents and measures.

Mitigation Measure BIO-3 – Erosion and Sedimentation Control: Erosion control measures shall be implemented during construction of the proposed project. These measures shall conform to the provisions in Section 20-2 and 20-3 of the Caltrans Standard Specifications and the special provisions included in the contract for the project. Such provisions include the preparation of a Storm Water Pollution Prevention Plan (SWPPP), which describes and illustrates the best management practices (BMPs) for the project site.

Erosion control measures to be included in the SWPPP or to be implemented by the City include, but are not limited to, the following:

- To the maximum extent practicable, activities that increase the erosion potential in the project area shall be restricted to the relatively dry summer and early fall period to minimize the potential for rainfall events to transport sediment to Humboldt Bay, PALCO Marsh, and other surface water features. In-channel construction shall be conducted between June 15- and October 31 and upland construction will likely occur throughout the year as long as work activities comply with the conservation, avoidance, and minimization measures identified herein for the protection of other sensitive or special-status plant or animal species. For

upland construction activities that must take place during the late fall, winter, or spring, temporary erosion and sediment control structures shall be in place and operational during construction as needed and at the end of each construction day and maintained until permanent erosion control structures are in place.

- Areas where wetland and upland vegetation need to be removed shall be identified in advance of ground disturbance and limited to only those areas that have been approved by the City as part of the final design plans. Temporary construction fencing will be installed around ESHAs that do not need to be disturbed.

- Within 10 calendar days of completion of construction in those areas where subsequent ground disturbance will not occur within 10 calendar days or more, weed-free mulch shall be applied to disturbed areas to reduce the potential for short-term erosion. Prior to a rain event or when there is a greater than 50 percent possibility of rain within the next 24 hours, as forecasted by the National Weather Service, weed-free mulch shall be applied to all exposed areas upon completion of the day's activities. Soils shall not be left exposed during the rainy season.

- Suitable BMPs, such as silt fences, straw wattles, or catch basins, shall be placed below all construction activities at the edge of surface water features to intercept sediment before it reaches the waterway. These structures shall be installed prior to any clearing or grading activities. Further, sediment built up at the base of BMPs will be removed before BMP removal to avoid any accumulated sediments from being mobilized post-construction.

- If spoil sites are used, they shall be located such that they do not drain directly into a surface water feature, if possible. If a spoil site drains into a surface water feature, catch basins shall be constructed to intercept sediment before it reaches the feature. Spoil sites shall be graded and vegetated with native species to reduce the potential for erosion.

- Sediment control measures shall be in place prior to the onset of the rainy season and will be monitored and maintained in good working condition until disturbed areas have been revegetated with native species.

- Any new or previously excavated gravel material placed in the channel shall meet Caltrans' cleanness test indicating the relative proportions of clay-sized material clinging to coarse aggregate and screenings (California Test No. 227) with a value of 85 or higher (excluding such materials as soil in the rock slope protection [RSP] to allow for riparian planting).

Timing/Implementation:	Prior to, during, and after construction
Enforcement:	City Parks & Recreation Department, Corps, North Coast RWQCB, CDFW, Caltrans
Monitoring:	City and/or its contractor
Evidence of Compliance:	Completion of and adherence to required documents and measures.

Mitigation Measure BIO-4 –Frogs: In addition to the implementation of Mitigation Measure BIO-1 – Prevention of Accidental Spills of Pollutants and Mitigation Measure BIO-3 – Erosion and

Sedimentation Control, the following measures will be used to avoid or minimize impacts on northern red-legged frogs:

- Prior to construction, the City shall retain a qualified biologist to present a Worker Environmental Awareness Program. The program shall provide construction workers, contractors, and subcontractors with information on their responsibilities with regard to sensitive biological resources.

- Suitable habitat for the northern red-legged frog is present in the proposed project area and individuals could move onto the site at any time. Thus, a pre-construction survey for the species is necessary to confirm its status (presence/absence) in the project area immediately prior to the onset of construction. The City shall retain a qualified biologist to conduct a pre-construction survey for the northern red-legged frog including the area within 50 feet of suitable habitat (wetlands) immediately prior to construction. Surveys shall be conducted each day in those areas where frogs could potentially be impacted. If a northern red-legged frog is found, the biologist shall move it to suitable habitat in a safe location outside of the construction zone. In the event that a frog is observed in an active construction zone, the contractor shall immediately halt construction activities until a biologist has moved the frog to a safe location in similar habitat outside of the construction zone.

Timing/Implementation:	Prior to and during construction
Enforcement:	City Parks & Recreation Department, CDFW, Caltrans
Monitoring:	City and/or its contractor
Evidence of Compliance:	Completion of and adherence to required documents and measures.

Mitigation Measure BIO-5 – Management of Human Disturbance: The City shall manage visitor use and recreation in and around the proposed project area to avoid disturbance of wildlife foraging and roosting along Humboldt Bay, PALCO Marsh, and in associated wildlife habitats. Management shall include establishment of view and access sites that allow the public to see and access the Bay and PALCO Marsh for recreation and wildlife viewing, and posting of signs to thereby discourage access in other sites. The number and physical distribution of these access sites shall be designed in a manner that encourages appreciation for the flora and fauna of the area while reducing disturbance and other activities that are detrimental to vegetation and wildlife.

Timing/Implementation:	Project design
Enforcement:	City Parks & Recreation Department, CDFW, CCC, Caltrans
Monitoring:	City and/or its contractor
Evidence of Compliance:	Adherence to requirements.

Mitigation Measure BIO-6 – Raptors: In addition to the implementation of *Mitigation Measure BIO-5 – Management of Human Disturbance* the following measures will be used to avoid or minimize impacts on raptors:

- Construction shall be scheduled to avoid the nesting season to the extent feasible. The nesting season for most raptors in Humboldt County extends from March through August. Thus, if construction can be scheduled to occur between September and February the nesting

season will be avoided and no impacts on nesting raptors would be expected. If it is not possible to schedule construction during this time, the remainder of this mitigation measure shall be implemented:

- If vegetation is to be removed by the project and all necessary approvals have been obtained, potential nesting habitat (e.g., trees) that will be removed should be removed outside the nesting season, if feasible. This will help preclude nesting and substantially decrease the likelihood of direct impacts.

- Pre-construction surveys for nesting raptors shall be conducted by a qualified biologist to ensure that no nests will be disturbed during project implementation. These surveys shall be conducted no more than 7 days prior to the initiation of construction activities, or re-initiation of construction activities if they have ceased for more than 7 days. During this survey, the biologist shall inspect all potential nesting habitat for raptor nests where project activities could potentially result in disturbance to nesting raptors, including areas of direct impact plus an area extending at least 500 feet from the perimeter of the project area.

- If an active raptor nest is found within the survey area (i.e., within 500 feet), or beyond the survey area but in a location where there could be potential disturbance associated with construction activities, the biologist, in consultation with the CDFW, shall determine the extent of a construction-free buffer zone to be established around the nest, or shall develop and agree upon construction methods that will allow work to continue without disturbing an active nest. Active nests may not be removed until after the young have fledged (based on field verification). A qualified biologist shall monitor the nest for disturbance and evidence of fledgling during construction and until the young have fledged and submit status reports to the CDFW throughout the nesting season. If evidence of disturbance to an active next is observed as a consequence of construction activities, construction activities shall immediately cease until such time as the birds of fledged or construction protocol is revised so as not to disturb nesting birds or fledglings.

Timing/Implementation:	Prior to and during construction
Enforcement:	City Parks & Recreation Department, CDFW, Caltrans
Monitoring:	City and/or its contractor
Evidence of Compliance:	Completion of and adherence to required documents and measures.

Mitigation Measure BIO-7 – Migratory and Special-Status Birds: In addition to the implementation of *Mitigation Measure BIO-5 – Management of Human Disturbance* the following measures shall be implemented to avoid or minimize the potential for project-related impacts on migratory birds:

- Grading and other construction activities shall be scheduled to avoid the nesting season to the extent possible. The nesting season for these species extends from March through August. If construction occurs outside of the breeding season, no further mitigation is necessary. If the breeding season cannot be completely avoided, the remainder of this mitigation measure shall be implemented.

- Pre-construction surveys for migratory and special status birds shall be conducted by a qualified biologist to ensure that no nests will be disturbed during project implementation. These surveys shall be conducted no more than 7 days prior to the initiation of construction activities, or re-initiation of construction activities if they have ceased for more than 7 days. During this survey, the biologist shall inspect all potential nesting habitat for migratory and special-status bird nests where project activities could potentially result in disturbance to migratory or special status birds, including areas of direct impact plus an area extending at least 100 feet for non-special status migratory birds and 300 feet from the perimeter of the project area for special status birds.

- If an active nests is found within the survey area (i.e., within 100 or 300 feet), or beyond the survey area but in a location where there could be potential disturbance associated with construction activities, the biologist, in consultation with the CDFW, shall determine the extent of a construction-free buffer zone to be established around the nest, or shall develop and agree upon construction methods that will allow work to continue without disturbing an active nest. Active nests may not be removed until after the young have fledged (based on field verification). A qualified biologist shall monitor the nest for disturbance and evidence of fledging during construction and until the young have fledged, and submit status reports to the CDFW throughout the nesting season. If evidence of disturbance to an active nest is observed as a consequence of construction activities, construction activities shall immediately cease until such time as the birds have fledged or construction protocol is revised so as not to disturb nesting birds or fledglings. If vegetation is to be removed by the project and all necessary approvals have been obtained, potential nesting habitat (e.g., shrubs and trees) that will be removed by the project should be removed outside the nesting season, if feasible. This will help preclude nesting and substantially decrease the likelihood of direct impacts.

Timing/Implementation:	Prior to and during construction
Enforcement:	City Parks & Recreation Department, CDFW, Caltrans
Monitoring:	City and/or its contractor
Evidence of Compliance:	Completion of and adherence to required documents and measures.

Mitigation Measure BIO-8 – Eel Grass: In addition to the implementation of *Mitigation Measure BIO-3 – Erosion and Sedimentation Control* the following mitigation will be implemented to avoid and minimize project impacts to eel grass:

- Prior to the onset of construction, the City will mark all eelgrass populations within the project boundary. Eelgrass populations will be avoided to the maximum extent feasible.

Timing/Implementation:	Prior to and during construction
Enforcement:	City Parks & Recreation Department, CDFW, CCC
Monitoring:	City and/or its contractor
Evidence of Compliance:	Completion of and adherence to required documents and measures.

Mitigation Measure BIO-9 – Prevention of Invasive Plant Species: The following measures shall be implemented to prevent the spread of invasive species in the proposed project area:

- All equipment used for off-road construction activities shall be weed-free prior to entering the proposed project area.

- If project implementation calls for mulches or fill, they shall be weed free.

- Revegetation of disturbed sites shall be performed only with sterile non-native grasses and other native vegetation obtained from local genetic stocks within Sonoma, Mendocino, Humboldt, or Del Norte Counties within 30 miles of the coast. Sterile non-native annual grasses shall comprise no more than 50% of the erosion control seed mixture to be planted (by weight of seed), with the remaining seed composed of native species. If documentation is provided that demonstrates that native vegetation from local genetic stock is not available, native vegetation obtained from genetic stock outside the local area, but from within the adjacent region of the floristic province, may be used. No plant species listed as problematic and/or invasive by the California Native Plant Society, the California Invasive Plant Council, or by the State of California shall be planted or allowed to naturalize or persist on the parcel. No plant species listed as a 'noxious weed' by the State of California or the U.S. Federal Government shall be utilized within the property.

Timing/Implementation:	Prior to, during, and after construction
Enforcement:	City Parks & Recreation Department, CDFW, CCC
Monitoring:	City and/or its contractor
Evidence of Compliance:	Adherence to required measures.

Mitigation Measure BIO-10 – Waters of the United States/Waters of the State: Implementation of Mitigation Measure BIO-1 – Prevention of Accidental Spills of Pollutants and Mitigation Measure BIO-3 – Erosion and Sedimentation Control will protect waters of the United States from potential indirect impacts. To address potential temporary impacts to waters of the State by ensuring that disturbed areas are restored to pre-project conditions, the City shall implement the following measures:

- The width of the construction disturbance zone within wetlands shall be minimized through careful preconstruction planning.

- Where possible, temporary impacts on woody riparian vegetation shall be minimized by trimming trees and shrubs rather than removing entire woody plants or by cutting trees or shrubs at least 1 foot above ground level to leave root systems intact and allow more rapid regeneration following construction.

- For herbaceous wetland areas, City shall include provisions in the constructions plans and specifications for the contractor to place steel mats, when feasible, over wetland areas to allow for construction equipment access and to prevent rutting. The mats would then be removed as construction is completed for each trail segment.

- In areas where excavation may occur, the City shall include provisions in the constructions plans and specifications for the contractor to temporarily stockpile the top 6 to 12 inches of excavated material, keep the material moist, and then return this material as backfill into the top of temporarily excavated areas.

- Following completion of the trail system, any impacted area shall be restored to pre-project grade. Any wetland areas left bare following construction shall be revegetated using native vegetation.

To the extent practicable, the discharge of dredged or fill material into waters of the United States, including wetlands, shall be avoided (this also includes waters not subject to Corps jurisdiction, but subject to North Coast RWQCB or California Coastal Commission jurisdiction). However, complete avoidance may not be feasible (Note: following completion of the geotechnical report, a determination will be made during the final design phase as to whether footings for the pedestrian bridge in Segment 1 (drainage ditch just south of Del Norte Street) would need to be constructed or not; if footings are not required, permanent impacts may be potentially avoided). If discharge of fill into a waters of the United States or waters of the State cannot be completely avoided, the remainder of this mitigation measure shall be implemented:

- The City will apply for the appropriate permits from the Corps, North Coast RWQCB, California Coastal Commission, and the CDFW and will comply with the conditions of each respective permit.

- Impacts on jurisdictional waters will be compensated at a minimum 2:1 ratio or other ratio as agreed by the City and the Corps, North Coast RWQCB, California Coastal Commission, and the CDFW (Note: The City has concluded that a 2:1 ratio is sufficient for the following reasons: 1) the low quality of potentially impacted wetlands habitat within the project area due to prior disturbance; and 2) overall enhancement of the project area associated with removal of transient encampments, debris, and non-native vegetation). Compensation for the loss of wetlands would be completed through on-site creation. In addition to creation, potential restoration, enhancement, and/or preservation activities may be considered as well by the agencies as part of the overall mitigation strategy. Assuming a 2:1 creation ratio, since up to maximum of 0.042 acre of Corps jurisdiction and 0.009 acre of State jurisdiction may be impacted by the project (Note: these impacts may be further reduced during the final design phase), up to 0.102 acre of new wetlands will need to be created. Potential mitigation locations include Parcel 4 and the City-owned property associated with Phase C of the Waterfront Trail. These properties contain areas of adequate size that provide necessary conditions to accomplish the potential mitigation requirements.

- A Wetlands Mitigation and Monitoring Plan shall be prepared and provided to the Corps, North Coast RWQCB, California Coastal Commission, and the CDFW for review and approval. This Plan shall include the following elements: description and size of mitigation area; site preparation and design; plant species; planting design and techniques; maintenance activities; plant storage; irrigation requirements; success criteria; monitoring schedule; and remedial measures. Following approval by the pertinent regulatory agencies, the Plan will be implemented by the City.

Timing/Implementation:	Prior to, during, and after construction
Enforcement:	City Parks & Recreation Department, Corps, North Coast RWQCB, CDFW, CCC
Monitoring:	City
Evidence of Compliance:	Completion of and adherence to required documents and measures.

V. CULTURAL RESOURCES. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in '15064.5?		✓		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to '15064.5?		✓		
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				✓
d) Disturb any human remains, including those interred outside of formal cemeteries?		✓		

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree the proposed project would cause (a) physical changes in known or designated historical resources, or in their physical surroundings, in a manner that would impair their significance; (b) physical changes in archaeological sites that represent important or unique archaeological or historical information; (c) unique paleontological resource site or unique geologic feature; or (d) disturbance of human burial locations.

DISCUSSION

The following responses are based on the Archaeological Survey Report [ASR] for the Eureka Waterfront Trail Project Phase A and B Located in Eureka, Humboldt County, California (Roscoe and Associates 2014) and the Historical Resources Evaluation Report [HRER], Eureka Waterfront Trail Project Phase A and B (JRP Historical Consulting LLC 2014). The full text of the ASR is not included in this Initial Study because of its confidential nature. The report is available for review by qualified persons (e.g., archaeologists, Tribal Historic Preservation Officers, etc.) at the City of Eureka Community Development Department at 531 K Street, Eureka.

Ethnography: The project area lies within the traditional territory of the Wiki division of the Wiyot, which occupied lands adjacent to Humboldt Bay. Around A.D. 900, the Wiyot entered and occupied the lower Klamath River and adjacent coast, leaving behind their mid-Columbia River homeland. Some 200 years later, the Yurok moved down the Klamath River from a northern origin, settling along the lower Klamath and displacing the Wiyot to the vicinity of the Humboldt Bay.

Local History: The project area occurs on former tidelands and estuarine deposits. The project area once consisted of extensive freshwater and salt marshes. In 1854, early settlements in the area included the town of Bucksport to the south and Fort Humboldt on the bluff to the east. In 1870, wetlands occurring between A Street and Bucksport were diked to create agricultural pastureland.

A racetrack was developed north of Del Norte Street and was first used for racing horses and eventually automobiles. In 1901, the existing agricultural dikes were improved to support the Northwestern Pacific Railroad. The diking activity and placement of fill for the railroad resulted in the conversion of salt marsh in the PALCO Marsh area due to retention of freshwater and surface runoff on the site.

The Holmes-Eureka lumber mill was established in 1903 in the area where the Bayshore Mall is located today. During the 1930s a rail line was connected to the main railroad such that it bisected the southwestern corner of PALCO Marsh. A fill berm associated with the railroad siding borders the western portion of the marsh today. Lumber drying sheds were built between 1958 and 1959 on what is known as the Poleshed Property or Parcel 3 west of Maurer Marsh and north of the current mall parking area. Pacific Lumber Company (PALCO) purchased the mill parcels in 1959 and used the area for the drying and storage of lumber until 1983.

V a) Less than Significant with Mitigation Incorporated. The former Holmes-Eureka Lumber Company (later referred to as PALCO when it sold in 1958) occupied a large part of the Eureka waterfront from Del Norte Street south to Truesdale Street and from the Humboldt Bay coastline east to what is now US 101. The HRER (JRP Historical Consulting LLC 2014) concluded that the PALCO site, which includes the proposed Phase A trail alignment, does not appear eligible for listing in the National Register of Historic Places (NRHP), the California Register of Historic Resources (CRHR), or would be an eligible property for listing on the City of Eureka Local Register of Historic Places. The historic mill site would not be considered a historical resource for the purposes of CEQA (JRP Historical Consulting LLC 2014).

The historic Bucksport town site (circa 1850-1870), which includes the Historic Wiyot Community, was located near the south end of the proposed trail alignment. The Bucksport community boundary extends approximately 100 yards north of Truesdale Street, encompassing the last 0.1 mile of the proposed trail where it passes by the Chevron Terminal and residential development on its route south to Truesdale Street. The ASR concluded that application and enforcement of standard avoidance conditions and designation of an Environmentally Sensitive Area (ESA) action plan for historic and prehistoric properties would protect this resource (due to the confidential nature, specifics of the ESA Action Plan cannot be disclosed in this CEQA document). Implementation of *Mitigation Measure CUL-1 – Cultural Resources*, which requires stoppage of construction activities within the immediate area and a 50-foot buffer of a discovered resource and subsequent evaluation and development of an avoidance or mitigation plan prior to reinitiating of construction activities in the immediate area and a 50-foot buffer area, will reduce potential impacts on historic resources to a less-than-significant level.

V b) Less than Significant with Mitigation Incorporated. The project area lies within the traditional territory of the Wiki division of the Wiyot Indian tribe. Wiyot once occupied the lands adjacent to Humboldt Bay. Record searches, archival research, and oral history interviews contributed to defining locations considered highly sensitive for significant archaeological deposits within the archaeological area of potential effect defined for the proposed Phase A trail alignment. The proposed trail alignment and vicinity has experienced significant ground disturbance throughout the past. However, given ethnographic evidence of Native American habitations along Humboldt Bay, there is the potential for archaeological cultural resources to be present below the ground surface within the project area. As the project is currently proposed, trail construction would not exceed 6-inches depth. If, during the final design phase, it is determined that excavation

activities must exceed 12 inches (e.g., trail bollards, signs, fencing) near known cultural resource sites (i.e., Historic Bucksport Townsite, Historic Wyot Community at Bucksport, Holmes-Eureka Lumber site, and CA-HUM-857 H – Historic Eureka City Dump), then archaeological monitoring during construction shall be required, as described in *Mitigation Measure CUL-3 – Archaeological Monitoring*. *Mitigation Measure CUL-1 – Cultural Resources* and *Mitigation Measure CUL-2 – Human Remains* will also be limited. These measures, which require stoppage of construction activities within the immediate area and a 50-foot buffer of a discovered resource and subsequent evaluation and development of an avoidance or mitigation plan prior to reinitiating of construction activities in the immediate area and a 50-foot buffer area and stoppage of work in the event of human remains are discovered and follow up notification to the County Coroner, NAHC, and identified most likely descendent (MLD), and requested (from the MDL) treatment of the remains, respectively, will reduce this impact to a less than significant level.

V c) No Impact. The project area and vicinity is not known to support any unique paleontological resources or unique geologic features.

V d) Less than Significant with Mitigation Incorporated. Although the project's area of potential effect (APE) is not known to contain any known burial sites or human remains, there may be unknown archaeological resources within the APE that could be unearthed during construction of the proposed trail. However, the likelihood of an inadvertent discovery of human remains in the portions of the proposed project that would be excavated is very low. The affected areas are comprised of non-native fill material that was historically used along much of the Eureka waterfront to stabilize the land so that it could be developed for industrial uses. If undiscovered archaeological, historical, ethnic, or religious resources are encountered during grading or construction activities, *Mitigation Measure CUL-2 – Human Remains* will be implemented. This measure, which includes stoppage of work in the event of human remains are discovered and follow up notification to the County Coroner, NAHC, and identified MLD, and requested (from the MDL) treatment of the remains, will mitigate the impact to a less than significant level.

FINDINGS: With implementation of the ESA Action Plan and the incorporation of mitigation, the proposed project would have a less than significant adverse impact on cultural resources (historic and prehistoric).

MITIGATION MEASURES

Mitigation Measure CUL-1 – Cultural Resources: If archaeological resources are encountered during construction activities, all onsite work shall cease in the immediate area and within a 50 foot buffer of the discovery location. A qualified archaeologist will be retained to evaluate and assess the significance of the discovery, and develop and implement an avoidance or mitigation plan, as appropriate. For discoveries known or likely to be associated with native American heritage (prehistoric sites and select historic period sites), the Tribal Historic Preservation Officers for the Bear River Band of Rohnerville Rancheria, Blue Lake Rancheria, and Wiyot Tribe will be contacted immediately to evaluate the discovery and, in consultation with the project proponent, City of Eureka, and consulting archaeologist, develop a treatment plan in any instance where significant impacts cannot be avoided. Prehistoric materials may include obsidian or chert flakes, tools, locally darkened midden soils, groundstone artifacts, shellfish or faunal remains, and human burials. Historic archaeological discoveries may include 19th century building foundations; structural remains; or concentrations of artifacts made of glass, ceramic, metal or other materials

found in buried pits, old wells or privies.

Timing/Implementation:	During construction
Enforcement:	Native American Heritage Commission (NAHC) and City Parks & Recreation Department; Caltrans
Monitoring:	City and/or its contractor
Evidence of Compliance:	Completion of and adherence to required documents and measures.

Mitigation Measure CUL-2 – Human Remains: In the event that human remains are discovered during construction, the project proponent would be required to comply with the State Health and Safety Code 7050.5, which prohibits further disturbance until the County Coroner has made a determination of the origin and disposition pursuant to PRC Section 5097.98. The County Coroner must be notified immediately of the find, and has two working days to examine human remains after being notified. If the remains are determined to be Native American, the coroner is required to notify the Native American Heritage Commission (NAHC) within 24 hours. The NAHC will identify and notify a Most Likely Descendant (MLD). With the permission of the owner of the land or his/her authorized representative, the descendant may inspect the site of the discovery. The descendant shall complete the inspection within 48 hours of being granted access to the site and may recommend means for treatment or disposition, with appropriate dignity, of the human remains and any associated grave goods. The MLD's preferences for treatment may include the nondestructive removal and analysis of human remains and items associated with the Native American human remains, their preservation in place, their relinquishment to the MLDs for treatment, or other culturally appropriate treatment.

Timing/Implementation:	During construction
Enforcement:	NAHC and City Parks & Recreation Department; Caltrans
Monitoring:	City and/or its contractor
Evidence of Compliance:	Completion of and adherence to required documents and measures.

Mitigation Measure CUL-3 – Archaeological Monitoring: If ground disturbance exceeds a depth of 12 inches near known cultural resource sites (i.e., Historic Bucksport Townsite, Historic Wiyot Community at Bucksport, Holmes-Eureka Lumber site, and CA-HUM-857 H – Historic Eureka City Dump), then the City shall retain a qualified archaeologist and Native American monitors, if requested by the Wiyot Tribe/Table Bluff Reservation, Bear River Band of Rohnerville Rancheria or Blue Lake Rancheria, to monitor daily construction activities near these sites. Daily monitoring reports will be submitted to Caltrans District 1. In the event of unanticipated discovery, then *Mitigation Measure CUL-1* and/or *CUL-2* shall be implemented.

Timing/Implementation:	During construction
Enforcement:	City Parks & Recreation Department; Caltrans
Monitoring:	City and/or its contractor
Evidence of Compliance:	Completion of and adherence to required documents and measures.

VI. GEOLOGY AND SOILS. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Expose people or structures to 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.			✓	
ii) Strong seismic ground shaking?			✓	
iii) Seismic-related ground failure, including liquefaction?			✓	
iv) Landslides?				✓
b) Result in substantial soil erosion or the loss of topsoil?		✓		
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?			✓	
d) Be located on expansive soil, as defined by the California Building Code (2007), creating substantial risks to life or property?				✓
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?				✓

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers project-related effects that could involve or result from: (a) damage to project elements as a direct result of fault movement along a fault identified in the Alquist-Priolo study or other known fault; (b) damage to project elements as a direct or indirect effect of seismically derived ground movement; (c) damage to project elements because of landslides that are not seismically related; (d) project-derived erosion by water or wind of more than a minimal volume of earth materials; (e) project-derived or project-caused secondary instability of earth materials that could subsequently fail, damaging project elements or other sites or structures; (f) location of project elements on expansive soils that are identified by professional geologists, which could result in damage to project elements or other sites or structures.

DISCUSSION

Eureka lies within the northern portion of the Coast Range geomorphic province, a dynamic region of California subject to complex folding and faulting from tectonic activity within the Cascadia Subduction Zone (Lawrence and Associates 2014). However, the proposed trail alignment does not occur on any fault zones and the Alquist-Priolo Earthquake Fault Zone has not been mapped in the city of Eureka (California Department of Conservation 2014b). The closet fault is the North Spit Fault (Elk River Segment) that runs northwest to southeast approximately 0.5 mile south of Truesdale Street (Kilbourne et al. 1980).

In the proposed project area of the Eureka Plain watershed, two main rock types that dominate the local geology include the older and more sedimentary rocks of the Yager Formation and the geologically younger rocks of the Wildcat Group. Younger sedimentary rock is more predominant than the older sedimentary rock. The Yager Formation is relative to a hard foundation upon which a mantle of softer younger rocks from the Wildcat Group overlies. Yager rocks are well cemented and resistant to erosion while the Wildcat rocks are very soft, weakly cemented, and very susceptible to erosion.

VI a) Less-than-Significant Impact. The project would not include construction of any features that would likely present a hazard in the event of a seismic incident. Furthermore, all constructed features would comply with the 2007 California Building Code (CBC), including the requirements of the special Seismic Design Category zones (SDC). Considering the distance from known faults to the project, lack of constructed features that impose a risk in a seismic event, and CBC and SDC requirements, potential impacts resulting from fault rupture such as seismic ground failure is considered to be less than significant.

The project is within an area of historical fill over bay muds and may be subject to some degree of ground liquefaction during strong seismic shaking. However, the trail alignment is mapped within an area of "Relative Stability" by the County (Humboldt County Planning Department 2014) and the project will comply with CBC's seismic requirements. Since the proposed project area and vicinity are flat, there is no potential for landslides.

VI b) Less than Significant with Mitigation Incorporated. Minor site grading would be performed in compliance with the BMPs prescribed in the Eureka Municipal Code, the North Coast RWQCB regulations, and the Uniform Building Code. In areas where the trail would be located in close proximity to designated ESHA, BMPs will be implemented to prevent erosion and sedimentation from trail improvement construction. Protection measures include a SWPPP that would be required prior to any grading or construction activities in excess of one acre. *Mitigation*

Measure BIO-3 – Erosion and Sedimentation Control, which includes the development and implementation of a site-specific pollution prevention plan and SWPPP, will be used to minimize potential soil erosion. No substantial soil erosion or loss of topsoil would result from the project and with mitigation incorporated, the impact would be less than significant.

VI c) Less-than-Significant Impact. The project area is on predominately flat ground with no potential for landslides. The project is within an area of historical fill over bay muds and may be subject to some degree of ground liquefaction during strong seismic shaking. The trail alignment is mapped by the County as being within an area of Relative Stability (Humboldt County Planning Department 2014). The project will comply with CBC seismic requirements. This impact would be less than significant.

VI d) No Impact. The project is not located on expansive soils and, therefore no related significant risk to life or property is anticipated.

VI e) No Impact. The proposed project does not include septic tanks or other alternative wastewater disposal systems, and no impact related to wastewater disposal in soils would result. The project area is served by existing municipal wastewater disposal infrastructure. No significant impacts are anticipated.

FINDINGS: Based on the above discussion, staff concludes that the project would have less than significant impacts on geology and soils.

MITIGATION MEASURES

Implement *Mitigation Measure BIO-3 – Erosion and Sedimentation Control* to prevent degradation of water quality and loss of soil due to erosion.

VII. GREEN HOUSE GAS EMISSIONS. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			✓	
b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?			✓	

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree the project would contribute to greenhouse gas emissions and global warming.

DISCUSSION

The Earth's atmosphere is composed of a number of gases that act like the glass panes of a greenhouse, retaining heat to keep the temperature of the Earth stable and hospitable for life. The following are greenhouse gases (GHG's) which are known to trap heat: water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydro fluorocarbons, per fluorocarbons, and sulfur hexafluoride. Elevated concentrations of the GHG's in the atmosphere have had a de-stabilizing effect on the global climate and are considered pollutants. Of these gases, CO_2, CH_4, N_2O are the primary GHG pollutants of concern and are emitted in the greatest quantities from human activities. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas CH_4 results from off-gassing associated with agricultural practices and landfills. Considering GHG's have long-term impacts and reside in our atmosphere for long periods of time, one project alone cannot be the cause of global climate change, but can be an incremental contributor in the long term.

Sea Level Rise. The California Coastal Commission has produced sea level rise estimates in the 2013 Draft Sea-Level Rise Policy Guidance (California Coastal Commission, 2013). This document indicates that the sea level on the coast of California, north of Cape Mendocino, may rise between 9 inches and 56.28 inches between the base year of 2000 to 2100, as projected by the National Research Council, which significantly exceeds previous estimates. Sea-level rise in the vicinity of Humboldt Bay and Eel River estuary is further exacerbated by vertical land motion (e.g., large-scale uplift and subsidence). It should be noted that sea level rise predictions are based on mathematical models in a rapidly evolving field of study, and that actual sea level rise may be significantly different than current predictions.

VII a) Less-than-Significant Impact. Some amount of GHG emissions would result from motor vehicle trips and construction operations on the trail. Conversely, it can be reasonably expected that non-motorized use of the trail may correlate to a small decrease in vehicle miles traveled in the region and a related decrease in GHG emission. However, it is not anticipated that the trail would have an individually discernible effect on global climate change, and therefore its effect on the environment

would be less than significant.

VII b) Less-than-Significant Impact. The proposed project is in a relatively low-lying waterfront area of the city, a portion of which is in the mapped 100-year floodplain. If the current sea level rise predictions materialize, the proposed trail may be exposed to an increased level of periodic inundation as a result of high tide and flood events. The proposed trail, however, is not expected to be subject to significant damage as a result of such inundation and is not an essential facility required to be operational in the event of a flood.

Neither the North Coast Unified AQMD nor the County has adopted any thresholds of significance in determining project-related GHG impacts (North Coast Unified Air Quality Management District 2014). The City does not yet have a Climate Action Plan. The proposed project does not conflict with any applicable plan, policy, or regulations related to reducing GHG emissions and, therefore a less-than-significant impact is expected.

FINDINGS: Based on the discussion above, the project would not significantly impact GHG emissions or conflict with regulations related to the reduction of GHG emissions.

MITIGATION MEASURES

No project-specific mitigation is required under this subject.

VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?		✓		
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?		✓		
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				✓
d) Be located on a site which is included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			✓	
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 for people residing or working in the project area?			✓	
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?			✓	
g) Impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan?		✓		
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized area or where residences are intermixed with wildlands?		✓		
THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree the proposed				

project would involve: (a) potential storage or use, on a regular basis, of chemicals that could be hazardous if released into the environment; (b) operating conditions that would be likely to result in the generation and release of hazardous materials; (c) use of hazardous materials, because of construction-related activities or operations, within a quarter-mile of an existing or proposed school; (d) project-related increase in use intensity by people within the boundaries of, or within two miles of, the Airport Planning Areas; (e) project-derived physical changes that would interfere with emergency responses or evacuations; or (f) potential major damage because of wildfire.

DISCUSSION

The following discussion is based on the findings of the Phase I Environmental Site Assessment, Waterfront Trail Project – Phase A, Del Norte Street to Truesdale Street, Eureka, California (Lawrence and Associates 2014).

VIII a) Less than Significant with Mitigation Incorporated. Project construction and operation would not routinely generate any hazardous materials. Although construction would not generate any hazardous materials, a potential hazard to the public and the environment would be posed by the accidental spill of diesel or gasoline used to power construction equipment (trucks, excavators, etc.) or lubricants such as oil and hydraulic fluids. The potential for an accidental spill of pollutants would be temporary and mitigable since equipment would be routinely maintained and inspected to avoid leaks, and is similar to vehicles operating on nearby roads, as described in a site-specific spill prevention plan. Best management practices described in *Mitigation Measure BIO-1 – Prevention of Accidental Spills of Pollutants* will be used to reduce potential impacts on vegetation and aquatic habitat resources associated with an accidental spill of pollutants within the project area. In the event of an accidental spill, implementation of this measure will reduce the potential hazard to the public and the environment to a less-than-significant level by ensuring that construction equipment are equipped with emergency spill kits for rapid containment and cleanup. Project operation would not involve the use or storage of any hazardous materials.

VIII b) Less than Significant with Mitigation Incorporated. No hazardous materials are currently stored, or proposed for use or storage within the project area. The proposed trail alignment would follow an existing railroad ROW and access roads through a former industrial area. The Phase 1 Site Assessment (Lawrence and Associates 2014) prepared for the proposed project identified three recognized environmental conditions (RECs) within the proposed project area.

- **REC-1 -** A majority of the project area was used as railroad. Commonly, fuels, oils, and hazardous materials may have been transported, used, stored, and/or discharged to the ground along the tracks. Because of the historic use, there is a possibility that residual fuels and/or oils and hazardous materials remain in the subsurface along the tracks. Historically contaminated soils may be encountered where construction of the proposed trail is located within less than 15 feet of the centerline of the existing tracks and the trail foundation is excavated below existing grade.

- **REC-2 -** Information reviewed for the adjacent Chevron USA Marine Terminal site revealed evidence that petroleum products have historically impacted soils and groundwater of the Chevron site and the soils and groundwater within the railroad ROW east of the Chevron facility. There is a possibility that residual fuels and/or oils and hazardous materials reside in the shallow subsurface along the railroad ROW based on the documented shallow soil and

groundwater contamination reported for the site. Future trail foundation construction could encounter contaminated soils if excavated below existing grade.

- **REC-3 -** Lead from motor-vehicles may be present in low concentrations in the soils of the proposed trail where the trail alignment is within 15 feet of the city streets ROW (i.e., Del Norte, Truesdale. Lead associated with the Chevron site could also be present within the alignment adjacent to Chevron. However, the likelihood of lead contamination in shallow soils from the Chevron site is very low, based on previous soil and groundwater samples from the Chevron facility.

The potential for these RECs to pose a significant hazard to humans or the environment would depend upon the scope of the construction phase of the project; however, based on the proposed construction methodology, it is unlikely the RECs would have the potential to have an impact during construction of the project as long as the method for construction does not disturb identified or previously unidentified environmental concerns. There is evidence to indicate that contaminated soils or hazardous materials are present in the vicinity, but not in close proximity, along the proposed trail alignment. However, as stated below in *Mitigation Measure HAZ-1 – Soil Testing*, during project implementation, if there is any evidence that indicates contaminated soil or hazardous materials are present on the site, either from visual observations or odors indicative of regulated substances, the City shall be responsible for performing soil sample analyses. Based on the results of the analysis, the City shall consult with jurisdictional agencies regarding follow-up procedures. The City shall comply with all requirements/regulations of the appropriate agencies with regard to handling, transport and disposal of potential hazardous substances to the satisfaction of the applicable agency. In addition, best management practices described in a site-specific pollution prevention plan to be prepared as part of *Mitigation Measure BIO-1 – Prevention of Accidental Spills of Pollutants* will also be used to reduce potential impacts that could result from disturbance of the RECs within the project area to a less-than-significant level.

VIII c) No Impact. The nearest schools are within the city approximately 0.5 miles east of the project alignment. The project would not pose a hazard to a school.

VIII d) Less-than-Significant Impact. An exhaustive review of federal and state environmental databases, including the State Department of Toxic Substances Control (DTSC) EnviroStar database (California Department of Toxic Substances Control 2014); the State Regional Water Quality Control Board's GeoTracker database (State Water Resources Control Board 2014); and the Federal Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) was conducted as part of the Phase 1 Site Assessment study (Lawrence and Associates 2014). Other sources researched for known contaminants within the proposed project area included Sanborn (fire insurance maps) for the years 1920 to 1988; historical land use aerial photograph interpretation for years between 1931 and 2012; personal interviews with property owners and City officials; and site reconnaissance (Lawrence and Associates 2014). The project area is not included on the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and no significant hazards to humans or the environment were identified.

A list of vicinity properties having a recorded contamination, regulated landfill, underground storage tank, or that generate hazardous waste, is included in the Phase 1 Site Assessment Report. Of the listed properties, only the Chevron Terminal would have the potential to affect trail users. The Chevron facility has associated groundwater monitoring wells that are within proximity to the

proposed trail alignment. Regular monitoring of these wells would detect an increase in any potential contaminants in the groundwater and Chevron would be responsible for implementing any remediation measures required by the North Coast RWQCB. This will help to protect the public from accidental exposure to soil contaminants along the trail near the Chevron Terminal. It does not appear that, based on physical locations, the other nearby listed sites listed are near enough to the proposed project area that the migration of contaminants would be a concern (Lawrence and Associates 2014).

VIII e, f) Less-than-Significant Impact. The project site is approximately 1.3 miles northeast of the Eureka Municipal Samoa Field and approximately 2.5 miles southwest of the Murray Field Airport. The project is not close enough to either airport to pose a significant risk to the public. Therefore, the project would have a less-than-significant impact on airport safety.

VIII g) Less than Significant with Mitigation Incorporated. The project area is located in close proximity to Humboldt Bay and is within the designated Tsunami Evacuation Area, which includes all areas north of 2nd Street and west of Broadway in Eureka (Humboldt County Planning Department 2014). The site is mapped as being within high, moderate, and low hazard inundation areas (Humboldt State University 2004). In the event of a tsunami warning, the City of Eureka Emergency Operations would broadcast an emergency tsunami warning and provide direction to the public on the actions they should take in the event of a potential tsunami in Humboldt Bay. To help inform trail users of tsunami hazards and evacuation procedures, the proposed project would include signage to notify the public of tsunami hazards and evacuation routes. Because there are existing tsunami evacuation plans for the area and the project would include the addition of tsunami hazard signage, the project would not interfere with any existing emergency response plans. *Mitigation Measure HAZ-2 – Tsunami*, which includes the installation of signage warning the public of tsunami dangers and what actions to take in the event of seismic activity, will be used to reduce the hazards associated with tsunamis to a less-than-significant level.

VIII h) Less than Significant with Mitigation Incorporated. The project area is located within the Eureka city limits. Although there are no wildlands in the project vicinity, the proposed trail would be aligned through densely vegetated areas, particularly Parcel 4. Parcel 4 has a history of fire incidences associated with transient activity (Lawrence and Associates 2014). Limiting use of the proposed trail to non-motorized use would minimize the potential for fires in the area and may actually reduce transient activity and associated fire danger in the area. The use of construction equipment in and around vegetated areas increases the potential for wildfire ignition. *Mitigation Measure HAZ-3 – Wildland Fire*, which includes provisions in the construction bid documents that all internal combustion engines on construction equipment shall be equipped with an operational spark arrestor, will be used to reduce the risk of wildfire associated with project construction to a less-than-significant level.

FINDINGS: With the incorporation of mitigation, the proposed project would have a less than significant adverse impact associated with hazards and release of hazardous materials.

MITIGATION MEASURES

Implement *Mitigation Measure BIO-1 – Prevention of Accidental Spills of Pollutants* to prevent degradation of water quality and protect vegetation and aquatic habitat resources from pollutants.

Mitigation Measure Haz-1- Soil Testing: In the event any hazardous, toxic, noxious, objectionable, or unknown chemicals are encountered during trail construction, construction shall be halted by the construction crew on duty and reported to the general contractor for the project, and to the City. Prior to resuming any work the City shall be responsible for obtaining a soil sample contamination analysis. The findings of the analysis shall be submitted, as applicable, to the North Coast RWQCB and any other appropriate regulatory agencies. Work shall not continue until and unless written approval is obtained from these agencies. The applicant shall comply at all times with the requirements and regulations of the RWQCB and other appropriate regulatory agencies with regard to the handling, transport, and disposal of hazardous materials such as contaminated soils to the satisfaction of these agencies. Disposal of all hazardous materials will be in compliance with all applicable California hazardous waste disposal laws.

Timing/Implementation:	During design and construction.
Enforcement:	City Parks & Recreation Department. North Coast RWQCB, Caltrans
Monitoring:	City and/or its contractor
Evidence of Compliance:	Adherence to applicable regulations if hazardous materials are encountered.

Mitigation Measure Haz-2 - Tsunami: To inform the general public of the potential of tsunami run-up inundating the trail area, and to provide information regarding associated safety measures, each trailhead location shall have signage informing the public of tsunami dangers and providing information regarding what actions to take in the event of seismic activity. Said signage shall be posted to the satisfaction of the City and prior to the trail being open to the general public.

Timing/Implementation:	Prior to, during, and after construction
Enforcement:	City Parks & Recreation Department
Monitoring:	City and/or its contractor
Evidence of Compliance:	City of Eureka official will inspect and approve.

Mitigation Measure HAZ-3 – Wildland Fire: The City shall include provisions in the construction bid documents to minimize the potential for ignition of wildfire as a result of project construction. Per the requirements of Public Resources Code 4442 and to reduce construction-related wildfire ignition potential, the City shall include a note on all construction plans that internal combustion engines shall be equipped with an operational spark arrester, or the engine must be equipped for the prevention of fire.

Timing/Implementation:	Prior to and during construction
Enforcement:	City Parks & Recreation Department
Monitoring:	City and/or its contractor
Evidence of Compliance:	Adherence to applicable regulations

IX. HYDROLOGY AND WATER QUALITY. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?			✓	
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?				✓
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off-site?			✓	
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?			✓	
e) 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?			✓	
f) Otherwise substantially degrade water quality?		✓		
g) Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary of Flood Insurance Rate Map or other flood hazard delineation map?				✓
h) Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?			✓	
i) Expose people or structures to a significant risk or loss, injury or death involving flooding, including flooding as			✓	

a result of the failure of a levee or dam?				
j) Result in inundation by seiche, tsunami, or mudflow?		✓		

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree the proposed project would involve: (a) improvements that would violate standards set for water quality and for discharge of waste water; (b) use of, or interference with ground water such that the amount of flow of groundwater is adversely impacted; (c) drainage improvements that would alter or cause an increase in amount or flow of drainage, or that would affect the free-flow of a stream or river or cause an increase in silt runoff as to cause adverse impact; (d) added runoff from the site that would exceed the capacity of drainage facilities; (e) the creation of polluted runoff or other general adverse water quality impacts; (f) the placement of housing or other structures within the 100-year flood plain, or other area subject to flooding; or (g) development in such a manner or location that it would be adversely affected by seiche, tsunami or mudflow.

Hydrology: Humboldt Bay is the second largest marine embayment in California. It is part of the Eureka Plain watershed and the Mad-Redwood Basin. The Eureka Plain watershed spans 223 square miles within the county and of this, the Bay covers approximately 25.5 square miles. The headwaters of the Bay's tributaries originate in nearby coastal mountains, which separate the watershed from the Eel River watershed to the south and the Mad River watershed to the north. In general, the hydraulic basins in the County, including the Mad-Redwood Basin, provide large surface water volumes (30 percent of the runoff in the entire State of California), 80 percent of which is deposited between November and March. The Bay's smaller tributaries drain a total of approximately 35 square miles of the watershed.

Runoff from several watersheds, including the Eureka Plain, influences the local hydrology within the Bay. A combination of factors, such as local geology, topography, drainage area, and rainfall patterns, determine the volume of river runoff into the Bay. Streamflow in the Eureka Plain watershed peaks in the winter (November through March) and is lowest during the summer. The Eureka Plain watershed consists of both tidal marshes and stream floodplain that surrounds the Bay's edge. The four major streams of the Eureka Plain, which drain into the Bay, are Jacoby Creek (draining 17 square miles), Freshwater Creek (31 square miles), Elk River (29 square miles), and Salmon Creek (17 square miles). Jacoby and Freshwater Creeks drain into Arcata Bay to the north, Elk River drains into Entrance Bay near Eureka, and Salmon Creek drains into South Bay. Smaller streams flow primarily into the North Bay.

Water Quality: The project is located within the jurisdiction of the *Water Quality Control Plan for the North Coast Region* (Basin Plan), as adopted by the North Coast RWQCB. The Basin Plan for the North Coast Region includes all the land area that drains into the Klamath River and North Coastal basins. The following beneficial uses are designated within the North Coast Region:

- Municipal and Domestic Supply
- Agricultural Supply
- Industry Service Supply
- Recreation-1 – Water Contact
- Recreation-2 – Non-contact Water
- Commercial and Sport Fishing
- Freshwater Replenishment
- Estuarine Habitat
- Marine Habitat
- Wildlife Habitat
- Rare, Threatened, or Endangered Species

- Aquaculture
- Freshwater Habitat – Cold-water
- Shellfish Harvesting
- Migration of aquatic organisms
- Spawning, Reproduction, and/or Early Development
- Navigation
- Commercial and Sport Fishing

In addition to the existing beneficial uses according the Basin Plan, there are potential beneficial uses. These include industrial process supply and hydropower generation.

Nutrient levels, salinity, temperature, and dissolved oxygen levels are primary factors that cause extreme variability in Humboldt Bay's water quality. Major water quality concerns in the watershed include sedimentation and bacteria-laden runoff, which originate from point and non-point sources. Actual and potential sources of pollution include runoff from pasturelands and rangelands, discharges of treated wastewater by the cities of Eureka and Arcata, exhausts from recreational boats, and accidental discharges of pollutants from ships, commercial boats and recreational boats. The influx of turbid ocean water into the bay, erosion, and sediment transport from disturbed uplands accelerate suspended sediment deposition and turbidity levels.

DISCUSSION:

IX a) Less-than-Significant Impact. Construction and operation of the project would not violate any water quality standards or waste discharge requirements set forth by the North Coast RWQCB in its Water Quality Control Plan for the North Coast region (North Coast Regional Water Quality Control Board 2011). The trail would follow the alignment of existing rails and roads, and the NCRA railroad corridor. Minor grading necessary to construct the trail would be conducted specific to the project design and the potential for project actions to impact water quality would be low. Water pollution control measures have been incorporated into the project design and are required according to current Caltrans Standard Specifications (Section 7-1.01G). Additionally, project activities would comply with the requirements set forth in a 401 Water Quality Certification, which is required by the North Coast RWQCB prior to project implementation.

The project would also be constructed in accordance with BMPs described in the Eureka Municipal Code (City of Eureka 2014), Uniform Building Code (International Code Council 1997), California Stormwater Quality Association Municipal BMP Handbook (California Stormwater Quality Association 2004) and the regulations of the North Coast RWQCB. Impacts on water quality standards would be less than significant.

IX b) No Impact. Construction and operation of the project would have no effect on groundwater supplies. There would be no net change in local aquifers or the local groundwater table as a result of the project since the proposed trail would be aligned within existing roads, trails, and railroad corridor and will not require drawing water from or injecting water into the local groundwater aquifer. The proposed project is not water dependent.

IX c, d) Less-than-Significant Impact. Construction activities associated with the project are not anticipated to significantly alter the existing drainage pattern of the site or area in a way that would result in erosion or sedimentation. Minor changes to drainage patterns could result from limited realignment, extension, or replacement of low volume culverts, and other minor stormwater

infrastructure device alterations to better accommodate the trail. Assuming a worst-case scenario of a 1.2-mile (6,312-foot) by 10-foot new trail (Note: the trail width will be reduced to 8 feet in several areas to protect ESHAs), up to 63,120 square feet of new impervious surface will be constructed. The City's current NPDES stormwater permit requires that development on any specific parcel that increases impervious surface by greater than 2,500 square feet must implement low impact development (LID) measures that retain and treat the runoff from the 85% storm event. Since the proposed project is likely to exceed 2,500 square feet on most parcels, LID measures will need to be implemented. For those impacted parcels, LID measures are in place as the impervious porous materials (gravel shoulders and undeveloped ground surfaces) and landscaping located adjacent to the proposed trail will adequately retain and treat all runoff at a level higher than the 85% storm event, without the need to construct retention/siltation basins. Therefore the proposed project will not substantially increase the rate or amount of surface water runoff in a manner that would result in on-site or off-site flooding and the project impact would be less than significant.

IX e) Less-than-Significant Impact. The proposed project would not significantly alter the current pattern of drainage or result in excessive erosion or siltation on or offsite of the project area boundaries. The existing substrate is predominantly compacted imported fill associated with the railroad grade. Although the project would add up to 63,120 square feet of new impervious surface, the change in the volume and path of runoff will be adequately handled by the LID measures described above in IX c, d. Any water falling on the paved trail would simply flow to surrounding, impervious areas (e.g., two-foot gravel shoulders and undeveloped ground surfaces) where sufficient percolation would occur. In addition, native vegetation will be incorporated into the trail design, which will reduce stormwater runoff and act as a biofilter to treat runoff from the paved trail. Project implementation is, therefore, expected to have a less-than-significant impact on the capacity of stormwater drainage systems that would affect flood capacity or result in a net increase of surface runoff, or be a source of pollution that would substantially degrade water quality.

IX f) Less than Significant With Mitigation Incorporated. In areas where the trail would be located in close proximity to designated ESHA, *Mitigation Measure BIO-3 – Erosion and Sediment Controls* will be used to prevent erosion and sedimentation from trail improvement construction by developing and implementing a site-specific SWPPP that will prevent sediment transport into adjacent surface waters. No other water quality impacts beyond what are described above (IX a-e) would occur as a result of project implementation. This impact would be less than significant with incorporation of mitigation.

IX g) No Impact. The project does not include the construction of new housing within a 100-year flood hazard area.

IX h) Less-than-Significant Impact. Based on review of the Flood Insurance Rate Map prepared by the Federal Emergency Management Agency, a segment of the proposed project area on the west side of the railroad tracks beginning at Del Norte Street is within Zone A1 (Areas of 100-year flood; base flood elevations and flood hazard factors determined) *(Flood Insurance Rate Map, Map Number 060062 0005C*) (Federal Emergency Management Agency 1986). The portion of proposed project area within the mapped floodplain generally corresponds to the segment of trail that passes along the west side of PALCO Marsh. The remainder of the proposed project area is within Zone C (Areas of minimal flooding), including the portion of the proposed Phase A trail that would be located on existing fill material (e.g., NCRA railroad bed), which is elevated above the existing 100-year floodplain. The project is not anticipated to substantively impede or redirect flood

flows beyond the existing site conditions because it does not include any substantive above-ground elements. Therefore, the project impact on the 100-year floodplain would be less than significant.

IX i) Less-than-Significant Impact. The proposed trail would be located on existing fill materials associated primarily with the NCRA railroad corridor, which it assumed was originally designed to be located above a flood zone that would expose people or the railroad to significant risk or loss. The existing stormwater drainage system (culverts) in the project area would be modified to accommodate the potential for the anticipated minor increase in stormwater runoff. The project is not in close proximity to any dam or levee that has the potential to expose people or structures to a significant risk or loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

IX j) Less than Significant with Mitigation Incorporated. Due to the known seismic activity in the Pacific Rim, there is real potential for a tsunami to occur that 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.

Configuration of the coastline, shape of the ocean floor, and character of the advancing waves play an important role in the destruction wrought by tsunamis along any coast, whether near the generating area or thousands of kilometers from it. The project area is located in close proximity to Humboldt Bay and, together with all areas north of 2nd Street and west of Broadway in Eureka, is within the designated Tsunami Evacuation Area. The project area is also within high, moderate, and low hazard inundation areas of the Tsunami Hazards Map (Humboldt State University 2004). The City of Eureka along with FEMA, NOAA, and the State of California, has developed emergency response procedures incorporated into the City's emergency response plans. The United States has collaborated with other countries around the Pacific to build and maintain a warning system that detects earthquake, sea surface levels, and ocean-bottom movements of water. The Pacific Tsunami Warning Center in Ewa Beach, Hawaii, is staffed full-time by scientists, who quickly collect and analyze incoming data and decide whether to issue a tsunami warning. In the event of a tsunami warning, the City of Eureka Emergency Operations employees are trained in disaster preparedness including broadcasting an emergency tsunami warning and giving direction to the public on the actions they should take in the event of a potential tsunami in Humboldt Bay.

While the project would result in the placement of facilities that would locate the public within a tsunami run-up zone, this is a distant threat and technology currently in place will help the city respond in a timely and appropriate manner. Further, the project is not proposing structures that would be concentrating large numbers of people for an extended amount of time within a confined area (e.g., commercial buildings); instead, the majority of the public using the new facilities would be moving through the area and would not be congregating in large numbers. *Mitigation Measure HAZ-2- Tsunami* which includes the installation of signage warning the public of tsunami dangers and what actions to take in the event of seismic activity, will be used to minimize potential risks associated with tsunami inundation.

FINDINGS: The project area is currently used for recreational activity, and planned improvements will not create significant additional risk. Based on the discussion above, and with the mitigation measures described below, the project is expected to result in less than significant impacts to hydrology and water quality.

MITIGATION MEASURES

Implement *Mitigation Measure BIO-3 – Erosion and Sedimentation Control* to minimize impacts on water quality.

Implement *Mitigation Measure HAZ-2 – Tsunami* to minimize impacts that could result from inundation caused by a tsunami.

X. LAND USE AND PLANNING. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?				✓
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?		✓		
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?			✓	

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree the proposed project would (a) divide an established community or conflict with existing land uses within the project's vicinity, such as agriculture resources; (b) conflict with the Eureka General/Coastal Plans designation, policies, and zoning ordinances regarding commercial, public, and quasi-public facilities; or (c) conflict with applicable environmental plans and protection measures enforced by regulatory agencies that have jurisdiction over the project, such as habitat conservation plans or a natural community conservation plan.

DISCUSSION

X a) No Impact. The trail corridor is proposed along the Eureka waterfront of Humboldt Bay. The proposed project would not result in the physical division of an established community since the proposed trail alignment would utilize existing roads, trails, and rail corridors already developed within the city and extends along the edge of the Humboldt Bay coastline rather than through the city.

X b) Less-than-Significant Impact with Mitigation Incorporated. Zoning in the project area includes Coastal-Dependent Industrial (MC), Public (P), and Natural Resources (NR). The primary existing land uses in the project area include railroad ROW, developed and abandoned industrial and commercial lands, and passive recreational facilities. Land use designations in the project area include Coastal Dependent Industrial (CDI), Community Commercial (CC) and Natural Resources (NR). PALCO Marsh is a designated open space and natural area. "Public recreation facilities are principally permitted in the P zone district. "Access support facilities" are conditionally permitted in the MC zone district, and "pedestrian access consistent with all applicable policies of the land use plan" are conditionally permitted in the NR zone district. Therefore, the portions of the project located within land zoned MC and NR, and that are designated as CDI and NR in the General Plan, will require a conditional use permit (CUP) in order for the project to be in conformance with zoning and land use plans. Implementation of *Mitigation Measure LU-1 – Obtain Land Use Permit*s will ensure that the proposed project is consistent with the City's General Plan. Therefore,

this impact will be less than significant with mitigation incorporated.

The project is within the Coastal Zone and would therefore be subject to applicable policies and regulations of the Coastal Act and the City of Eureka's Local Coastal Program related to public access and recreation, environmental resources, and visual resources. The proposed project improves public access to and along the Humboldt Bay shoreline by providing a developed public trail with amenities such as interpretive signage and benches, thereby providing a significant recreational opportunity. The trail will be designed to avoid impacts to sensitive environmental resources including plants and animals, wetland and other ESHA, and water quality, as discussed in applicable sections of this initial study. The project is designed to avoid visual impacts by minimizing vegetation removal and protecting nighttime views, and will actually improve visual qualities, as provided in the Aesthetics section of the initial study.

Since the project is located in the Coastal Zone and is considered to be "development" as defined in the Coastal Act and the City's LCP, a Coastal Development Permit will need to be obtained. Implementation of *Mitigation Measure LU-1 – Obtain Land Use Permits,* which requires that the City secure a Coastal Development Permit prior to construction, will ensure that the proposed project is consistent with the Local Coastal Program and Coastal Act and this impact would be less than significant. It is the City's intent to request a consolidated permit process for this project.

Construction of the project would be consistent with the City's Strategic Vision (City of Eureka 2011)—that identifies a long term direction, short term goals, and action steps for the city's growth—and the City of Eureka General Plan (City of Eureka 1999). The General Plan includes a pedestrian and recreation-related goal and policy that would be directly compatible with the project. Pertinent goals and policies include, but are not limited to:

- **Goal 3.C** – To encourage the use of the bicycle as an alternate, energy efficient mode of transportation within the city and to develop a system of bikeways and bicycle parking facilities which will safely and effectively serve those wishing to utilize the bicycles for commute or recreation.

- **Goal 5.B** – To provide open space and shoreline accessways throughout the Coastal Zone, consistent with protecting environmentally sensitive habitats and other coastal priority land uses.

    - **Policy 5.B.1** – The City shall pride public open space and shoreline access throughout the Coastal Zone, particularly along the waterfront and First Street through all of the following:

        b. Establish a walkway system located on or near the shoreline throughout the city's waterfront Core Area.

        c. Establish scenic vista points at numerous locations along the waterfront, including construction of a public access point at the foot of Truesdale Street.

    - **Policy 5.B.2** – On shoreline parcels where recreation or visitor-serving uses are integrated with coastal-dependent uses, the City shall ensure that the recreation

or visitor-serving uses are secondary to and compatible with the coastal dependent uses.

- **Policy 5.B.7** – The city shall establish a coordinated continuous public access system throughout its Coastal Zone, consisting of pedestrian walkways, nature walks, and bikeways with necessary support facilities.

X c) Less-than-Significant Impact. There are no adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other similar plans that cover the project area. There is, however, an open space easement over the City's PALCO Marsh property held by the State Coastal Conservancy, and another over Parcel 4 held by the Redwood Region Audubon Society. Because the proposed trail alignment would be adjacent to, but outside of PALCO Marsh, the potential for direct impacts to this sensitive resource are avoided. Further, the proposed project, construction of a new trail system, is a consistent use within the open space easement as it provides improved public access to the Humboldt Bay shoreline.

FINDINGS: Based on the above discussion, the project will not divide the community and is expected to have a less than significant impact to land use and planning with implementation of *Mitigation Measure LU-1 – Obtain Land Use Permits*.

MITIGATION MEASURES

Mitigation Measure LU-1 – Obtain Land Use Permits: The City Parks & Recreation department shall apply for and obtain a Conditional Use Permit from the City Community Development Department for portions of the trail that intersect with lands zoned as MC and NR, and are designated as CDI and NR in the General Plan/LCP. In addition, they shall obtain a Coastal Development Permit from the California Coastal Commission for work proposed within the Coastal Zone.

Timing/Implementation:	Prior to construction
Enforcement:	City Parks & Recreation Department
Monitoring:	City; California Coastal Commission
Evidence of Compliance:	Issuance of CDP and CUP

XI. MINERAL RESOURCES. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?				✓
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?				✓

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree the proposed project would interfere with the extraction of commodity materials or otherwise cause any short-term or long-term decrease in the availability of mineral resources that would otherwise be available for construction or other consumptive uses.

DISCUSSION

XI a, b) No Impact. No locally important mineral resource recovery sites are located within the project area. The project area has not been mapped by the State Division of Mines and Geology as containing marketable aggregate (California Geological Survey 2012). Gravel mining activities do not occur at this location. It is unlikely that the project site would be considered an important aggregate resource.

FINDINGS: The mineral resources needed for the trail improvements within the City would be of limited quantities and the project is expected to have no impact on local mineral resources.

MITIGATION MEASURES

No project-specific mitigation is required under this subject.

XII. NOISE. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		✓		
b) Expose persons to or generate excessive ground borne vibration or ground borne noise levels?			✓	
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			✓	
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?		✓		
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 expose people residing or working in the project area to excessive noise levels?				✓
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				✓

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers whether the proposed project would produce: (a) sound-pressure levels contrary to the City of Eureka noise standards; (b) long-term ground vibrations and low-frequency sound that would interfere with normal activities and which is not currently present in the project area; (c) a substantial increase in ambient short-term or long-term sound-pressure levels; (d) changes in noise levels that are related to operations, not construction-related, which will be perceived as increased ambient or background noise in the project area.

Noise is generally defined as excessive and unwanted sound emanating from noise-producing objects. Total environmental noise exerts a sound pressure level that is generally measured with an A-weighted decibel scale (dBA), which approximates the range of sound audible to the human ear (where 10 dBA is at the low threshold of hearing and 120–140 dBA is the threshold of pain). Human responses to noise are subjective and can vary. Intensity, duration, frequency, time pattern of noise,

and existing background noises are some factors that can influence individual responses to noise. Noise measurements are usually taken over time to capture daily or hourly variance in noise levels. Noise levels taken over time are often reported in energy-equivalent noise level (L_{eq}), the day-night average noise level (L_{dn}), and the community noise equivalent level (CNEL). L_{eq} is an hourly average, while L_{dn} and CNEL are 24-hour weighted averages.

The City of Eureka includes residential noise exposure policies in the 1999 General Plan Policy Document, Section 7: Health and Safety, Residential Noise Exposure, Table 7-1, Goal 7.G of the General Plan states, with regard to noise exposure, "To protect Eureka residents from the harmful and annoying effects of exposure to excessive noise." For non-transportation related noise, the maximum allowable noise at the property line of lands designated for noise-sensitive uses cannot exceed 65dB (nighttime) to 70dB (daytime). Transportation noise sources are defined as "public roadways, railroad line operations, and aircraft in flight."

The project site and surrounding area is characterized by residential, commercial, and industrial land uses, well-developed arterial and local roadways, with local and commuter traffic. Noise in the vicinity of the project is primarily associated with vehicular traffic along Railroad Avenue and Del Norte Street at the north end, Truesdale Street at the south end, and other immediately surrounding intersections. Additional noise sources in the vicinity include commercial and industrial activity, the bay, water and shore birds, and commercial and recreational boating activities.

DISCUSSION

XII a) Less than Significant with Mitigation Incorporated. The Phase A trail alignment mainly passes through open space, but some residential, commercial, and industrial land uses, and local roadways are located near the north and south trail termini. Noise at the northern and southern termini of the proposed trail is primarily associated with motor vehicle traffic along area roads, industrial operations (e.g., the Chevron Terminal), and residential use near Truesdale Street. Ambient noise sources in the project vicinity also include the bay (water and shore birds), and commercial and recreational boating activities.

During construction, a minor increase in ambient noise levels is anticipated at the project activity site. However, construction-related noise would be temporary and would occur only during daylight hours (typically 7:00 a.m. to 7:00 p.m., Monday through Friday; 9:00 a.m. to 5:00 p.m. on Saturday). *Mitigation Measure NOI-1 – Construction Noise*, which includes limited hours of operation during the daytime, advanced notification to occupants of occupied structures, and minimizing high-RPM engine operation to the extent feasible, will be implemented to reduce project-related noise impacts to a less-than-significant level.

Operation of the new trail project is expected to bring more people to the area to enjoy the improved coastal access trail and associated amenities like the gym equipment near Vigo Street. This increase in public use along the new trail is not expected to generate new noise that would exceed standards established in the General Plan (65dB during nighttime and 70dB during the daytime). Additionally, the loudest, potential use, the gym equipment area, is located directly west of Vigo Street, which is not located next to any residences or other sensitive receptors. Therefore, noise impacts associated future operations are considered to be less than significant.

XII b) Less-than-Significant Impact. Project construction may cause minor localized ground borne vibration in the immediate project vicinity as a result of the movement of construction vehicles throughout the alignment. With the exception of a few residences at the south end of the project alignment, there are no human sensitive receptors located within the proposed project area. Noise impacts on these residences would be temporary and short-term, and would be consistent with existing conditions (such as trucks entering the nearby Chevron Terminal), thus the impact would be less than significant. The project would not involve activities such as pile-driving. Project operation would not generate any ground borne vibration or noise that is not consistent with existing conditions.

XII c) Less-than Significant Impact. The project does not involve any construction or operational feature that would cause any substantial permanent increase in existing noise levels. An anticipated minor increase in vehicle traffic and noise generated by trail users (e.g., voices) would not significantly increase the volume of existing noise levels. Additionally, the loudest, potential use, the gym equipment area, is located directly west of Vigo Street, which is not located next to any residences or other sensitive receptors. Motor vehicles would be confined to area roadways and parking areas, and any noise generated by the non-motorized use of the trail would be less than significant.

XII d) Less than Significant with Mitigation Incorporated. Construction activities would result in a minor temporary increase in ambient noise levels from construction equipment and construction-related traffic. Constructing the trail would require the use of heavy equipment for earth moving, grading and compaction, paving, and hauling. The construction phase would temporarily increase localized truck trips to transport materials and equipment to and from the proposed trail corridor. Although construction-related noise would be unavoidable, it would be temporary and intermittent and construction hours would be limited. Mitigation *Measure NOI-1 – Construction Noise* will be used to minimize temporary noise impacts by limiting the hours of construction during to avoid the most sensitive times (e.g., evening), providing advanced notification to occupants of occupied structures, and minimizing high-RPM engine operation to the extent feasible. The impact on ambient noise levels would be less than significant with incorporation of this mitigation.

XII e, f) No Impact. The project area is approximately 2.5 miles from Murray Field Airport. The southern portion of the proposed project alignment is approximately 1.3 miles northeast of the City-owned Eureka Municipal Airport in Samoa. These airports are relatively distant to the project and neither is capable of serving large airplanes. Therefore, no impact is anticipated.

FINDINGS: Based on the discussion above and the mitigation measures below, the uses and activities along the proposed trail alignment, is not anticipated to be different than has occurred in the past or currently occurs. Nor will the project result in the production of unacceptable noise levels that would expose people working or living in the project area. Based on this analysis, the project is expected to have a less than significant impact on noise.

MITIGATION MEASURES

Mitigation Measure NOI-1 – Construction Noise: The City shall include in the construction specifications the following measures to reduce potential impacts associated with construction noise

to a less-than-significant level:

- Construction shall be limited to the hours between 7:00 AM and 7:00 PM, Monday through Friday and between 9:00 AM and 5:00 PM on Saturday.

- The Contractor shall notify adjacent residents at least 72-hours in advance when construction is to occur within 250 feet of an occupied structure. The notification should include dates and hours when construction activity noise will occur.

- Each internal combustion engine used for any purposed on the job site shall be equipped with a muffler of a type recommended by the manufacturer. Engines should be turned off when not in use and high-RPM engines should not be used to the extent feasible.

Timing/Implementation:	During construction
Enforcement:	City Parks & Recreation Department
Monitoring:	City and/or its contractor
Evidence of Compliance:	City of Eureka official will inspect and approve.

XIII. POPULATION AND HOUSING. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (e.g., by proposing new homes and/or businesses) or indirectly (e.g., through extension of roads or other infrastructure)?				✓
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				✓
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?			✓	

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree the proposed project would result in, or contributes to, population growth, displacement of housing units, demolition or removal of existing housing units, or any project-related displacement of people from occupied housing.

DISCUSSION

XIII a) No Impact. The project consists of improvements to non-motorized vehicular and pedestrian transportation facilities. Trail construction would not involve construction of any facility that would directly or indirectly induce population growth. Therefore the project would have no impact on population growth.

XIII b) No Impact. The project does not displace existing housing and therefore, would have no impact.

XIII c) Less-than-Significant Impact. The proposed trail would be aligned through the PALCO Marsh property and Parcel 4, which are areas frequently used by transients and homeless individuals as a temporary campsite. Public health and safety have long been a concern in this area. One of the purposes of the proposed project is to revitalize the lands through which the proposed trail would be aligned, thus improving public health by removing accumulated garbage and public safety by increasing public recreational use throughout the area and removing its desirability as a camping location. Since camping by transients is illegal and not allowed by the City, this impact is anticipated to be less than significant.

FINDINGS: Based on the discussion above, the project would not result in substantial adverse impacts regarding population and housing.

MITIGATION MEASURES

No project-specific mitigation is required under this subject.

XIV. PUBLIC SERVICES. 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:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Fire protection?			✓	
b) Police protection?			✓	
c) Schools?				✓
d) Parks?			✓	
e) Other public facilities?			✓	

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree the proposed project would result in any changes in existing fire or police protection service levels, or a perceived need for such changes, as well as any substantial changes in the need for, or use of, schools, parks, or other public facilities.

DISCUSSION

XIV a, b) Less-than-Significant Impact. The City of Eureka Fire and Police departments serve the project area. Construction and operation of the proposed project would not necessitate any related new or altered public service facilities. The proposed project would improve emergency response access throughout the project area by enhancing the roads/trails. The project is not expected to increase the need for law enforcement or emergency services; rather a beneficial effect is anticipated. The expected increase in public recreational use would reduce the frequency of police patrols and the demand for fire and emergency services in the project area by decreasing unwanted uses. Potential impacts on service ratios, response times, or service objectives for public services would be less than significant.

XIV c) No Impact. The proposed project is in an area served by Eureka City Schools and would not necessitate additional school facilities. The proposed project has no relation to school district service ratios or school facilities and no impact on schools would occur.

XIV d, e) Less-than-Significant Impact. The proposed project would present an enhanced recreational opportunity and would increase trail connectivity. Additional recreational

opportunities and increased recreational traffic along the Eureka waterfront may reduce other less desirable uses that currently occur in the project area and vicinity. The project would not require services beyond the capacity of the service providers and, therefore, a less than significant impact is anticipated.

FINDINGS: Based on the above, it is expected that the project would result in a less than significant impact on public services.

MITIGATION MEASURES

No project-specific mitigation is required under this subject.

XV. RECREATION. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?			✓	
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?			✓	

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree any aspect of the proposed project would be related to demand for recreational facilities or increase use of existing recreational areas such that those areas are physically degraded, including secondary effects such as degradation through over-use of environmentally sensitive areas.

DISCUSSION

There are very few developed public access points along the undeveloped portions of Humboldt Bay shoreline in the City. Safe walking trails that can accommodate larger families are limited to sections of parks. Bicycle access along the Bay is poor and safety issues deter some bicyclists from utilizing Highway 101 and city streets. PALCO Marsh lies adjacent to the eastern study area boundary. The main public access to the marsh is via Del Norte Street where the PALCO Marsh Trailhead is located. Secondary access to the marsh is available through the northern Bayshore mall parking lot and from Vigo Street off of Broadway. Bird watching is a common recreational uses of the marsh, and several viewing benches are spaced along the PALCO Marsh Trail. At the Del Norte Street overlook, there are picnic tables and a trail that goes out to the end of the peninsula.

Existing recreational uses in Humboldt County in and around Humboldt Bay include sport fishing, waterfowl hunting, clam digging, crabbing, sailing, small craft boating, surfing, wind-surfing, skin diving, bird watching, walking, hiking, bicycling, camping, picnicking sight-seeing, plant-viewing, photography, beachcombing, and nature study and appreciation. The most popular recreational opportunities in and directly adjacent to the proposed project area include bird watching and hiking at Elk River Wildlife Area and bird watching at PALCO Marsh. To the west is the Del Norte Street Pier, which is a popular fishing and clamming spot. West of Truesdale Street is also a popular clamming destination.

V a) Less-than-Significant Impact. The proposed project would have a long-term positive effect on recreation by increasing recreational opportunities along the Eureka waterfront, and public access to and along Humboldt Bay. The proposed trail represents a segment of a regional trail system that would encourage non-motorized and pedestrian recreation by creating a link between

the City's and the region's parks, trails, and other recreational facilities.

Although the project would likely lead to an increase in use of recreational facilities adjoining the project such as the PALCO Marsh trail and West Del Norte Pier and Day Use Area, it is not expected to contribute to the physical deterioration of facilities and would have an overall beneficial impact on regional recreational facilities. Increasing visibility and usage among these public facilities may deter illegal activity (e.g., illegal dumping or camping), thereby enhancing public safety and the overall quality of the trail corridor. The passive recreational use of the proposed trail and facilities combined with the recreational opportunities of the larger trail system would be beneficial for the community. Potential impacts on existing recreational facilities would be less than significant.

V b) Less-than-Significant Impact. The proposed trail has independent utility, and will not require the construction of additional recreational facilities in order to fulfill its purpose. The proposed trail is a recreational facility that is likely to encourage (but not require) the construction of other recreational facilities throughout the city and vicinity, primarily other connecting trails and trail-related facilities. Any future connecting and related trail and recreational facility projects with the potential to cause significant environmental impacts would be subject to CEQA and other environmental regulations enacted to protect the environment. Therefore, a less than significant impact is expected to occur.

FINDINGS: As discussed above, neither the proposed recreational facilities, nor related recreational facility projects that may be constructed subsequently are expected to have an adverse physical effect on the environment (refer to Biological Resources as well as Hydrology and Water Quality, above).

MITIGATION MEASURES

No project-specific mitigation is required under this subject.

XVI. TRANSPORTATION/TRAFFIC. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?			✓	
b) Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures or other standards established by the county congestion management agency for designated roads or highways?			✓	
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks?				✓
d) Substantially increase hazards due to design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			✓	
e) Result in inadequate emergency access?			✓	
f) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?				✓

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree, if any, the proposed project would be associated with (a) changes in traffic, circulation, or other changes that might be perceived as adverse, including traffic effects resulting from temporary construction-related changes; (b) any project-related changes in levels-of-service on County or State highways; (c) project-associated travel restrictions that would prevent emergency vehicles from reaching the locations where they were needed.

DISCUSSION

XVI a, b) Less-than-Significant Impact. The primary purpose of the proposed project is to improve and encourage non-motorized modes of transportation and recreation along the Eureka waterfront. Because the project would be expected to increase recreational use levels within the proposed project area and vicinity, some additional motorized traffic associated with trail-use parking and non-motorized traffic making use of the trail would be anticipated. The project has been designed to meet the operational needs of adjacent and intersecting roadways, the railway system (although currently not in use, NCRA has specified rails-with-trails requirements), area businesses, and a variety of potential trail users. Adequate existing parking/trailhead facilities for trail users exists at of the West Del Norte Street Public Pier at the trail's north end and the Truesdale Vista Point parking lot and Hikshari' Trailhead at the southwest corner of the Truesdale Street/Howell Street intersection at the south end of the trail.

During construction of the proposed project, construction equipment may cause minor delays and cause minor local detours as it accesses the construction area(s). However, impacts on traffic circulation and level of service on affected roads would be less than significant, since local roads are routinely used by large trucks tied to the industrial uses of the Eureka waterfront. In addition, the movement of heavy equipment used in project construction would be primarily limited to the area between Del Norte Street and the Chevron Terminal, where no motorized use by the public exists and that currently receives minimal non-motorized (e.g., bicycle) use. Construction traffic would be a less-than-significant temporary impact.

Once complete, the proposed project is not expected to significantly increase vehicle traffic on city streets. Currently, the majority of the waterfront trail traffic is concentrated at the Truesdale Vista Point parking lot, which provides direct access to the Hikshari' Trailhead. Construction of the Hikshari' Trail has not resulted in a significant increase in traffic due to increased trail usage. Recent traffic count data collected by Harbor staff at the Truesdale Vista Point parking lot documented an average of 20 vehicle trips on two separate Tuesdays from 8:30 AM to 4 PM. It is anticipated that future vehicle trips made by the public to use the waterfront trail system will be dispersed to other trailheads located along the expanded trail system. This could result in a decrease in traffic along Truesdale Street, Hilfiker Lane, and Herrick Avenue, where there are existing trail connections. A slight increase in traffic would be expected along Del Norte Street where future trail connections are proposed. Del Norte Street is a dead-end street with not a lot of existing traffic, so the minor level of increase that could occur as a result of the project could be accommodated without significant impacts to existing traffic. Overall, traffic will not increase significantly as a result of implementing the proposed project.

XVI c) No Impact. The proposed project would have no impact on air traffic patterns.

XVI d) Less-than-Significant Impact. During construction, there is potential for conflict between construction equipment/vehicle traffic and existing use of the area, particularly along Del Norte Street, Truesdale Street, Howell Street, and Christie Street, which provides access to residences and the Chevron facility. These disruptions will be temporary and are anticipated to be minor. In addition, lane closures would not be required during construction. Therefore, impacts related to construction are anticipated to be less than significant.

Operation of proposed trail may have a minor impact on transportation and traffic safety at

trail/street intersections due to an anticipated increase in non-motorized and motorized traffic interaction near Del Norte Street and Truesdale Street. However, potential conflicts between motorized and non-motorized forms of transportation posed by these trail and road intersections would be less than significant since neither intersection is located on a through road. Both Del Norte Street and Truesdale Street end at Humboldt Bay about 300 feet west of the trail/street intersections. Intersection signage for motorists and trail users and improved crosswalk striping at intersections would further reduce potential conflicts between motorized and non-motorized uses.

The proposed trail alignment between Del Norte Street and Truesdale Street is generally straight with a few gentle curves. There are no dangerous intersections between Del Norte Street and the Chevron Terminal. Driveway crossings at the Chevron Terminal would be ADA-accessible and include warning signage and markings both on the trail and the approaching vehicular way. If determined necessary by the City, the trail would include yellow centerline striping and additional warning signage and striping approaching intersections with existing roads and driveways. In addition, signage would be added along the trail warning users of curves, bends, and other hazardous situations. Speed control can only be maintained through signage and striping and other visual cues; speed bumps or other surface irregularities cannot be used to control the speed of bicycles and other non-motorized vehicles. Where the proposed trail would be directly adjacent to an inactive rail line, the project has been designed to meet all applicable NCRA policies.

The proposed trail may create conflicts between pedestrians and bicyclists due to the difference in these activities. However, since the proposed trail would have striping, signage, and unpaved shoulders on both sides that could be used by slower moving trail users such as birdwatchers who may want to get out of the main travel lanes, substantial safety related conflicts between different types of trail users would be avoided.

There is a perceived hazard associated with trails adjacent to active rail lines; however in areas where the proposed trail would be directly adjacent to an inactive rail line, the project has been designed to meet all applicable NCRA policies and includes the following safety design features: fencing between the trail and the RR track along the entire alignment with a minimum setback of 8.5 feet from RR centerline, RR crossing pavement markings and signage at all crossing locations, minimum 45° angle for all trail / RR crossing, and the City would work with NCRA to install additional bar crossing as required if the RR becomes active. These features would avoid any substantial conflicts between the rail line (which is currently inactive) and trail users. NCRA policy requires a Rail-with-Trail Corridor Management Plan be completed by any public agency (e.g., the City) proposing a rails-with-trails facility. The City has completed a draft Rail-with-Trail Corridor Management Plan which has been submitted to NCRA for review and comment. The Rail-with-Trail Corridor Management Plan addresses the following issues:

- **Section 2.2: Trespassing and Crime Prevention.** Topics include trespassing reduction and crime prevention strategies, such as regulatory signage, emergency access and identification of a Trail Manager.

- **Section 2.3: Emergency Response.** Topics include emergency response procedures and responsibilities.

- **Section 2.4: Security and Patrols.** Topics include signage, establishment of a

coordinated and responsive patrol service and other security measures.

- **Section 2.5: Trail Barrier Design Standards.** Topics include recommended barrier systems and ROW access.

With incorporation of a Rail-with-Trail Corridor Management Plan and safety features described above, the proposed project would not substantially increase transportation hazards as a result of design features or incompatible uses. Potential transportation design hazards associated with the Phase A trail would be less than significant.

XVI e) Less-than-Significant Impact. Existing roads and trails within the proposed project area are suitable for the purpose of emergency access. During construction there could be minor impediments to emergency vehicles needing to access the proposed action area, but this would be a temporary impact and would be less than significant since access could be made from either end of the proposed project area and points in-between such as Vigo Street and Bayshore Mall, and adequate room for passage of vehicles past active construction areas would be anticipated. Project operation would not impede emergency response vehicles. Bollards used at the trail heads to deter public motor vehicle access would be removed to facilitate access in an emergency.

XVI f) No Impact. The proposed project would significantly enhance alternative transportation along the Eureka waterfront. The project would be consistent with the City's adopted plans, policies, and programs that support alternative transportation. The project is anticipated to be a benefit to public transportation and would not adversely impact the performance or safety of alternative transportation facilities within the city.

FINDINGS: Based on the above, staff concludes that the project would have a less than significant impact on transportation or traffic.

MITIGATION MEASURES

No project-specific mitigation is required under this subject.

XVII. UTILITIES AND SERVICE SYSTEMS. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				✓
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				✓
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?		✓		
d) Have insufficient water supplies available to serve the project from existing entitlements and resources (i.e., new or expanded entitlements are needed)?				✓
e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?			✓	
f) Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs?			✓	
g) Violate any Federal, State, and local statutes and regulations related to solid waste?			✓	

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree the proposed project would be related to: (a) a substantial demand for water supplies affecting existing entitlements and resources; (b) increase in runoff intensity that exacerbates drainage conditions and changes; and (c) insufficient provision for solid waste disposal.

DISCUSSION

XVII a, b) No Impact. The proposed project does not involve the use or construction of any facilities that would require water or wastewater infrastructure and would therefore have no impact on public water and wastewater utilities.

XVII c) Less than Significant with Mitigation Incorporated. Possible minor alterations of drainage systems include limited realignment, extension, or replacement of low volume culverts and other minor stormwater infrastructure device alterations to better accommodate the trail. These actions would require ground-disturbing activities that have the potential to result in erosion and sedimentation. To mitigate for potential significant temporary runoff impacts associated with construction that could result in erosion, a SWPPP will be prepared and implemented as described in *Mitigation Measure BIO-3 – Erosion and Sedimentation Control*. With the incorporation of this mitigation, short-term erosion and sedimentation impacts associated with the proposed construction of stormwater drainage facility improvements would have a less-than-significant impact.

XVII d) No Impact. No new or expanded water entitlements would be required for the project. There would be sufficient water supply available from offsite sources to serve the project if water is needed for construction and during routine maintenance operations.

XVII e) Less-than-Significant Impact. The proposed project would be limited to trail improvements and would not result in a change to existing wastewater treatment demands within the project area. Potential increased demand for restroom facilities at offsite locations as a result of more individuals using the trail would be less than significant when considered in the context of the length of the proposed trail (an approximately 1.2 mile segment) over the length of the existing trail system along Humboldt Bay and vicinity. The existing public restroom located at the southern end of the trail at Truesdale Street is sufficient to serve additional trail users.

XVII f, g) Less-than-Significant Impact. The local solid waste provider is the Humboldt Waste Management Authority (HWMA). The project could temporarily generate an increase in solid waste disposal needs as accumulated trash is removed from Parcel 4 during project construction. Construction of the proposed project is not anticipated to generate significant amounts of construction-related solid waste, although there could be some demolished materials, old railroad ties, ballast materials, and other trash. Non-recyclable waste materials would be disposed of at a suitable facility such as the HWMA transfer station in Eureka where it would be trucked to a state licensed landfill located in Anderson, California or Medford, Oregon in compliance with local, State, and Federal regulations pertaining to solid waste disposal. Recyclable construction materials (e.g. scrap metal, wood, and concrete) would be taken to local businesses for reuse. Any potentially hazardous waste materials would be disposed of at an approved Class II landfill (such as in Marysville, Stockton, or Livermore) that is equipped to handle hazardous waste.

Operation of the proposed project is not anticipated to generate solid waste in amounts that would adversely affect the capacity of the local landfill. The project includes waste receptacles, recycling bins, and pet waste stations. Solid waste collected as a part of the project would be disposed of as previously described by HWMA. Landfill facilities used by HWMA have sufficient capacity to serve the project's solid waste disposal needs, and a less-than-significant impact is anticipated.

FINDINGS: The project, as mitigated, is expected to have less than significant impacts related to utilities or service systems.

MITIGATION MEASURES

Implement *Mitigation Measure BIO-3 – Erosion and Sedimentation Control* to minimize impacts that could result from minor changes in drainage patterns.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to 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 a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		✓		
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).			✓	
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?		✓		

XVIII a) Less than Significant with Mitigation Incorporated. As discussed in the preceding sections, the proposed project has a potential to result in adverse effects on air quality, biological resources, and cultural resources. Special-status plant species that could be affected by the project are Lyngby's sedge, Point Reyes bird's-beak, Humboldt Bay owl's-clover, dwarf alkali grass, and western sand-spurrey. Special status wildlife species that could be affected by the project are green surgeon (southern and northern DPSs), SONCC ESU coho salmon, Northern California Coast DPS steelhead, California Coastal ESU Chinook salmon, longfin smelt, southern eulachon DPS, tidewater goby, coastal cutthroat salmon, northern red-legged frog, brown pelican, northern harrier, white-tailed kite, short-eared owl, bald eagle, peregrine falcon, Vaux's swift, purple martin, loggerhead shrike, little willow flycatcher, yellow-breasted chat, yellow warbler, pallid bat, and Townsend's big-eared bat. Potential impacts on resources and the specified species are discussed in detail in the corresponding sections above. Mitigation measures required to avoid or reduce the significance of project impacts below a threshold of significance are described in the related section. With implementation of the required mitigation measures, all project-related impacts would be reduced to a less-than-significant level. Although cultural resources are not likely to be affected, there is the potential for previously undetected cultural resources or human remains to be affected by project activities. Therefore, mitigation measures have been incorporated into the proposed project to ensure protection of any such resources in the event of inadvertent discovery. With implementation

of *Mitigation Measure – LU-1 – Obtain Land Use Permits*, which requires the City to obtain a Coastal Development Permit from the Coastal Commission and a Conditional Use Permit for activities proposed within coastal-dependent industrial and natural resources lands, the project is consistent with the existing land uses, and the relevant plans and policies that govern such projects.

XVII b) Less-than-Significant Impact. Projects likely to occur in the vicinity of the proposed trail include: Phase B of the Eureka Water Trail Project, which would extend from C Street south to Del Norte Street, and possibly the Marina Center Development; ongoing and new contamination clean-up at several waterfront locations; and development or redevelopment of other waterfront commercial, industrial, and recreational facilities. The proposed project and other related projects in the area fall under the jurisdiction of multiple agencies with discretion over projects that could have an adverse impact on the environment. Projects in the area also typically receive a high degree of scrutiny from the public and other stakeholders regarding environmental impacts. As such, the projects will be required to comply fully with environmental regulations and are unlikely to cause significant environmental impacts.

The project is also a part of the greater planned California Coastal Trail and may induce the construction of connecting segments of the statewide trail system. These segments would also undergo environmental review and be subject to local, state, and federal environmental regulations. Impacts associated with the project would be limited to the construction phase for the most part, and can be fully mitigated for at the project level. As a result, cumulative impacts are considered to be less than significant.

XVIII c) Less than Significant with Mitigation Incorporated. The project has been designed to avoid significant environmental impacts to the extent possible. Mitigation measures described in this Initial Study will be used to avoid or minimize potentially adverse effects to humans that could result from the construction and operation of the proposed project. As documented in this initial study, the project would not involve any actions that would have a substantial direct or indirect impact on the human environment that cannot be mitigated to a less-than-significant level.

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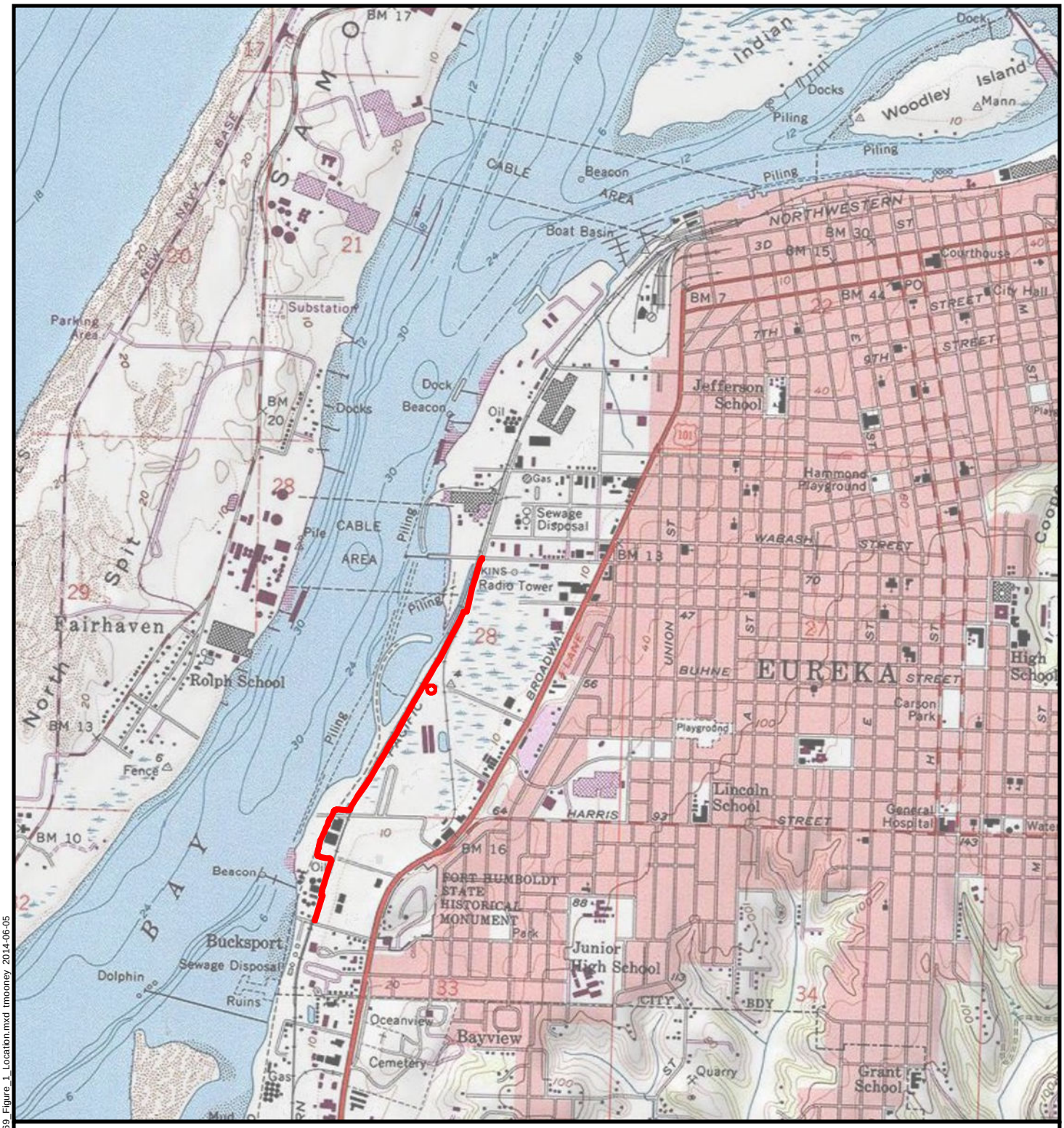
Appendix A

Figure 1. Project Location
Figure 2. Proposed Project Layout
Figure 3. Vegetation Communities



Proposed Project Area

Public Land Survey:
T05N, R01W, Sec.28, 33

USGS 7.5 Quad:
Eureka 1972

N

2,000 1,000 0 2,000
Feet

1:24,000

Study Area Location

Humboldt County, California

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North State Resources, Inc.

Eureka Waterfront Trail Project Phase A and B

Figure 1
Project Location and Vicinity

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North State Resources, Inc.

Eureka Waterfront Trail Project Phase A and B

Figure 2
Proposed Project Layout

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North State Resources, Inc.

Eureka Waterfront Trail Project Phase A and B

Figure 3
Vegetation Communities

CEQA
Mitigation Monitoring and Reporting Program

CITY OF EUREKA

This Mitigation Monitoring and Reporting Program (MMRP) has been prepared for the project described below in conformance with Section 21081.6 of the California Environmental Quality Act (CEQA) and Section 15097 of the CEQA Guidelines.

SCH#: 2014092033

PROJECT TITLE: Eureka Waterfront Trail Project Phase A

PROJECT APPLICANT: City of Eureka **CASE NO**: ED-14-0001

PROJECT LOCATION: The project is located in northwestern Eureka paralleling the coast of Humboldt Bay from Del Norte Street (northern terminus) to Truesdale Street (southern terminus). The project alignment would be within the right of way (ROW) of the North Coast Railroad Authority (NCRA) railroad, which follows the coastline south, with the exception of two short segments of the trail that would temporarily leave the NCRA alignment — one that enters into a former Pacific Lumber Company (PALCO) property referred to as "Parcel 4" and the other that parallels the northerly portion of the west boundary of PALCO Marsh — before rejoining the railroad ROW and continuing south past the Chevron Terminal to Truesdale Street. The project alignment would pass through Assessor's Parcel Numbers (APN) 007-031-004, 007-031-003, 007-031-002, 007-051-002, 007-051-009, 007-061-002, 007-071-003, and 007-071-014, and would cross through Sections 21, 22, 28, and 33 in Township 5 North, Range 1 West on the Eureka, California 7.5-minute U.S. Geological Survey quadrangle, Humboldt Base and Meridian.

ZONING & GENERAL PLAN LAND USE DESIGNATION: **Zoning**—Public (P); Coastal-Dependent Industrial (MC); and Natural Resources (NR). **Land Use**—Coastal Dependent Industrial (CDI); Community Commercial (CC); and Natural Resources (NR).

PROJECT DESCRIPTION: The City of Eureka (City) is proposing to construct an approximately 1.2-mile long segment of Class 1 multi-use trail from Del Norte Street south to Truesdale Street (project). The project, also known as "Phase A," would be an extension of a trail ("Phase B") that is proposed to follow the Humboldt Bay coastline along the Eureka waterfront. (A Mitigated Negative Declaration was adopted for Phase B in July 2012, State Clearinghouse Number 2012052053). The project purpose is to further enhance non-motorized and pedestrian connectivity, and increase public access to and along Eureka's waterfront on Humboldt Bay. The project is intended to encourage nature study, appreciation of the environment and historic uses of the area, increase opportunities for active living to improve public health, increase the safety of non-motorized transportation, improve public safety, and recover native vegetation community values where possible. In addition, the project seeks to reclaim an area that is frequented by transients and the local homeless population and in which

significant accumulations of trash and other waste have occurred. The proposed alignment is an important piece in the statewide initiative to complete the California Coastal Trail (CCT). The proposed Eureka Coastal Trail system (which includes Phase A) and associated coastal access improvements are key elements in the City's General Plan and Eureka City Council's Strategic Plan 2013-2018.

LEAD AGENCY: City of Eureka, 531 "K" Street, Eureka, CA 95501-1165

CONTACT PERSON: City of Eureka, Community Development Department, Lisa D. Shikany, Principal/Environmental Planner, 531 K Street Eureka, CA 95501 Phone: (707) 268-5265; Fax: (707) 441-4202 e-mail: lshikany@ci.eureka.ca.gov

INTRODUCTION: On September 11, 2014, an Initial Study and Notice of Intent to Adopt a Mitigated Negative Declaration was circulated by the City for the Eureka Waterfront Trail Phase A project. No comments were received that required modification to the mitigation measures presented in the Initial Study. Mitigation measures will need to be made a condition of project approval. The purpose of this MMRP is to ensure that the mitigation measures adopted in connection with project approval are effectively implemented. This MMRP establishes the framework that the City of Eureka and others will use to implement the adopted mitigation measures and the monitoring and/or reporting of such implementation.

CEQA provides that the City of Eureka may choose whether the MMRP will monitor mitigation, report on mitigation, or both. "Reporting" generally consists of a written compliance review that is presented to the decision making body or authorized staff person. A report may be required at various stages during project implementation or upon completion of the mitigation measure. "Monitoring" is generally an ongoing or periodic process of project oversight. There is often no clear distinction between monitoring and reporting and the program best suited to ensuring compliance in any given instance will usually involve elements of both. The choice of program may be guided by the following:

(1) Reporting is suited to projects which have readily measurable or quantitative mitigation measures or which already involve regular review. For example, a report may be required upon issuance of final occupancy to a project whose mitigation measures were confirmed by building inspection.

(2) Monitoring is suited to projects with complex mitigation measures, such as wetlands restoration or archeological protection, which may exceed the expertise of the City of Eureka to oversee; are expected to be implemented over a period of time; or, require careful implementation to assure compliance.

(3) Reporting and monitoring are suited to all but the most simple projects. Monitoring ensures that project compliance is checked on a regular basis during and, if necessary, after implementation. Reporting ensures that the City of Eureka is informed of compliance with mitigation requirements.

ENFORCEMENT: In accordance with CEQA, the primary responsibility for making a determination with respect to potential environmental effects rests with the City of Eureka rather than the monitor or preparer of the CEQA documents. As such, the City of Eureka is identified as the primary enforcement agency for this MMRP.

PROGRAM MODIFICATION: After adoption of this MMRP, minor changes to this MMRP are permitted but can only be made by the City of Eureka. The Director of Community Development, after consultation with affected Departments or Agencies, may make minor modifications to this MMRP. If, for any reason, any mitigation measure specified in this MMRP cannot be implemented due to factors beyond the control of the owner/developer and/or the City of Eureka, at a noticed public hearing before the City Council of the City of Eureka, substitution of another mitigation measure may be approved. In no case shall deviations from this MMRP be permitted unless this MMRP continues to satisfy the requirements of Section 21081.6 of CEQA, as determined by the City of Eureka.

SUMMARY OF POTENTIAL PROJECT IMPACTS: Below is a table that summarizes the impact potential for each category of impact as identified and analyzed in the Initial Study.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
I. Aesthetics		✓		
II. Agricultural Resources				✓
III. Air Quality		✓		
IV. Biological		✓		
V. Cultural		✓		
VI. Geology and Soils		✓		
VII. Greenhouse Gas Emissions			✓	
VIII. Hazards and Hazardous Materials		✓		
IX. Hydrology and Water Quality		✓		
X. Land Use and Planning		✓		
XI. Mineral Resources				✓
XII. Noise		✓		
XIII. Population and Housing			✓	
XIV. Public Services			✓	
XV. Recreation			✓	
XVI. Transportation and Traffic			✓	
XVII. Utilities and Service Systems		✓		
XVIII. Mandatory Findings of Significance		✓		

MMRP IMPLEMENTATION TABLE: To assure that this MMRP is effectively implemented the table on the following pages establishes the framework that the City of Eureka and others will use to implement the adopted mitigation measures and the monitoring and/or reporting of such implementation. The following abbreviations will be used in the MMRP table:

AQMD ..... Air Quality Management District
BMP ..... Best Management Practice(s)
Caltrans ..... California Department of Transportation
CCC ..... California Coastal Commission
CDFW ..... California Department of Fish & Wildlife
CDI ..... Coastal Dependent Industrial

CEQA ..... California Environmental Quality Act
City ..... City of Eureka
Corps..... U.S. Army Corps of Engineers
CUP..... Conditional Use Permit
ESHA..... Environmentally Sensitive Habitat Area
LCP..... Local Coastal Program
MC..... Coastal-Dependent Industrial
NAHC..... Native American Heritage Commission
NOI..... Notice of Intent
NR..... Natural Resource
PALCO..... Pacific Lumber Company
Plan..... Wetlands Mitigation and Monitoring Plan
PRC..... Public Resources Code
PRD..... Parks and Recreation Department
RWQCB..... Regional Water Quality Control Board
SWPPP..... Storm Water Pollution and Prevention Plan

Mitigation Measure	Responsible Agency and/or Party	Action Required	Monitoring Phase/ Reporting Requirements	Enforcement	Compliance Verification	Notes/ Comments
Aesthetics **Mitigation Measure AES-1 – Light and Glare:** To avoid adverse impacts, new sources of light will be designed to protect wildlife and nighttime views, including views of the night sky. This design goal will be satisfied using a variety of means as applicable, including fixture types, cut off angles, shields, lamp arm extensions, and pole heights. Specific design preferences include not directing light upward or to other properties; avoiding brightly illuminated vertical surfaces where feasible, such as walls and lamp poles; and not directing lighting toward environmentally sensitive habitats. The current Recommended Practices and American National Standards Institute of the Illuminating Engineering Society of North America should be consulted for lighting levels and quality of light.	▸ City PRD ▸ Contractor	This measure and language facilitating and ensuring compliance shall be incorporated into design and contract documents prepared by the City for the project.	Prior to and during project construction.	PRD shall, on the basis of its observations or as a result of public complaints to the City regarding lighting, be empowered to direct the contractor to undertake additional measures in the field if it appears that the contractor is not following this measure.		
Air Quality **Mitigation Measure AIR-1- Fugitive Dust:** The City shall include provisions in the construction bid documents that the contractor shall implement a dust control program to limit fugitive dust and vehicle emissions. The dust and emissions control program shall include, but not be limited to, the following elements, as appropriate: • Water inactive construction sites and exposed stockpile sites at least twice daily, including during non-work days or until soils are stable. • All earthmoving activities shall cease when sustained winds exceed 15 miles per hour. • Pursuant to the California Vehicle Code, all trucks hauling soil and other loose material to and from the	▸ City PRD ▸ Contractor ▸ AQMD	This measure and language facilitating and ensuring compliance shall be incorporated into design and contract documents prepared by the City for the project.	During project construction.	PRD shall, on the basis of its observations or as a result of public complaints to the City or AQMD regarding fugitive dust, be empowered to direct the contractor to undertake additional measures in the field if it appears that the contractor is not following this measure.		

Mitigation Measure	Responsible Agency and/or Party	Action Required	Monitoring Phase/ Reporting Requirements	Enforcement	Compliance Verification	Notes/ Comments
construction site shall be covered or shall maintain at least 6 inches of freeboard (i.e., minimum vertical distance between top of load and the trailer). • Earth or other material that has been transported by trucking or earth moving equipment, erosion by water, or other means onto paved streets shall be promptly removed. • Any topsoil that is removed during construction shall be stored onsite in piles not to exceed 4 feet in height to allow development of microorganisms prior to resoiling of the construction area. These topsoil piles shall be clearly marked and flagged. Topsoil piles that will not be immediately returned to use shall be revegetated with a non-persistent erosion control mixture. • Soil piles for backfill shall be marked and flagged separately from native topsoil stockpiles. These soil piles shall also be surrounded by silt fencing, straw wattles, or other sediment barriers or covered unless they are to be immediately used. • Equipment or manual watering shall be conducted on all stockpiles, dirt/gravel roads, and exposed or disturbed soil surfaces, as necessary, to reduce airborne dust. • Construction vehicles shall minimize idling time and equipment shall be shut off when not in use pursuant to California Code of Regulations (Title 13, Division 3, Chapter 10 §2485).						

Mitigation Measure	Responsible Agency and/or Party	Action Required	Monitoring Phase/ Reporting Requirements	Enforcement	Compliance Verification	Notes/ Comments
• Construction equipment will be maintained in proper working conditions according to manufacturer's specifications. Equipment must be checked daily and determined to be in proper running condition before it is operated. • The contractor shall keep a daily log of activities to control fugitive dust.						
Biological Resources **Mitigation Measure BIO-1 – Prevention of Accidental Spills of Pollutants:** Construction specifications shall include the following measures to reduce potential impacts on vegetation and aquatic resources in the project area as a result of the accidental spill of pollutants (e.g., fuel, oil, and grease): • A site-specific spill prevention plan shall be implemented for potentially hazardous materials. The plan shall include the proper handling and storage of all potentially hazardous materials, as well as the proper procedures for cleaning up and reporting any spills. If necessary, containment berms shall be constructed to prevent spilled materials from reaching surface water features. • Equipment and hazardous materials shall be stored 50 feet away from surface water features, including but not limited to Humboldt Bay and PALCO Marsh. • Vehicles and equipment used during construction shall receive proper and timely maintenance to reduce the potential for mechanical breakdowns leading to a spill of	▸ City PRD ▸ Contractor ▸ Corps ▸ RWQCB ▸ CDFW	This measure and language facilitating and ensuring compliance shall be incorporated into design and contract documents prepared by the City for the project. The contractor or City will prepare an SWPPP/Hazardous Spill Prevention Plan and the City shall file an NOI with RWQCB.	Prior to and during project construction.	PRD shall conduct field observations during the construction process to ensure the appropriate implementation of this measure, and shall direct the contractor to temporarily suspend construction activities if evidence is presented that the contractor is not in compliance with this measure, pending the development of specific actions to regain compliance.		

Mitigation Measure	Responsible Agency and/or Party	Action Required	Monitoring Phase/ Reporting Requirements	Enforcement	Compliance Verification	Notes/ Comments
materials. Maintenance and fueling shall be conducted in an area at least 150 feet away from surface water including but not limited to Humboldt Bay and PALCO Marsh. • Equipment operating within the mean high water line shall use non-toxic vegetable oil for operating hydraulic equipment instead of traditional hydraulic fluids. • Equipment used during construction shall be equipped with an emergency spill kit for rapid containment and cleanup of a spill, and personnel shall be adequately trained to respond to an emergency spill.						
Mitigation Measure BIO-2 – Special-Status Plants: In addition to the implementation of Mitigation Measure BIO-1 – Prevention of Accidental Spills of Pollutants, the following measures will be used to avoid or minimize impacts on special-status plants: • During the final design of the proposed project, the known populations of special-status plants, including, but not limited to Point Reyes bird's-beak within 100 feet of the project boundary shall be included in the engineering drawings, and all construction activities shall be designed and conducted to avoid impacts to the populations to the maximum extent feasible. • As special-status plant locations may vary from year to year, a targeted protocol-level seasonally appropriate botanical survey of the proposed project area and an area within 100 feet of the project area shall be	▸ City PRD ▸ Contractor ▸ CDFW	This measure and language facilitating and ensuring compliance shall be incorporated into design and contract documents prepared by the City for the project.	Prior to and during construction.	A qualified biologist shall conduct protocol-level surveys prior to the onset of construction in a given year. If a special-status plant species is found, the contractor, under the direction of the biologist, shall establish exclusionary fencing and PRD will inspect and repair fencing as necessary. If a population cannot be fully avoided, the City shall retain a qualified botanist, who shall contact CDFW to		

Mitigation Measure	Responsible Agency and/or Party	Action Required	Monitoring Phase/ Reporting Requirements	Enforcement	Compliance Verification	Notes/ Comments
conducted prior to the start of ground disturbing activities during each year of construction. • Prior to the start of construction activities in the proposed project area, exclusionary fencing shall be erected around the special-status plant populations. A qualified botanist shall be present to assist with locating the populations. The exclusionary fencing shall be periodically inspected throughout each period of construction and be repaired as necessary. All pedestrian and vehicular entry into the avoidance areas delineated by the fencing shall be prohibited during construction. • If a population cannot be fully avoided, the City shall retain a qualified botanist who shall contact CDFW to determine the appropriate salvage and relocation measures, which shall be implemented.				determine appropriate salvage and relocation measures.		
Mitigation Measure BIO-3 – Erosion and Sedimentation Control: Erosion control measures shall be implemented during construction of the proposed project. These measures shall conform to the provisions in Section 20-2 and 20-3 of the Caltrans Standard Specifications and the special provisions included in the contract for the project. Such provisions include the preparation of a Storm Water Pollution Prevention Plan (SWPPP), which describes and illustrates the best management practices (BMPs) for the project site. Erosion control measures to be included in the SWPPP or to be implemented by the City include, but are not limited to, the	▸ City PRD ▸ Contractor ▸ Corps ▸ RWQCB ▸ CDFW ▸ Caltrans	This measure and language facilitating and ensuring compliance shall be incorporated into design and contract documents prepared by the City for the project. The contractor or City to prepare a SWPPP/Hazardous Spill Prevention Plan and the City shall file an	Prior to, during, and after project construction, then annually until revegetated areas have become established.	PRD shall conduct field observations during the construction process to ensure the appropriate implementation of this measure, and shall direct the contractor to temporarily suspend construction activities if evidence is presented that the contractor is not in compliance with this measure, pending the		

Mitigation Measure	Responsible Agency and/or Party	Action Required	Monitoring Phase/ Reporting Requirements	Enforcement	Compliance Verification	Notes/ Comments
following: • To the maximum extent practicable, activities that increase the erosion potential in the project area shall be restricted to the relatively dry summer and early fall period to minimize the potential for rainfall events to transport sediment to Humboldt Bay, PALCO Marsh, and other surface water features. In-channel construction shall be conducted between June 15- and October 31 and upland construction will likely occur throughout the year as long as work activities comply with the conservation, avoidance, and minimization measures identified herein for the protection of other sensitive or special-status plant or animal species. For upland construction activities that must take place during the late fall, winter, or spring, temporary erosion and sediment control structures shall be in place and operational during construction as needed and at the end of each construction day and maintained until permanent erosion control structures are in place. • Areas where wetland and upland vegetation need to be removed shall be identified in advance of ground disturbance and limited to only those areas that have been approved by the City as part of the final design plans. Temporary construction fencing will be installed around ESHAs that do not need to be disturbed. • Within 10 calendar days of completion of construction in those areas where subsequent ground disturbance will not occur within 10 calendar days or more, weed-free mulch shall be applied to disturbed areas to reduce the potential for short-term erosion. Prior to a rain		NOI with RWQCB.		development of specific actions to regain compliance.		

Mitigation Measure	Responsible Agency and/or Party	Action Required	Monitoring Phase/ Reporting Requirements	Enforcement	Compliance Verification	Notes/ Comments
event or when there is a greater than 50 percent possibility of rain within the next 24 hours, as forecasted by the National Weather Service, weed-free mulch shall be applied to all exposed areas upon completion of the day's activities. Soils shall not be left exposed during the rainy season. • Suitable BMPs, such as silt fences, straw wattles, or catch basins, shall be placed below all construction activities at the edge of surface water features to intercept sediment before it reaches the waterway. These structures shall be installed prior to any clearing or grading activities. Further, sediment built up at the base of BMPs will be removed before BMP removal to avoid any accumulated sediments from being mobilized post-construction. • If spoil sites are used, they shall be located such that they do not drain directly into a surface water feature, if possible. If a spoil site drains into a surface water feature, catch basins shall be constructed to intercept sediment before it reaches the feature. Spoil sites shall be graded and vegetated with native species to reduce the potential for erosion. • Sediment control measures shall be in place prior to the onset of the rainy season and will be monitored and maintained in good working condition until disturbed areas have been revegetated with native species. • Any new or previously excavated gravel material placed in the channel shall meet Caltrans' cleanness test indicating the relative proportions of clay-sized material						

Mitigation Measure	Responsible Agency and/or Party	Action Required	Monitoring Phase/ Reporting Requirements	Enforcement	Compliance Verification	Notes/ Comments
clinging to coarse aggregate and screenings (California Test No. 227) with a value of 85 or higher (excluding such materials as soil in the rock slope protection [RSP] to allow for riparian planting).						
Mitigation Measure BIO-4 –Frogs: In addition to the implementation of Mitigation Measure BIO-1 – Prevention of Accidental Spills of Pollutants and Mitigation Measure BIO-3 – Erosion and Sedimentation Control, the following measures will be used to avoid or minimize impacts on northern red-legged frogs: • Prior to construction, the City shall retain a qualified biologist to present a Worker Environmental Awareness Program. The program shall provide construction workers, contractors, and subcontractors with information on their responsibilities with regard to sensitive biological resources. • Suitable habitat for the northern red-legged frog is present in the proposed project area and individuals could move onto the site at any time. Thus, a pre-construction survey for the species is necessary to confirm its status (presence/absence) in the project area immediately prior to the onset of construction. The City shall retain a qualified biologist to conduct a pre-construction survey for the northern red-legged frog including the area within 50 feet of suitable habitat (wetlands) immediately prior to construction. Surveys shall be conducted each day in those areas where frogs could potentially be impacted. If a northern red-legged frog is found, the biologist shall move it to suitable	▸ City PRD ▸ Contractor ▸ CDFW ▸ Caltrans	This measure and language facilitating and ensuring compliance shall be incorporated into design and contract documents prepared by the City for the project. Preconstruction surveys shall be conducted by a qualified biologist.	Prior to and during construction.	A qualified biologist shall be retained by the City to insure compliance. The biologist shall provide worker training prior to the onset of construction in a given year and shall conduct preconstruction surveys daily when construction would potentially occur within suitable habitat. If a special-status frog species is found, the contractor shall be directed to temporarily suspend construction activities pending the implementation of specific actions to regain compliance.		

Mitigation Measure	Responsible Agency and/or Party	Action Required	Monitoring Phase/ Reporting Requirements	Enforcement	Compliance Verification	Notes/ Comments
habitat in a safe location outside of the construction zone. In the event that a frog is observed in an active construction zone, the contractor shall immediately halt construction activities until a biologist has moved the frog to a safe location in similar habitat outside of the construction zone.						
Mitigation Measure BIO-5 – Management of Human Disturbance: The City shall manage visitor use and recreation in and around the proposed project area to avoid disturbance of wildlife foraging and roosting along Humboldt Bay, PALCO Marsh, and in associated wildlife habitats. Management shall include establishment of view and access sites that allow the public to see and access the Bay and PALCO Marsh for recreation and wildlife viewing, and posting of signs to thereby discourage access in other sites. The number and physical distribution of these access sites shall be designed in a manner that encourages appreciation for the flora and fauna of the area while reducing disturbance and other activities that are detrimental to vegetation and wildlife.	▸ City PRD ▸ Contractor ▸ CDFW ▸ CCC ▸ Caltrans	This measure and language facilitating and ensuring compliance shall be incorporated into design and contract documents prepared by the City for the project.	Project design.	The City shall design and enforce resource protections within the designated Coastal Zone before, during and after construction.		
Mitigation Measure BIO-6 – Raptors: In addition to the implementation of *Mitigation Measure BIO-5 – Management of Human Disturbance* the following measures will be used to avoid or minimize impacts on raptors: • Construction shall be scheduled to avoid the nesting season to the extent feasible. The nesting season for most raptors in Humboldt County extends from March through August. Thus, if construction can be scheduled to occur between September and February the nesting season will be avoided and no impacts on nesting	▸ City PRD ▸ Contractor ▸ CDFW ▸ Caltrans	This measure and language facilitating and ensuring compliance shall be incorporated into design and contract documents prepared by the City for the project.	Prior to and during construction.	A qualified biologist shall be retained by the City to insure compliance. The biologist shall provide worker training prior to the onset of construction in a given year and shall conduct preconstruction surveys no more than 7 days prior to the onset of		

Mitigation Measure	Responsible Agency and/or Party	Action Required	Monitoring Phase/ Reporting Requirements	Enforcement	Compliance Verification	Notes/ Comments
raptors would be expected. If it is not possible to schedule construction during this time, the remainder of this mitigation measure shall be implemented: • If vegetation is to be removed by the project and all necessary approvals have been obtained, potential nesting habitat (e.g., trees) that will be removed should be removed outside the nesting season, if feasible. This will help preclude nesting and substantially decrease the likelihood of direct impacts. • Pre-construction surveys for nesting raptors shall be conducted by a qualified biologist to ensure that no nests will be disturbed during project implementation. These surveys shall be conducted no more than 7 days prior to the initiation of construction activities, or re-initiation of construction activities if they have ceased for more than 7 days. During this survey, the biologist shall inspect all potential nesting habitat for raptor nests where project activities could potentially result in disturbance to nesting raptors, including areas of direct impact plus an area extending at least 500 feet from the perimeter of the project area. • If an active raptor nest is found within the survey area (i.e., within 500 feet), or beyond the survey area but in a location where there could be potential disturbance associated with construction activities, the biologist, in consultation with the CDFW, shall determine the extent of a construction-free buffer zone to be established around the nest, or shall develop and agree upon construction methods that will allow work to continue without disturbing an active nest. Active nests may not				construction. The biologist shall monitor active nests during construction activities. The contractor shall be directed to temporarily suspend construction activities if evidence is presented to the City that the contractor is not in compliance with this measure, pending the development of specific actions to regain compliance.		

Mitigation Measure	Responsible Agency and/or Party	Action Required	Monitoring Phase/ Reporting Requirements	Enforcement	Compliance Verification	Notes/ Comments
be removed until after the young have fledged (based on field verification). A qualified biologist shall monitor the nest for disturbance and evidence of fledgling during construction and until the young have fledged and submit status reports to the CDFW throughout the nesting season. If evidence of disturbance to an active next is observed as a consequence of construction activities, construction activities shall immediately cease until such time as the birds of fledged or construction protocol is revised so as not to disturb nesting birds or fledglings.						
Mitigation Measure BIO-7 – Migratory and Special-Status Birds: In addition to the implementation of *Mitigation Measure BIO-5 – Management of Human Disturbance* the following measures shall be implemented to avoid or minimize the potential for project-related impacts on migratory birds: • Grading and other construction activities shall be scheduled to avoid the nesting season to the extent possible. The nesting season for these species extends from March through August. If construction occurs outside of the breeding season, no further mitigation is necessary. If the breeding season cannot be completely avoided, the remainder of this mitigation measure shall be implemented. • Pre-construction surveys for migratory and special status birds shall be conducted by a qualified biologist to ensure that no nests will be disturbed during project implementation. These surveys shall be conducted no more than 7 days prior to the initiation of construction	▸ City PRD ▸ Contractor ▸ CDFW ▸ Caltrans	This measure and language facilitating and ensuring compliance shall be incorporated into design and contract documents prepared by the City for the project.	Prior to and during construction.	A qualified biologist shall be retained by the City to insure compliance. The biologist shall provide worker training prior to the onset of construction in a given year and shall conduct preconstruction surveys no more than 7 days prior to the onset of construction. The biologist shall monitor active nests during construction activities. The contractor shall be directed to temporarily suspend construction activities if evidence is presented to the City		

Mitigation Measure	Responsible Agency and/or Party	Action Required	Monitoring Phase/ Reporting Requirements	Enforcement	Compliance Verification	Notes/ Comments
activities, or re-initiation of construction activities if they have ceased for more than 7 days. During this survey, the biologist shall inspect all potential nesting habitat for migratory and special-status bird nests where project activities could potentially result in disturbance to migratory or special status birds, including areas of direct impact plus an area extending at least 100 feet for non-special status migratory birds and 300 feet from the perimeter of the project area for special status birds. • If an active nests is found within the survey area (i.e., within 100 or 300 feet), or beyond the survey area but in a location where there could be potential disturbance associated with construction activities, the biologist, in consultation with the CDFW, shall determine the extent of a construction-free buffer zone to be established around the nest, or shall develop and agree upon construction methods that will allow work to continue without disturbing an active nest. Active nests may not be removed until after the young have fledged (based on field verification). A qualified biologist shall monitor the nest for disturbance and evidence of fledging during construction and until the young have fledged, and submit status reports to the CDFW throughout the nesting season. If evidence of disturbance to an active nest is observed as a consequence of construction activities, construction activities shall immediately cease until such time as the birds have fledged or construction protocol is revised so as not to disturb nesting birds or fledglings. If vegetation is to be removed by the project and all necessary approvals have been obtained, potential nesting habitat (e.g., shrubs and trees) that				that the contractor is not in compliance with this measure, pending the development of specific actions to regain compliance.		

Mitigation Measure	Responsible Agency and/or Party	Action Required	Monitoring Phase/ Reporting Requirements	Enforcement	Compliance Verification	Notes/ Comments
will be removed by the project should be removed outside the nesting season, if feasible. This will help preclude nesting and substantially decrease the likelihood of direct impacts.						
Mitigation Measure BIO-8 – Eel Grass: In addition to the implementation of *Mitigation Measure BIO-3 – Erosion and Sedimentation Control* the following mitigation will be implemented to avoid and minimize project impacts to eel grass: • Prior to the onset of construction, the City will mark all eelgrass populations within the project boundary. Eelgrass populations will be avoided to the maximum extent feasible.	▸ City PRD ▸ Contractor ▸ CDFW ▸ CCC ▸ Caltrans	This measure and language facilitating and ensuring compliance shall be incorporated into design and contract documents prepared by the City for the project.	Prior to and during construction.	Eel grass populations shall be marked by someone qualified to set biologically appropriate boundaries. City PRD or the Project Manager shall conduct field observations prior to construction to insure populations are marked.		
Mitigation Measure BIO-9 – Prevention of Invasive Plant Species: The following measures shall be implemented to prevent the spread of invasive species in the proposed project area: • All equipment used for off-road construction activities shall be weed-free prior to entering the proposed project area. • If project implementation calls for mulches or fill, they shall be weed free. • Revegetation of disturbed sites shall be performed only with sterile non-native grasses and other native vegetation obtained from local genetic stocks within Sonoma, Mendocino, Humboldt, or Del Norte Counties	▸ City PRD ▸ Contractor ▸ CDFW ▸ CCC	This measure and language facilitating and ensuring compliance shall be incorporated into design and contract documents prepared by the City for the project.	Prior to, during, and after construction.	City shall conduct field observations before, during, and after the construction process to ensure the appropriate implementation of this measure, and shall direct the contractor to temporarily suspend construction activities if evidence is presented to the City that the contractor is not in compliance with this measure pending the development of specific		

Mitigation Measure	Responsible Agency and/or Party	Action Required	Monitoring Phase/ Reporting Requirements	Enforcement	Compliance Verification	Notes/ Comments
within 30 miles of the coast. Sterile non-native annual grasses shall comprise no more than 50% of the erosion control seed mixture to be planted (by weight of seed), with the remaining seed composed of native species. If documentation is provided that demonstrates that native vegetation from local genetic stock is not available, native vegetation obtained from genetic stock outside the local area, but from within the adjacent region of the floristic province, may be used. No plant species listed as problematic and/or invasive by the California Native Plant Society, the California Invasive Plant Council, or by the State of California shall be planted or allowed to naturalize or persist on the parcel. No plant species listed as a 'noxious weed' by the State of California or the U.S. Federal Government shall be utilized within the property.				actions to regain compliance.		
Mitigation Measure BIO-10 – Waters of the United States/Waters of the State: Implementation of Mitigation Measure BIO-1 – Prevention of Accidental Spills of Pollutants and Mitigation Measure BIO-3 – Erosion and Sedimentation Control will protect waters of the United States from potential indirect impacts. To address potential temporary impacts to waters of the State by ensuring that disturbed areas are restored to pre-project conditions, the City shall implement the following measures: • The width of the construction disturbance zone within wetlands shall be minimized through careful preconstruction planning. • Where possible, temporary impacts on woody riparian	▸ City PRD ▸ Corps ▸ RWQCB ▸ CDFW ▸ CCC	This measure and language facilitating and ensuring compliance shall be incorporated into design and contract documents prepared by the City for the project. City will be responsible for attaining required regulatory permits.	Prior to, during, and after construction.	A qualified biological monitor shall conduct field observations during the construction process to assure the appropriate implementation of this measure. The contractor shall be directed to temporarily suspend construction activities if evidence is presented to the City that the contractor is not in compliance with this measure, pending the		

Mitigation Measure	Responsible Agency and/or Party	Action Required	Monitoring Phase/ Reporting Requirements	Enforcement	Compliance Verification	Notes/ Comments
vegetation shall be minimized by trimming trees and shrubs rather than removing entire woody plants or by cutting trees or shrubs at least 1 foot above ground level to leave root systems intact and allow more rapid regeneration following construction. • For herbaceous wetland areas, City shall include provisions in the constructions plans and specifications for the contractor to place steel mats, when feasible, over wetland areas to allow for construction equipment access and to prevent rutting. The mats would then be removed as construction is completed for each trail segment. • In areas where excavation may occur, the City shall include provisions in the constructions plans and specifications for the contractor to temporarily stockpile the top 6 to 12 inches of excavated material, keep the material moist, and then return this material as backfill into the top of temporarily excavated areas. • Following completion of the trail system, any impacted area shall be restored to pre-project grade. Any wetland areas left bare following construction shall be revegetated using native vegetation. To the extent practicable, the discharge of dredged or fill material into waters of the United States, including wetlands, shall be avoided (this also includes waters not subject to Corps jurisdiction, but subject to North Coast RWQCB or California Coastal Commission jurisdiction). However, complete avoidance may not be feasible (Note: following completion of the geotechnical report, a determination will be made during the				development of specific actions to regain compliance. City will be responsible for ensuring compliance with conditions included in the regulatory permits. If required, a Wetlands Mitigation and Monitoring Plan will be developed, circulated to permitting agencies for approval, and implemented.		

Mitigation Measure	Responsible Agency and/or Party	Action Required	Monitoring Phase/ Reporting Requirements	Enforcement	Compliance Verification	Notes/ Comments
final design phase as to whether footings for the pedestrian bridge in Segment 1 (drainage ditch just south of Del Norte Street) would need to be constructed or not; if footings are not required, permanent impacts may be potentially avoided). If discharge of fill into a waters of the United States or waters of the State cannot be completely avoided, the remainder of this mitigation measure shall be implemented: • The City will apply for the appropriate permits from the Corps, North Coast RWQCB, California Coastal Commission, and the CDFW and will comply with the conditions of each respective permit. • Impacts on jurisdictional waters will be compensated at a minimum 2:1 ratio or other ratio as agreed by the City and the Corps, North Coast RWQCB, California Coastal Commission, and the CDFW (Note: The City has concluded that a 2:1 ratio is sufficient for the following reasons: 1) the low quality of potentially impacted wetlands habitat within the project area due to prior disturbance; and 2) overall enhancement of the project area associated with removal of transient encampments, debris, and non-native vegetation). Compensation for the loss of wetlands would be completed through on-site creation. In addition to creation, potential restoration, enhancement, and/or preservation activities may be considered as well by the agencies as part of the overall mitigation strategy. Assuming a 2:1 creation ratio, since up to maximum of 0.042 acre of Corps jurisdiction and 0.009 acre of State jurisdiction may be impacted by the project (Note: these impacts may be further reduced during the final design phase), up to 0.102 acre of new wetlands will need to be created. Potential mitigation						

Mitigation Measure	Responsible Agency and/or Party	Action Required	Monitoring Phase/ Reporting Requirements	Enforcement	Compliance Verification	Notes/ Comments
locations include Parcel 4 and the City-owned property associated with Phase C of the Waterfront Trail. These properties contain areas of adequate size that provide necessary conditions to accomplish the potential mitigation requirements. • A Wetlands Mitigation and Monitoring Plan shall be prepared and provided to the Corps, North Coast RWQCB, California Coastal Commission, and the CDFW for review and approval. This Plan shall include the following elements: description and size of mitigation area; site preparation and design; plant species; planting design and techniques; maintenance activities; plant storage; irrigation requirements; success criteria; monitoring schedule; and remedial measures. Following approval by the pertinent regulatory agencies, the Plan will be implemented by the City.						
Cultural Resources **Mitigation Measure CUL-1 – Cultural Resources:** If archaeological resources are encountered during construction activities, all onsite work shall cease in the immediate area and within a 50 foot buffer of the discovery location. A qualified archaeologist will be retained to evaluate and assess the significance of the discovery, and develop and implement an avoidance or mitigation plan, as appropriate. For discoveries known or likely to be associated with native American heritage (prehistoric sites and select historic period sites), the Tribal Historic Preservation Officers for the Bear River Band of Rohnerville Rancheria, Blue Lake Rancheria, and Wiyot Tribe will be contacted immediately to evaluate the discovery and, in consultation with the project proponent, City of Eureka, and	▸ City PRD ▸ Contractor ▸ NAHC ▸ Caltrans	This measure and language facilitating and ensuring compliance shall be incorporated into design and contract documents prepared by the City for the project.	During construction.	A qualified archaeologist shall be retained by the City if archeological resources are encountered, and shall develop and implement an avoidance and mitigation plan, as appropriate. Said archeologist shall have the authority to suspend all construction as described within the subject mitigation		

Mitigation Measure	Responsible Agency and/or Party	Action Required	Monitoring Phase/ Reporting Requirements	Enforcement	Compliance Verification	Notes/ Comments
consulting archaeologist, develop a treatment plan in any instance where significant impacts cannot be avoided. Prehistoric materials may include obsidian or chert flakes, tools, locally darkened midden soils, groundstone artifacts, shellfish or faunal remains, and human burials. Historic archaeological discoveries may include 19th century building foundations; structural remains; or concentrations of artifacts made of glass, ceramic, metal or other materials found in buried pits, old wells or privies.				measure pending the implementation of specific actions to regain compliance.		
Mitigation Measure CUL-2 – Human Remains: In the event that human remains are discovered during construction, the project proponent would be required to comply with the State Health and Safety Code 7050.5, which prohibits further disturbance until the County Coroner has made a determination of the origin and disposition pursuant to PRC Section 5097.98. The County Coroner must be notified immediately of the find, and has two working days to examine human remains after being notified. If the remains are determined to be Native American, the coroner is required to notify the Native American Heritage Commission (NAHC) within 24 hours. The NAHC will identify and notify a Most Likely Descendant (MLD). With the permission of the owner of the land or his/her authorized representative, the descendant may inspect the site of the discovery. The descendant shall complete the inspection within 48 hours of being granted access to the site and may recommend means for treatment or disposition, with appropriate dignity, of the human remains and any associated grave goods. The MLD's preferences for treatment may include the nondestructive removal and analysis of human remains and items associated with the Native American human remains, their preservation in place, their relinquishment to the MLDs for treatment, or other culturally appropriate treatment.	▸ City PRD ▸ Contractor ▸ NAHC ▸ Caltrans	This measure and language facilitating and ensuring compliance shall be incorporated into design and contract documents prepared by the City for the project.	During construction.	If human remains are found, contractor shall be directed to cease work that could potentially disturb human remains, Notification by PRD to the County Coroner, relevant Native American representative, and NAHC.		

Mitigation Measure	Responsible Agency and/or Party	Action Required	Monitoring Phase/ Reporting Requirements	Enforcement	Compliance Verification	Notes/ Comments
Mitigation Measure CUL-3 – Archaeological Monitoring: If ground disturbance exceeds a depth of 12 inches near known cultural resource sites (i.e., Historic Bucksport Townsite, Historic Wiyot Community at Bucksport, Holmes-Eureka Lumber site, and CA-HUM-857 H – Historic Eureka City Dump), then the City shall retain a qualified archaeologist and Native American monitors, if requested by the Wiyot Tribe/Table Bluff Reservation, Bear River Band of Rohnerville Rancheria or Blue Lake Rancheria, to monitor daily construction activities near these sites. Daily monitoring reports will be submitted to Caltrans District 1. In the event of unanticipated discovery, then Mitigation Measure CUL-1 and/or CUL-2 shall be implemented.	▸ City PRD ▸ Contractor ▸ Caltrans	This measure and language facilitating and ensuring compliance shall be incorporated into design and contract documents prepared by the City for the project.	During construction.	A qualified archaeologist and Native American cultural monitors, as requested by local Tribes, shall be retained by the City to observe ground disturbing activities greater than 12 inches in depth near known sensitive sites. If archeological resources are encountered, said monitors shall have the authority to suspend construction that has the potential to disturb said resources pending the implementation of specific actions described in Mitigation Measures CUL-1 and/or CUL-2..		
Geology and Soils Implement *Mitigation Measure BIO-3 – Erosion and Sedimentation Control* to prevent degradation of water quality and loss of soil due to erosion.	▸ City PRD ▸ Contractor ▸ Corps ▸ RWQCB ▸ CDFW ▸ Caltrans	This measure and language facilitating and ensuring compliance shall be incorporated into design and contract documents prepared by the City for the project. The contractor or City to prepare a	Prior to, during, and after project construction, then annually until revegetated areas have become established.	PRD shall conduct field observations during the construction process to ensure the appropriate implementation of this measure, and shall direct the contractor to temporarily suspend construction activities if evidence is presented		

Mitigation Measure	Responsible Agency and/or Party	Action Required	Monitoring Phase/ Reporting Requirements	Enforcement	Compliance Verification	Notes/ Comments
		SWPPP/Hazardous Spill Prevention Plan and the City shall file an NOI with RWQCB.		that the contractor is not in compliance with this measure, pending the development of specific actions to regain compliance.		
Hazards and Hazardous Materials Implement *Mitigation Measure BIO-1 – Prevention of Accidental Spills of Pollutants* to prevent degradation of water quality and protect vegetation and aquatic habitat resources from pollutants.	▸ City PRD ▸ Contractor ▸ Corps ▸ RWQCB ▸ CDFW	This measure and language facilitating and ensuring compliance shall be incorporated into design and contract documents prepared by the City for the project. The contractor or City will prepare an SWPPP/Hazardous Spill Prevention Plan and the City shall file an NOI with RWQCB.	Prior to and during project construction.	PRD shall conduct field observations during the construction process to ensure the appropriate implementation of this measure, and shall direct the contractor to temporarily suspend construction activities if evidence is presented that the contractor is not in compliance with this measure, pending the development of specific actions to regain compliance.		
Mitigation Measure Haz-1- Soil Testing: In the event any hazardous, toxic, noxious, objectionable, or unknown chemicals are encountered during trail construction, construction shall be halted by the construction crew on duty and reported to the general contractor for the project, and to the City. Prior to resuming any work the City shall be responsible for obtaining a soil sample contamination analysis. The findings of the analysis shall be submitted, as applicable, to the North Coast RWQCB and any other appropriate regulatory agencies. Work shall not	▸ City PRD ▸ Contractor ▸ RWQCB ▸ Caltrans	Language assuring compliance shall be incorporated into design and contract documents prepared by the City for the project.	During project design and throughout the duration of project construction.	City shall conduct field observations during the construction process to assure the appropriate implementation of this measure, and shall direct the contractor to temporarily suspend construction activities if		

Mitigation Measure	Responsible Agency and/or Party	Action Required	Monitoring Phase/ Reporting Requirements	Enforcement	Compliance Verification	Notes/ Comments
continue until and unless written approval is obtained from these agencies. The applicant shall comply at all times with the requirements and regulations of the RWQCB and other appropriate regulatory agencies with regard to the handling, transport, and disposal of hazardous materials such as contaminated soils to the satisfaction of these agencies. Disposal of all hazardous materials will be in compliance with all applicable California hazardous waste disposal laws.				evidence is presented to either department that the contractor is not in compliance with this measure, pending the development of specific actions to regain compliance.		
Mitigation Measure Haz-2 - Tsunami: To inform the general public of the potential of tsunami run-up inundating the trail area, and to provide information regarding associated safety measures, each trailhead location shall have signage informing the public of tsunami dangers and providing information regarding what actions to take in the event of seismic activity. Said signage shall be posted to the satisfaction of the City and prior to the trail being open to the general public.	▸ City PRD ▸ Contractor	This measure and language facilitating and ensuring compliance shall be incorporated into design and contract documents prepared by the City for the project.	Prior to, during, and after construction. Signage design shall be approved to the satisfaction of the PRD and the Public Works Department. Said signage shall be located to the satisfaction of the aforementioned departments, prior to opening the trail to public use.	The City will ensure that informational signage shall be provided at conspicuous locations along the trail for the economic life of the subject trail section.		
Mitigation Measure HAZ-3 – Wildland Fire: The City shall include provisions in the construction bid documents to minimize the potential for ignition of wildfire as a result of project construction. Per the requirements of Public Resources Code 4442 and to reduce construction-related wildfire ignition potential, the City shall include a note on all construction plans that internal combustion engines shall be equipped with an operational spark arrester, or the engine must be equipped for the prevention of fire.	▸ City PRD ▸ Contractor	This measure and language facilitating and ensuring compliance shall be incorporated into design and contract documents prepared by the City for the project.	Prior to and during construction.	PRD shall conduct field observations during the construction process to assure the appropriate implementation of this measure, and shall direct the contractor to temporarily suspend construction activities if evidence is presented that the contractor is not		

Mitigation Measure	Responsible Agency and/or Party	Action Required	Monitoring Phase/ Reporting Requirements	Enforcement	Compliance Verification	Notes/ Comments
				in compliance with this measure, pending the development of specific actions to regain compliance.		
Hydrology and Water Quality Implement *Mitigation Measure BIO-3 – Erosion and Sedimentation Control* to minimize impacts on water quality.	▸ City PRD ▸ Contractor ▸ Corps ▸ RWQCB ▸ CDFW ▸ Caltrans	This measure and language facilitating and ensuring compliance shall be incorporated into design and contract documents prepared by the City for the project. The contractor or City to prepare a SWPPP/Hazardous Spill Prevention Plan and the City shall file an NOI with RWQCB.	Prior to, during, and after project construction, then annually until revegetated areas have become established.	PRD shall conduct field observations during the construction process to ensure the appropriate implementation of this measure, and shall direct the contractor to temporarily suspend construction activities if evidence is presented that the contractor is not in compliance with this measure, pending the development of specific actions to regain compliance.		
Implement *Mitigation Measure HAZ-2 – Tsunami* to minimize impacts that could result from inundation caused by a tsunami.	▸ City PRD ▸ Contractor	This measure and language facilitating and ensuring compliance shall be incorporated into design and contract documents prepared by the City for the project.	Prior to, during, and after construction. Signage design shall be approved to the satisfaction of the PRD and the Public Works Department. Said signage shall be located to the satisfaction of the aforementioned departments, prior to	The City will ensure that informational signage shall be provided at conspicuous locations along the trail for the economic life of the subject trail section.		

Mitigation Measure	Responsible Agency and/or Party	Action Required	Monitoring Phase/ Reporting Requirements	Enforcement	Compliance Verification	Notes/ Comments
			opening the trail to public use.			
Land Use **Mitigation Measure LU-1 – Obtain Land Use Permits:** The City Parks & Recreation department shall apply for and obtain a Conditional Use Permit from the City Community Development Department for portions of the trail that intersect with lands zoned as MC and NR, and are designated as CDI and NR in the General Plan/LCP. In addition, they shall obtain a Coastal Development Permit from the California Coastal Commission for work proposed within the Coastal Zone.	▸ City PRD ▸ Contractor ▸ CCC	This measure and language facilitating and ensuring compliance shall be incorporated into design and contract documents prepared by the City for the project.	Prior to construction.	City shall obtain all necessary permits.		
Noise **Mitigation Measure NOI-1 – Construction Noise:** The City shall include in the construction specifications the following measures to reduce potential impacts associated with construction noise to a less-than-significant level: • Construction shall be limited to the hours between 7:00 AM and 7:00 PM, Monday through Friday and between 9:00 AM and 5:00 PM on Saturday. • The Contractor shall notify adjacent residents at least 72-hours in advance when construction is to occur within 250 feet of an occupied structure. The notification should include dates and hours when construction activity noise will occur. • Each internal combustion engine used for any purposed on the job site shall be equipped with a muffler of a type recommended by the manufacturer. Engines should be turned off when not in use and high-RPM engines	▸ City PRD ▸ Contractor	This measure and language facilitating and ensuring compliance shall be incorporated into design and contract documents prepared by the City for the project.	During construction.	PRD shall conduct field observations during the construction process to ensure the appropriate implementation of this measure, and shall direct the contractor to temporarily suspend construction activities if evidence is presented that the contractor is not in compliance with this measure, pending the development of specific actions to regain compliance.		

Mitigation Measure	Responsible Agency and/or Party	Action Required	Monitoring Phase/ Reporting Requirements	Enforcement	Compliance Verification	Notes/ Comments
should not be used to the extent feasible.						
Utilities and Service Systems Implement *Mitigation Measure BIO-3 – Erosion and Sedimentation Control* to minimize impacts that could result from minor changes in drainage patterns.	▸ City PRD ▸ Contractor ▸ Corps ▸ RWQCB ▸ CDFW ▸ Caltrans	This measure and language facilitating and ensuring compliance shall be incorporated into design and contract documents prepared by the City for the project. The contractor or City to prepare a SWPPP/Hazardous Spill Prevention Plan and the City shall file an NOI with RWQCB.	Prior to, during, and after project construction, then annually until revegetated areas have become established.	PRD shall conduct field observations during the construction process to ensure the appropriate implementation of this measure, and shall direct the contractor to temporarily suspend construction activities if evidence is presented that the contractor is not in compliance with this measure, pending the development of specific actions to regain compliance.		

CEQA
INITIAL STUDY

CITY OF EUREKA

PROJECT TITLE: Eureka Waterfront Coastal Trail

PROJECT APPLICANT: City of Eureka **CASE NO**: ____

PROJECT LOCATION: Northwestern Eureka along Waterfront Drive paralleling the coast of Humboldt Bay from C Street (at north end) to Del Norte Street (at south end); entirely within the Right-of-Way of Waterfront Drive or the Right-of-Way of the North Coast Railroad Authority (NCRA) railroad that parallels Waterfront Drive with the exception of small portions of the project that pass through parcels APNs 003-062-024**;** 003-072-006; 001-011-010; 001-013-011; 001-014-002; 001-014-003; 003-021-008; 003-021-009; 003-031-002; 003-031-006; 003-041-007; 003-051-001; 003-062-024; 003-072-003; 003-072-006; 003-082-006; 003-082-021; 003-082-022; 007-031-002; 007-031-003; and 007-031-004.

ZONING & GENERAL PLAN DESIGNATION: Zoning: Limited Industrial; Public; Coastal Dependent Industrial; and Natural Resources. Land Use: Core Coastal Dependent; Light Industrial; Core Retail Commercial; Public/Quasi-Public; Coastal-Dependent Industrial; General Industrial; Natural Resources

PROJECT DESCRIPTION: The City of Eureka proposes to construct an approximately 1.38 mile multi-use trail along Waterfront Drive and Railroad Avenue from C Street at the north end to W. Del Norte Street at the south end (See Figures 1 and 2, Appendix A). The purpose of the Eureka Waterfront Coastal Trail is to enhance nonmotorized/pedestrian connectivity, and increase public access to and along Eureka's Waterfront on Humboldt Bay. The project is intended to encourage an appreciation of the environment and historic uses of the area, increase opportunities for active living to improve public health, increase the safety of non-motorized transportation, and recover native habitat values where possible. In addition, the project seeks to initiate a transition of uses along the Waterfront Drive corridor and to improve safety and cleanliness of the area. The proposed alignment is an important piece in the statewide initiative to complete the California Coastal Trail (CCT). The proposed Waterfront Trail and associated coastal access improvements are key elements in the Eureka General Plan.

The proposed project includes surfacing/resurfacing the alignment for multi-use and ADA compliance, construction of trail heads, installation of interpretive signs, new crossings of roads and rails including cross walks and installation of crossing signage to increase public safety, lighting, fencing, drainage improvements, invasive plant removal and revegetation, and landscaping to buffer environmentally sensitive habitats (ESHA). The trail would be entirely within the rights-of-way of the City's Waterfront Drive and the North Coast Railroad Authority (NCRA) railroad corridor that parallels Waterfront Drive, with two small exceptions that may require easements (APN#s 003062024 and 003072006).

BACKGROUND & DETAILED PROJECT DESCRIPTION: For portions that are within the railroad Right-of-Way, the project will conform to NCRA Policy 0907 – "Trail Projects on the NWP Line Rights-of-Way: Design, Construction, Safety, Operations, and Maintenance Guidelines." This document outlines the NCRA's policies regarding "Rails-with-Trails" projects and provides uniform and consistent standards on NCRA's rights-of-way for the design, construction, safety, operations, and maintenance of

Rails-with-Trails Projects. The setbacks from the railroad track required in this plan influenced the location and footprint of the proposed trail. The City of Eureka Public Works and Engineering Departments determined the design guidelines for the portions of the trail that are outside the railroad Right-of-Way but within the Right-of-Way of Waterfront Drive.

Nearly half of the project passes through a 38 acre parcel known locally as the "Balloon Track Parcel" APN# 003021009, 003031006, 003041007, and 003051001. The railroad right-of-way passes through the northern edge of the parcel parallel to Waterfront Drive. The Balloon Track Parcel is the location of a separate and unrelated proposed project, known as the Marina Center Project, which includes in its plans a conceptual trail that would parallel Waterfront Drive south of the railroad tracks. The Humboldt County Coastal Trail Implementation Strategy identifies the railroad right-of-way that passes through the Balloon Track as a proposed location for the multi-use CCT through the northwest portion of Eureka. These two projects (the Waterfront Drive Trail Project and the Marina Center Project) are unrelated and neither project relies on the other to exist. However, since the two projects both call for a trail through the Balloon Track and since the Marina Center Project has not been fully permitted or approved, the developers of the Marina Center Project are willing to allow design and construction of the City's Waterfront Coastal Trail project to proceed without any connection to the Marina Center Project. The proposed Waterfront Coastal Trail project could be constructed regardless of whether or not the Marina Center Project is approved and constructed. Therefore, this document and its analyses of the Waterfront Coastal Trail project only address the Waterfront Coastal Trail project's potential impacts (including through the northern edge of the Balloon Track) and are not related to, and do not analyze, any potential impacts associated with the Marina Center Project. See below for further information regarding the portion of the Waterfront Coastal Trail project that passes through the Balloon Track.

Figures 3.1 through 3.19 (Appendix A) display the extents of the Project Study Boundary (PSB). The extents of the study area were defined to cover a 100-foot radius from the areas where it was anticipated that the proposed project would be designed and constructed. The PSB was developed to identify the areas within which a topographic survey would be conducted and the following items would be studied in the field: areas of potential hazardous contamination, sensitive habitats, wetlands, and other Waters of the U.S./State. The study area only applies to data collected in the field; records searches were conducted beyond the edges of the study area. For the portion of the project that passes through the Balloon Track, existing topographic surveys and environmental surveys/documents served as the primary data source. No new field investigations (beyond those already conducted for the Marina Center Project) were conducted within the Balloon Track parcel for this project. The following existing studies related to the Marina Center Project were reviewed:

- Coastal Act Balloon Track Property Eureka, Humboldt County, California, Huffman- Broadway Group, Inc, 2008.
- Final Environmental Impact Report Marina Center Mixed Use Development Project. ESA. 2009.
- Biological Assessment Marina Center Project Balloon Track Property Eureka, CA, 2008
- Geotechnical Characterization Report. Balloon Track Eureka, California. SHN Consulting Engineers & Geologists, Inc. 2006.

A public informational meeting was conducted on December 1st, 2010 to keep citizens apprised of City efforts and project details. Public service announcements were released prior to the meeting to local TV, radio, and print media outlets. The meeting included a review of past planning efforts, a project overview, an introduction to alignment determination criteria, and the proposed alignment. Presentation materials developed for the meeting included an extensive PowerPoint presentation and a review of large format aerial maps. Members of the public were encouraged to make written comments directly on the maps.

This segment of the Waterfront Coastal Trail is a distinct project from any potential future trail sections to which it may connect and is a separate project from the overall California Coastal Trail system. The Waterfront Coastal Trail is not dependent on the success of other segments of trail and can be funded, implemented, and operated independently from other area trail segments.

The following sections describe seven segments of the project from north to south. These segments are differentiated herein for clarity but may or may not represent distinct segments during design or construction. The following segment by segment descriptions of the project are complemented by Figures 4.1 through 4.19 (Appendix A) and are more easily understood by referencing these figures. Project-specific improvements such as elements of the multi-use trail, trailheads, parking, landscaping, street crossing(s), roadway/sidewalks, lighting, signage, and design standards are further described below under specific headings. Improved safety elements are integrated within the information below including improved trail surfaces (as deemed appropriate), ADA access, and signage. Specific information regarding planting zones can be found in Appendix C: Eureka Waterfront Trail Plant Palette and Landscape Planting Plan.

Segment 1: C Street Intersection and Northern Terminus

The proposed northern terminus of the multi-use trail would begin at the intersection of C Street and Waterfront Drive. At the approach to C Street from the west, the trail would be designed to curve northward towards Waterfront Drive in order to slow down bicylcists approaching the interseciton. The intersection would be improved with a continental-style crosswalk with striping and ADA accessible curb ramps where the trail would connect to the C Street Pedestrian Plaza (recently completed) and Fisherman's Terminal. The trail approach to the intersection would include a stop sign and stop bar (limit line) striping to stop trail users (particularly bicyclists) before they cross Waterfrtont Drive. In addition, at this location at the start of the trail, pedestrian crossing signage and "no motor vehicle" signage would be installed per the Manual of Uniform Traffic Control Devices (MUTCD). Finally, if determined necessary and safe, bollards could be installed at the entrances to the trail to inhibit vehicals from accessing the trail.

Landscaping	None in this segment
Lighting	None in this segment.
Parking	No proposed changes.
Roadway Crossing	Improvement of one roadway pedestrian crosswalk of Waterfront Drive at C
Signage	Signage to indicate the start of this segment of trail, including a CA Coastal Trail insignia, will be located at the corner of C Street and Waterfront Drive. Trailhead informational signage – including a map and user/safety guidelines – will be located at the west end of the adjacent parking area near an existing tree in the first block of the proposed trail. Safety-related signage associated with crossing of C Street; stop sign and stop bar (limit line) at crossing of C Street.
Trail Amenities	Trash and recycling is provided at the C Street Plaza and was determined unnecessary at the start of this segment of trail. No public art or benches are proposed in this segment.

Segment 2: C Street to New Rail Crossing: Approximately 400 Feet

From C Street heading west, the proposed trail would be stamped concrete and generally 8 feet wide and would replace the existing sidewalk and south shoulder of Waterfront Drive along an existing parking lot at the corner of C Street and Waterfront Drive. South of the parking lot the trail would be on the south side of the railroad tracks. Continuing South from the proposed C Street crossings, the project travels parallel Waterfront Drive, co-located with the sidewalk. The railroad is in the center of Waterfront Drive from C Street until approximately 300' west of C Street, at which point the railroad begins to sweep south and crosses the existing sidewalk. At this point, the proposed project (trail/sidewalk) would also turn south to stay parallel with the railroad (in compliance with the NCRA rail-with-trail guidelines). The trail would be separated from the railroad by at least 8.5 feet on straight sections and 9.5 feet on curved sections.

Landscaping	Landscape planting area 4 (see Appendix C for details). Native plant landscaping would add to the visual aesthetics element of the site as viewed from Waterfront Drive. Native plants with low physical profiles are recommended to be planted on the south/east side of Waterfront Drive between the existing fence line and landward side of the proposed trail. Landscaping will be utilized for stormwater treatment and retention with vegetated and/or bioretention swales.
Lighting	None in this segment.
Parking	No new parking proposed. Removal of approximately 350 feet of curb-side parking along both sides of Waterfront Drive west of and adjacent to C Street (between two off-street parking lots on either side of Waterfront Drive).
Roadway Crossing	None in this segment
Roadway/Sidewalk	Trail would occupy the existing sidewalk and shoulder of Waterfront Drive. Centerline of roadway would be moved to the north and shoulders/parking removed.
Signage	Safety-related signage associated with crossing of railroad; stop sign and stop bar (limit line) at crossing of railroad.
Trail Amenities	None in this segment.

Segment 3: Improved Railroad Crossing West of C Street

South of the parking lot the proposed trail would turn north to cross the railroad tracks, at an approximately 60-degree angle, and would then continue west paralleling the tracks on the north side of the tracks. This crossing replaces the existing railroad/sidewalk crossing and is an improvement in terms of bicycle and pedestrian safety.

Landscaping	Landscape planting area 4 (see Appendix C for details). Replace existing sidewalk at rail crossing with vegetation to discourage undesired crossing.

Lighting	None in this segment. Lighting could be installed at the railroad crossing upon return of rail service.
Parking	No new parking proposed. No existing parking will be removed or impacted.
Roadway Crossing	None.
Railroad Crossings	One railroad crossing at a 60-degree angle
Signage	Safety-related signage associated with crossing of railroad; stop sign and stop bar (limit line) at crossing of railroad.
Trail Amenities	Concrete pad for art installation.

Segment 3: Improved Railroad Crossing to Commercial Street: Approximately 780 Feet
From the improved railroad crossing, the proposed trail will continue as stamped concrete. It crosses a driveway approximately 100 feet west of the improved railroad crossing, where the project enters the Balloon Track (described above). Approximately 100 feet west of the driveway, the railroad splits into two parallel railroad tracks, and then splits into three parallel railroad tracks. At this point, the trail would occupy the northernmost of the three rail lines between the existing sidewalk and the central rail line, while the southern two rail lines would remain intact. This occupation of railroad tracks is a temporary design and the City will negotiate improvements to another set of tracks if necessary upon return of rail service. The trail would continue to occupy the northernmost railroad line between the central railroad track and the sidewalk from the driveway crossing to the intersection with Commercial Street. Approximately 25 feet east of the Commercial Street intersection, the project would turn north towards Waterfront Drive to access a proposed improved crosswalk associated with Commercial Street.

Landscaping	Landscape planting area 4 (see Appendix C for details). Native plantings south of trail and between trail and sidewalk to enhance buffer of sensitive habitats.
Lighting	Proposed to illuminate driveway intersection.
Parking	No new parking proposed. No existing parking will be removed or impacted.
Railroad Crossings	None
Roadway Crossing	None
Signage	Safety-related signage associated with crossing of driveway and street intersection.
Trail Amenities	None in this location

Segment 4: Commercial Street to Washington Street (Balloon Track) : Approximately 2,900 Feet

At the approaches to Commerical Street, the project would be designed to curve northward towards Waterfront Drive in order to slow down bicylcists approaching the intersection. The intersection would be improved with a continental-style crosswalk with striping and ADA accessible curb ramps. Both trail approaches to the intersection would include stop signs and stop bar (limit line) striping to stop trail users (particularly bicyclists) before they cross Commerical Street. In addition, at these locations, pedestrian crossing signage and “no motor vehicle” signage would

be installed. Designs could accommodate bollards at the trail access points to prevent vehicles from accessing the trail if the City deems it necessary to install them in the future.

On both Commercial and Washington Streets, temporary improvement to the roadways is proposed to improve safety of both traffic and trail users by installing stop signs and stop bars for traffic behind the improved continental-style crosswalks. These intersections currently have no stop signs due to the location of multiple railroad tracks near the intersection. It is proposed that, until rail service return, traffic be required to stop at the intersection. Upon the return of rail service, this design would need to be modified.

From Commerical Street heading west, the trail would continue to run between the railroad tracks and the existing sidewalk (approximately 5 feet from the back of the sidewalk). Approximately 1,200' west of Commerical Street, the proposed Marina Center project proposes to extend 4th Street through the Balloon Track to intersect with Waterfront Drive. At the present time the Waterfront Drive Trail is being constructed without accomodating this potential future road crossing. However, it should be noted that if both of these independent projects were both approved and constructed, then the second to be constructed would require design modifications to accommodate the other project. For instance, in the event that the trail is built first, the trail would need to be modified to comply with roadway safety crossing requirements at the time that the 4th Street extension is constructed.

At this point approximately 1,200' west of Commercial Street (at the potential future 4th Street extension), a short secondary trail would deviate from the primary trail and lead to a crosswalk across Waterfront Drive allowing trail users to safely access the Eureka Marina and Warfinger Building.

Also at this point approximately 1,200' west of Commercial Street (at the potential future 4th Street extension), the primary Waterfront Drive Trail is proposed to shift eastward to occupy the western set of railroad tracks and would continue to occupy the tracks until Washington Street. The intent of moving the trail to this location is to avoid impacts to Clark Slough and to avoid the need to cross both sets of railroad tracks.

At Washington Street, the trail would leave the tracks as it approached the intersection. The proposed crossing at Washington Street would include all the elements described above associated with the Commercial Street crossing.

At Washington Street, the trail would leave the tracks as it approached the intersection. The proposed crossing at Washington Street would include all the elements described above associated with the Commercial Street crossing.

Landscaping Planting areas 3 and 4. Non-native invasive plant removal would occur and revegetation with native species would be planted to buffer Clark Slough.

Lighting Lighting consistent with that at the C Street Plaza is proposed at Commerical Street and Washington Street intersections, as well as at the crosswalk at the proposed 4th Street extension.

Multi-Use Trail Same as previous segment.

Parking No changes proposed.

Railroad Crossing The trail will occupy the rail corridor closest to Waterfront Drive, however the trial will not cross the rail corridor.

Roadway Crossing One crossing at Commercial Street and one crossing at Washington Street.

Signage Safety-related signage associated with crossing of Commercial and Washington Streets; stop sign and stop bar (limit line) at crossings.

Trail Amenities One bench, one public art installation, and one trash receptical cluster will be installed near the Eureka Marina crosswalk across Waterfront Drive. The cluster may include trash, recycling, and a pet waste station.

Segment 5: Washington Street to Crossing of Waterfront Drive: Approximately 739 Feet

Between Washington Street and W. 14th Street near Schmidbauer Mill and Schneider Property, the trail would continue on the east of Waterfront Drive to the location of a proposed street crossing where the trail would cross to the west side of the Waterfront Drive. An existing culvert just south of Washington Street will be extended by several feet. Drainage will be designed to protect the railroad tracks; stormwater will drain towards Waterfront Drive. A fence will be installed between the trail and the railroad tracks.

Landscaping Planting areas 3 and 4. Native species would be planted along edge of trail.

Lighting Lighting consistent with that at the C Street Plaza is proposed at intersections.

Parking No new parking proposed. No existing parking will be removed or impacted.

Railroad Crossing None

Roadway Crossing None

Signage Safety-related signage for both trail and roadway traffic associated with crossing of Washington Street; stop sign and stop bar (limit line) at crossing of Washington Street.

Trail Amenities Bench at south side of Washington Street.

Segment 6: Crossing of Waterfront Drive: Approximately 45 Feet

The trail would be on the east/south side of Waterfront Drive from the northern end of the project at C Street to the point at which the railroad tracks cross Waterfront Drive, approximately 750 feet south of Washington Street. At this point the trail would continue to parallel the railroad tracks and cross both lanes of traffic of Waterfront Drive, with a 10' wide pedestrian refuge island between the lanes. The trail would be designed to curve towards Waterfront Drive in order to slow down bicylcists approaching the interseciton. The intersection would be improved with a continental-style crosswalk with striping and ADA accessible curb ramps. The trail approach to the intersection would include a stop sign and stop bar (limit line) striping to stop trail users (particularly bicyclists) before they cross Waterfrtont Drive. In addition, at this location at the start of the trail, pedestrian crossing signage and "no motor vehicle" signage would be installed per the Manual of Uniform Traffic Control Devices (MUTCD). Finally, if

determined necessary and safe, bollards could be installed at the entrances to the trail to inhibit vehicals from accessing the trail.

Landscaping Planting area 4.

Lighting Lighting consistent with that at the C Street Plaza is proposed at the intersection.

Parking No new parking proposed. Current informal use of the rail corridor as a parking lot will be displaced. Parking is provided by employers and on-street parking opportunities. Approximately 200 feet of parking would be removed (red-striped).

Railroad Crossing None

Roadway Crossing Crossing of Waterfront Drive

Signage Safety-related signage for both trail and roadway traffic associated with crossing of Waterfront Drive; stop sign and stop bar (limit line) at crossing of Waterfront Drive.

Trail Amenities None in this location

Segment 7: West Side of Waterfront Drive to Southern Terminus (Del Norte Street): Approximately 2,300 Feet

The trail is closest to the coast along this segment. On the west side of the crossing of Waterfront Drive, the trail would temporarily occupy an out-of-service spur to the Schneider Dock for approximately 300'. From this point, the trail would run on the west side of the railroad between the tracks and a drainage ditch along an existing unpaved access road in the railroad right-of-way and directly adjacent to the railroad. In effect, the existing unpaved access road (currently also used as a trail) would be formalized and paved. From the crossing of Waterfront Drive, the project would cross an unnamed driveway and a driveway at West 14th Street. These driveways would be paved and safety signage will be installed on the trail to warn users that traffic may be present. After crossing W. 14th Street, the trail would run parallel to a previously remediated linear wetland ditch, which was contaminated by the former Eureka Plywood Mill. However, the project would not impact this ditch or its associated wetlands and would not impact groundwater. Invasive plant management, native plant restoration and a native plant shrub buffer would be planted between the remediated wetland and the trail to ensure no impacts to the sensitive habitat. The trail is closest to the coast along this segment. At Del Norte Street, the project would cross east over the railroad tracks to enable trail users to cross the Del Norte Street intersection with the same safety features as Washington and Commercial Streets (see above).

Landscaping Planting Areas 1, 3 and 4. Along this segment, non-native vegetation removal would occur, native plant restoration would occur, and a native plant screen as a wetland buffer would be planted.

Lighting None.

Parking No changes proposed.

Railroad Crossing None proposed. Temporary use of a out-of-service spur to the Schneider Dock is proposed on the west side of Waterfront Drive.

Roadway Crossing Crossing of Waterfront Drive

Signage Potential 'use guideline' sign to communicate status of railroad crossing access/use or a related safety warning.

Trail Amenities None in this location

Segment 8: Del Norte Street Public Use Area & Fishing Pier

The southern extent of the proposed trail is the W. Del Norte Street area where the trail would connect to an existing CCT and Eureka Waterfront Trail segment that runs through the Palco Marsh to the south. In this area, the trail would cross W. Del Norte Street, connecting to both the Palco Marsh CCT and the W. Del Norte Street Pier and day use area.

Landscaping Invasive plant management is proposed in this area, as well as a native plant buffer to protect Palco Marsh connection, and native plantings for beatification at the trailheads and in the day use area.

Lighting None

Multi-Use Trail Surfacing improvements to existing sidewalk will include: removal of light post on south side of Del Norte Street to allow for a wider path. Improvements to Palco Marsh Trail access would include removal of gate and installation of an improved trail ramp and access control features.

Parking No changes proposed.

Railroad Crossing Crossing of Railroad at Del Norte Street.

Roadway Crossing Crossing of Del Norte Street.

Signage Signage to indicate the start of each segment of trail will be located on either side of Del Norte Street, including a CA Coastal Trail insignia. Trailhead informational signage – including a map and user/safety guidelines – will be located on the south side of Del Norte Street at the entrance to Palco Marsh. Safety-related signage associated with crossing of Del Norte Street and Railroad; stop sign and stop bar (limit line) at crossing of Del Norte Street.

Trail Amenities One trash receptical cluster will be installed on the south side of the Del Norte Street crosswalk. The cluster may include trash, recycling, and a pet waste station. A concrete pad for public art installation would be installed near W 14th Street.

Trail Design

For an overview of the project design, see Figures 4-1 through 4-19 (Attachment A). The project has been designed to meet the operational needs of adjacent and intersecting roadways, the railway system, area businesses, and a variety of potential trail users. Planning, design, and implementation standards were derived from the following sources:

- *North Coast Railroad Authority: Policy & Procedures Manual Section 0907: Trail Projects on the NWP Line Rights-of-Way: Design, Construction, Safety, Operations, and Maintenance Guidelines, 2009*
- *Public Utilities Commission of the State of California: General Order No. 26-D: Regulations Governing Clearances on Railroads and Street Railroads with Reference to Side and Overhead Structures, Parallel Tracks, Crossings of Public Roads, Highways and Streets.*
- *Caltrans: Highway Design Manual (Chapter 1000: Bikeway Planning and Design), 2006.*
- *American Association of State Highway and Transportation Officials (AASHTO), A Policy on Geometric Design of Highways and Streets, 2004.*
- *AASHTO, Guide for the Development of Bicycle Facilities, 1999.*
- *U.S. Department of Transportation (USDOT), Federal Highway Administration (FHA), Manual of Uniform Traffic Control Devices (MUTCD), 2003.*
- *California Manual of Uniform Traffic Control Devices (CAMUTCD), 2006 (FHWA's MUTCD 2003 edition as amended for use in California).*
- *Institute of Transportation Engineers (ITE), Design and Safety of Pedestrian Facilities, 1998.*
- *U.S. Department of Transportation Federal Highway Administration: Evaluation of Safety, Design, and Operation of Shared-Use Paths Final Report, 2006.*
- *Rails-with-Trails: Lessons Learned, U.S. Department of Transportation, August 2002.*
- *Rails-to-Trails Conservancy, Rails-with-Trails, Sharing Corridors for Transportation and Recreation, 1996.*

The following General Design Characteristics have been developed in compliance with the above Design Standards:

- *Minimum Tread Width: 8 feet, but trail is primarily 10 feet wide*
- *Minimum shoulder width: 2 feet on each side of trail tread surface where space allows*
- *Minimum setback from edge of roadway to edge of tread: 5 feet (without a barrier)*
- *Minimum setback from edge of roadway to edge of tread: 2 feet (with barrier)*
- *Minimum setback from railroad track centerline to obstructions or edge of trail tread: 8.5 feet on tangent sections of tracks and 9.5 feet on curved sections of tracks*
- *Minimum setback from edge of tread to obstructions and buildings: 2 feet*
- *Minimum Vertical Clearance: 8 feet (10 feet if emergency vehicles use trail or at undercrossings, etc)*
- *Minimum Design Speed: 20 mph*
- *Maximum Gradient: 5%*
- *Minimum Curve Radius: 90 feet*
- *Maximum Fence Height: 48"*
- *Minimum Fence Height: 36"*
- *Minimum Angle at which Trail can cross Railroad Tracks: 45°*
- *ADA Accessibility: It is the intention to make all portions of the trail ADA accessible*

Segments Adjacent to Roadways: In compliance with FHWA and Caltrans standards for a Class I Bikeway, segments of the trail adjacent to roadways will separated by 5 feet and include a physical barrier (concrete barrier or fence).

Roadway and Driveway Crossings: Will be ADA accessible and include warning signage and markings both on the trail and the approaching vehicular way.

Signage and Striping: Trail will include yellow centerline striping and additional warning signage and striping approaching intersections with existing roads and railroad crossings. In addition, signage will be added along the trail warning users of curves, bends, and other hazardous situations.

Speed Control: Speed control can only be maintained through signage and striping; speed bumps or other surface irregularities are not permitted to control the speed of bicycles and other non-motorized vehicles.

Bollards: If determined necessary, bollards could be installed at trail intersections and entrances to prevent vehicles from entering a trail, with a maximum separation of five feet between bollards. Bollards could be located adjacent to the trail with a removable center bollard for emergency and maintenance access. Bollards would not be located in travel lanes. Bollards would be designed to be visible to bicyclists and others, especially at night time, with reflective materials and appropriate striping guiding bicyclists around the center bollards.

Intersection Crossings: Intersections would be improved with continental-style crosswalks with striping and ADA accessible curb ramps. Trail approaches to intersections would include stop signs and stop bar (limit line) striping to stop trail users (particularly bicyclists) before they cross the intersection. In addition, at these locations, pedestrian crossing signage and "no motor vehicle" signage would be installed. Finally, bollards could be installed at the mouths to the trail to inhibit vehicles from accessing the trail.

Drainage: Design standards for the project require a 2% cross slope, except along cut sections where uphill water must be collected in a ditch and directed to a catch basin, in which case water would be directed under the trail in a drainage pipe of suitable dimensions. See sections below that address bridges, culverts, stormwater, and drainage for additional details regarding drainage for the project.

Typical Examples:
The Rail with Trail standards includes a minimum setback from the railroad track centerline to obstructions or edge of trail tread: 8.5 feet on tangent sections of tracks and 9.5 feet on curved sections of track. Followed by a multi-use trail with minimum tread width of 8 feet, but a 10 foot width will be applied wherever possible, a 2 foot shoulder width is required on each side of the trail tread and can include a planting strip or buffer. A project goal is for the entire trail to meet Class I trail standards. The trail will be parallel and adjacent to the sidewalk and roadway.

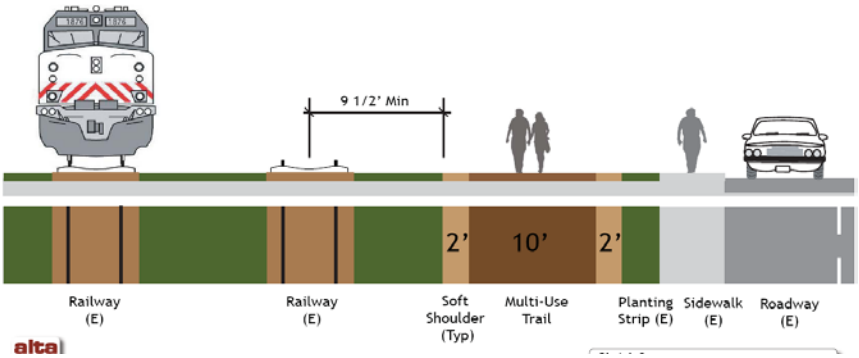


Diagram 1: Typical Proposed Eureka Waterfront Rail with Trail.

Conventional Trail: Will mimic the same regulatory requirements as the Rail with Trail; A two foot wide buffer between the road and parking areas to accommodate the 10 foot wide multi-use trail.

LEAD AGENCY/CONTACT: City of Eureka, Community Development Department; Robert S. Wall, AICP, Director; 531 K Street, Eureka, CA 95501-1165; phone: (707) 441-4160; fax: (707) 441-4202; e-mail: rwall@ci.eureka.ca.gov

SURROUNDING LAND USES AND SETTINGS: The City of Eureka is adjacent to Humboldt Bay, the second largest bay in the State. The City is approximately 275 miles north of San Francisco, 100 miles south of the Oregon border, and 216 miles northwest of State Capitol. The City was settled in May of 1850, while the town government was incorporated on April 18, 1856 through a special act of the State Legislature. The town was re-incorporated as a City in 1874. As the county seat for the 572 square mile Humboldt County, Eureka is the center of business and government; the major industries include agriculture, fishing and tourism. The average high temperature is 64°F and the average low temperature is 50°F. The average July temperature is 63°F; the average December temperature is 40. °F. The average annual precipitation is 38.1 inches.

The proposed trail corridor is currently mixed use consisting of industrial and commercial properties and activities.

Biological resources within the coastal zone are subject to the California Coastal Act of 1976. The major components of the Coastal Act that pertain to the proposed project are the protection of wetlands and ESHAs. The California Coastal Commission regulates impacts to wetlands, environmentally-sensitive habitat areas (ESHAs), visual quality, and historic resources within the Coastal Zone.

OTHER PUBLIC AGENCIES WHOSE APPROVAL IS, OR MAY BE REQUIRED (e.g. permits, financing approval, or participation agreement.): California Coastal Commission, U.S. Army Corps of Engineers, North Coast Regional Water Quality Control Board, California Department of Fish and Game, Caltrans, California Public Utilities Commission, North Coast Railroad Authority, Humboldt Bay Harbor, Recreation and Conservation District.

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
- ❑ Agricultural Resources
- ❑ Air Quality
- ❑ Biological Resources
- ❑ Cultural Resources
- ❑ Geology/Soils
- ❑ Green House Gas Emissions
- ❑ Hazards/Hazardous Materials
- ❑ Hydrology/Water Quality
- ❑ Land Use/Planning
- ❑ Mineral Resources
- ❑ Noise
- ❑ Population/Housing
- ❑ Public Services
- ❑ Recreation
- ❑ Transportation/Traffic
- ❑ Utilities/Service Systems
- ❑ Mandatory Findings of Significance

DETERMINATION: 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** will be prepared.

☑ I find that although the proposed project could have a significant effect on the environment, there will 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** will be prepared.

❑ I find that the proposed project **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 those effects that remain to be addressed.

❑ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier **EIR** or **NEGATIVE DECLARATION** pursuant to applicable standards, and (b) have 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.

Rob Wall

Robert S. Wall, AICP
Planning Director, City of Eureka

5-16-12

Date

CHECKLIST AND EVALUATION OF ENVIRONMENTAL IMPACTS: An explanation for all checklist responses is included, and all answers take into account the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts. The explanation of each issue identifies (a) the significance criteria or threshold, if any, used to evaluate each question; and (b) the mitigation measure identified, if any, to reduce the impact to less than significant. In the checklist below the following definitions are used:

"**Potentially Significant Impact**" means there is substantial evidence that an effect may be significant.

"**Potentially Significant With Mitigation Incorporated**" means the incorporation of one or more mitigation measures can reduce the effect from potentially significant to a less than significant level.

"**Less Than Significant Impact"** means that the effect is less than significant and no mitigation is necessary to reduce the impact to a lesser level.

"**No Impact"** means that the effect does not apply to the proposed project, or clearly will not impact nor be impacted by the project.

I. AESTHETICS. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?			✓	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?				✓
c) Substantially degrade the existing visual character or quality of the site and its surroundings?			✓	
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?		✓		

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers whether the proposed project may have any significant effects on visual aesthetics because of: (a) the short-term or long-term presence of project-related equipment or structures; (b) project-related changes in the visual character of the project area that may be perceived by residents or visitors as a detraction from the visual character of the project area; (c) permanent changes in physical features that would result in the effective elimination of key elements of the visual character of the project area near a State scenic highway; or (d) the presence of short-term, long-term, or continuous bright light, such as from welding or nighttime construction, that would detract from a project area that is otherwise generally dark at night or that is subject to artificial light.

DISCUSSION: With regard to scenic vistas and scenic resources, the principle purpose of the proposed Waterfront Drive Trail project is to provide self-guided access to Humboldt Bay and its viewsheds by utilizing a dedicated trail and existing day use areas. The project area is in the coastal zone, and therefore subject to applicable coastal scenic resource protection measures. The vistas in the area of the proposed trail include views of Humboldt Bay and of existing Eureka waterfront development including a variety of coastal commercial, recreational, and light industrial uses. Some areas of the proposed trail alignment include views of Woodley and Indian Islands, and the Samoa peninsula.

The proposed trail alignment runs near existing streets and railroad tracks which are generally separated from Humboldt Bay by a distance of over 300 feet. Views toward the Bay vary, but are typically obscured by buildings, freight and material storage areas, vegetation, or other features. The Bay is visible from some portions of the proposed alignment. Views away from the Bay are similar, with maritime streetscapes, abandoned industrial yards, and commercial/industrial development. Implementation of the project would not block or alter any of these existing views. Views of the project would be relatively limited as the project consists mostly of a narrow paved trail surface. Signs associated with the project would be consistent with the existing signage in the project area. The alignment itself falls entirely within previously disturbed areas including; streets, railroad tracks, and industrial yards.

I a) The project would have a less-than-signification impact on existing or planned scenic vistas. No designated scenic vistas (existing or planned) occur within visual range of the project. Impacts to existing (undesignated) vistas in the study area would not be impacted by the project as it consists of a narrow paved pathway and signage that is consistent with the current uses in the area.

I b) The project does not include removal or alterations to any existing scenic resources, including trees, rock outcroppings, or historic buildings and would therefore have no impact.

I c) The project is expected to improve the scenic quality/character of the area by: relocation of security fencing at Balloon Track, removal of invasive plants in portions of the project study boundary (including tall Pampas Grass that blocks views); improved surfacing, improved drainage in parking areas, installation of native landscaping and interpretive signage, and by attracting multiple trail user groups that may deter littering and other unsightly activity. The temporary fence that will be removed would be replaced by the City south/east of the trail if the Trail Project is constructed before the Marina Center Project.

Temporary adverse visual impacts may occur from construction disturbance and decaying plant matter generated by invasive species treatment. Although fennel is a plant that naturally dies back and appears brown throughout the rainy season, pampas grass is green throughout the rainy season and would likely become visibly brown as a result of control measures. This may slightly detract from visitor experience on a temporary basis until the plants become fully decayed or removed. This impact would be short term. In the long-term aesthetics throughout the corridor would improve for the reasons mentioned above.

I d) A minimal amount of low-level, low glare lighting will be constructed at locations in which the trail intersects roadways and railroad tracks to provide public safety. Nighttime glare will increase slightly where lighting is installed in the project area. **Mitigation Measure I-1** is included to reduce the impacts of new light sources to a less than significant level.

FINDINGS: Therefore, based on the discussion above, the project will not result in significant adverse aesthetic impacts. The project is expected to improve aesthetics and visitor access to scenic vistas in the project area.

MITIGATION MEASURES:

Mitigation Measure I-1: To avoid adverse impacts, new sources of light, including any outside night lighting associated with construction, will be designed to protect wildlife and nighttime views, including views of the night sky. This design goal will be satisfied using a variety of means as

applicable, including fixture types, cut off angles, shields, lamp arm extensions, and pole heights. Specific design preferences include not directing light upward or to other properties, avoiding brightly illuminated vertical surfaces where feasible, such as walls and lamp poles, and not directing lighting toward environmentally sensitive habitats. The Recommended Practices (RPs) of the Illuminating Engineering Society of North America (IES) should be consulted for lighting levels and quality of light.

Timing for Implementation/Compliance: Final design and construction.
Person/Agency Responsible for monitoring: City of Eureka official.
Monitoring Frequency: Prior to project approval and during implementation.
Evidence of Compliance: Completion of and adherence to required documents.

II. AGRICULTURE RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
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?				✓
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				✓
c) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?				✓

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree the proposed project would: (a) change the availability or use of agriculturally important land areas designated under one or more of the programs above; (b) cause or promote changes in land use regulation that would adversely affect agricultural activities in lands zoned for those uses, particularly lands designated as Agriculture Exclusive or under Williamson Act contracts; or (c) change the availability or use of agriculturally important land areas for agricultural purposes.

DISCUSSION:
II a, b, c) Farmlands and lands of a size suitable for agricultural production exist within City Limits, however, the project site has no farmlands, nor lands of a size and soil composition suitable for agricultural production, and no such lands exist on adjacent or nearby properties. As such, the project is expected to have no impact upon agricultural resources

FINDINGS: Therefore, as discussed above, the project would have no impact on farmlands or agricultural lands.

III. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?		✓		
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?		✓		
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?		✓		
d) Expose sensitive receptors to substantial pollutant concentrations?			✓	
e) Create objectionable odors affecting a substantial number of people?			✓	

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree the proposed project would (a) directly interfere with the attainment of long-term air quality objectives identified by the North Coast Unified Air Quality Management District; (b) contribute pollutants that would violate an existing air quality standard, or contribute to a non-attainment of air quality objectives in the project's air basin; (c) produce pollutants that would contribute as part of a cumulative effect to non-attainment for any priority pollutant; (d) produce pollutant loading near identified sensitive receptors that would cause locally significant air quality impacts; or (e) release odors that would affect a number of receptors.

DISCUSSION:

III a, b) The North Coast Air Basin is comprised of Del Norte, Trinity, and Humboldt, Mendocino, and northern Sonoma counties, with the North Coast Unified Air Quality Management District (NCUAQMD) having regulatory jurisdiction responsible for monitoring and enforcing Del Norte, Trinity, and Humboldt counties. The Air quality standards are set for emissions that may include, but are not limited to: visible emissions, particulate matter, and fugitive dust. Pursuant to Air Quality Regulation 1, Chapter IV, Rule 400 – *General Limitations*, a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property.

The North Coast Air Basin is currently in attainment (or is unclassified) of all State and Federal ambient air quality standards, with the exception of the State standard for particulate matter less than ten micrometers in diameter (PM_{10}). PM-10 air emissions include chemical emissions and other inhalable particulate matter with an aerodynamic diameter of less than 10 microns. The greatest sources of PM_{10} are human-caused area-wide sources, such as motor vehicles, wood burning stoves and fireplaces, dust from construction, landfills, and agriculture, wildfires and brush/waste burning, industrial sources, and windblown blown dust from open lands, airborne salts and other particulate matter naturally generated by ocean surf (Air Resources Board 2010a). With regard to PM-10 air emissions, all of Humboldt County has been designated by the California State Air Quality Board as being in "non-attainment." Moreover, nearly all areas of the State are classified as non-attainment for PM_{10} (Air Resources Board 2010b).

Humboldt County exceeds the State standard for PM-10 air emissions partially due to a large number of wood stoves, generally heavy surf, and high winds common to this area. Therefore, any use or activity that generates unnecessary airborne particulate matter may be of concern to the NCUAQMD. Due to the limited amount of dust and other small particulate matter that would be emitted as a result of this project it is not expected to cause a significant or measurable increase in PM-10 emissions. The proposed project could potentially contribute to PM-10 in part through a small increase in vehicle traffic caused by trail users driving to the project site. PM-10 is emitted directly from vehicle exhaust and is also formed by secondary reactions in the atmosphere from other combustion gases. In addition, there are PM-10 emissions from tire wear, brake wear and from entrainment of road dust. However, the amount of traffic generated is expected to be very minimal and therefore traffic for the proposed project will not significantly increase the PM-10 emissions.

Pursuant to Air Quality Regulation 1, Chapter IV, Rule 400 – General Limitations, a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property. Visible emissions include emissions that are visible to the naked eye, such as smoke from a fire. The project is not expected to produce any source of visible emissions except for minimal dust due to site-grading discussed below. This potential impact would be reduced to less than significant with incorporation of **Mitigation III-1**, below.

The project will not result in adverse air quality impacts including exceeding or violating any air quality plan.

III c) The closest air basin monitoring station to the project site is located in Eureka on 6th Street and I Street, less than 0.5 miles east of the project site. For the purposes of this analysis, the I Street monitoring station data is considered reflective of the project site. From 2006-2009, data collected at the monitoring station exceeded the California 24-hour PM_{10} standard of 50 micrograms per cubic meter on average five days a year. In addition, data collected at the monitoring station exceeded the California three-year average standard greater than 20 micrograms per cubic meter each of these years (Air Resources Board 2010c).

The construction and demolition activities involved with the proposed project will result in temporary emissions of diesel and gasoline engine combustion products and earthen dust. The project involves a relatively low level of construction activity, limited in scope and duration, with respect to air quality, and the net increase to PM_{10} will be minor and temporary. These ordinary construction emissions will not result in violations or attainment plan conflicts. Although minor potential impacts are expected, they will be less than significant with incorporation of Mitigation Measure III.1, below.

The project would not directly contribute any air emissions once the project is in full operation, because only non-motorized use is allowed on the trail. The proposed project would also provide a multi-use, ADA accessible trail through the Eureka Waterfront, thus potentially reducing vehicle miles traveled (VMT) and resulting in a beneficial air quality impact. The proposed project would not obstruct implementation of the NCUAQMD Particulate Matter Attainment Plan, violate air quality standards, or contribute substantially to an existing or projected air quality violation.

However, the project may result in an increased number of vehicle trips to the project vicinity to make use of the trail (see Section XVI Transportation for further discussion on increased traffic). When viewed together with background vehicle emission levels, and considering that any increase in motor vehicles trips is likely to cause a corresponding increase in non-motorized activity on the trail, PM_{10} emissions related to the project are expected to be less than significant.

Non-motorized vehicle use on the trail is expected to significantly increase when the Eureka Waterfront Trail is connected with the existing Palco Marsh Coastal Trail which will connect to the planned Elk River Trail, public access to the Elk River Wildlife Sanctuary to the south and to the existing Promenade Coastal Trail planned California Coastal Trail to the north of the proposed trail.

In 2003 it was estimated that the average PM10 emission in Humboldt County was 0.48 tons/day (175.20 tons/year). A de minimis threshold of 10 percent of a county's or air basin's criteria pollutant budget is commonly used as a threshold of significance. Although a budget or specific thresholds have not been set for any criteria pollutants in the North Coast Air Basin (NCAB) by the NCUAQMD, project emissions could be considered significant if over 10 percent of what the area averagely emits (significant if project emits over 0.048 tons/day or 17.52 tons/yr). Construction of the project would not result in violations of air quality standards or emissions above the de minimis threshold; however, without mitigation the potential for conflicts with the NCUAQMD Particulate Matter Attainment Plan would exist as the NCAB is in nonattainment for PM10.

Given the relatively small footprint of the project, short duration of construction activities, and limited used of machinery and equipment it is not anticipated that construction activities would result in PM10 emissions above the de minimus threshold. It is not anticipated than any of the criteria pollutants would be emitted at a significant level. For comparison, the construction of a small WWTF and installation of associated infrastructure is estimated to emit approximately 6.5 tons of PM10 per year using URBEMIS (urban emissions) 2002 Version 8.7 (Rio Dell Wastewater Reuse Project DEIR, October 2007). This is well below the de minimis threshold of 17.52 tons/yr, for a project that required much more time, earthwork, and machinery for construction than the proposed project. Greenhouse gases (GHG) related to construction are anticipated to be emitted at less than a significant level given the small foot print, short duration, and limited use of machinery. Therefore, impacts would be less than significant.

III d) The proposed project is not located directly adjacent to a sensitive receptor (e.g. hospitals, daycare centers, schools, etc.). Construction would temporarily generate dust and emissions. The project is not expected to result in significant air quality impacts to sensitive receptors, because the project would only emit dust and exhaust fumes from construction vehicles for a relatively short period during the construction period and sensitive receptors are not adjacent to the project. Construction would meet all applicable local, State and Federal standards for building construction, debris disposal and pollutant control. Therefore, impacts would be less than significant.

III e) The project would not create odors that could reasonably be considered objectionable by the general public. The project is, however, within an area of existing commercial and industrial activity that may expose trail users to objectionable odors. In particular, existing fish and seafood processing facilities near the northern end of the proposed alignment are known to frequently create strong odors. In addition, during times of low tide, the Bay may produce objectionable odors. However, the project area is already predominantly accessible to the public and users of the proposed trail would be able to use the trail to move beyond areas that may produce objectionable

odors at any given time. Therefore, impacts would be less than significant.

FINDINGS: Based on the conclusions above and the mitigation measure listed below, the project will not result in any significant adverse air quality impacts, nor result in a cumulatively considerable increase in PM-10 emissions. Therefore, impacts would be less than significant.

MITIGATION MEASURES:

Mitigation Measure III-1: The applicant and/or construction designee, at all times, shall comply with Air Quality Regulation 1, Chapter IV to the satisfaction of the NCUAQMD. This will require, but may not be limited to:

1. Water all active construction areas as needed per the direction of the City and the RWQCB and use erosion and sediment control measures to prevent water runoff containing silt and debris from entering the storm drain system.
2. Cover trucks hauling soil, sand, and other loose material.
3. Pave, water, or apply non-toxic soil stabilizers on unpaved access roads and parking areas.
4. Sweep paved access roads and parking areas daily.
5. Sweep streets daily if visible material is carried onto adjacent public streets.

Timing for Implementation/Compliance: During construction.
Person/Agency Responsible for monitoring: City of Eureka official.
Monitoring Frequency: Throughout construction.
Evidence of Compliance: Adherence to requirements.

IV. **BIOLOGICAL RESOURCES**. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
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?		✓		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		✓		
c) Have a substantial adverse effect on Federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?		✓		
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?			✓	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			✓	

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?			✓	

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers whether the proposed project would result in a significant adverse direct or indirect effects to: (a) individuals of any plant or animal species (including fish) listed as rare, threatened, or endangered by the Federal or State government, or effects to the habitat of such species; (b) more than an incidental and minor area of riparian habitat or other sensitive habitat (including wetlands) types identified under Federal, State, or local policies; (c) more than an incidental and minor area of wetland identified under Federal or State criteria; (d) key habitat areas that provide for continuity of movement for resident or migratory fish or wildlife, or (e) other biological resources identified in planning policies adopted by the City of Eureka.

DISCUSSION: This discussion is based on the GHD Inc. (formerly W&K) 2012 Wetland Delineation and W&K 2011 Natural Features Inventory (NFI) completed for the proposed project (Appendix B, D).

IVa)
Summary - No special status plants or animals are expected to be impacted by the proposed project. The highly modified and degraded habitat that would be impacted by the proposed trail does not meet the habitat requirements for the rare plants or wildlife known to occur in the vicinity. Standard BMPs directed at preventing construction-related water quality impacts should be implemented to avoid indirect impacts to special status fish species known to inhabit nearby Humboldt Bay (see **Mitigation Measure IX-1, Hydrology and Water Quality).**

Plants- W&K conducted CNDDB sensitive plant species searches for the project area to identify known occurrences of threatened, endangered, or other special-status or sensitive plant species (DFG, 2010). W&K eliminated most CNDDB-listed plants from further consideration because habitat requirements were not met within any portion of the study area. Many of the plants eliminated from consideration require coastal sand dunes, coastal bluffs, or forested environments, which are not present in the study area. The remaining CNDDB-listed plants generally require coastal salt marsh habitat, which occurs in portions of the study area.

Past rare plant surveys and evaluations of the Balloon Track and Former Eureka Plywood Ditch found that these portions of the study area either did not contain suitable habitat for the subject species, or, where suitable habitat was present, the species were shown though surveys to be absent (Huffman, 2008a; W&K, 2007b). For the remainder of the study area not previously evaluated for the rare plants listed in W&K conducted field investigations to determine habitat suitability for the CNPS-listed plants. Although ditch/marsh habitat exists in portions of the remaining study area, it does not represent suitable salt marsh habitat for the subject species due to a lack of saltwater influence and high level of disturbance. The lack of suitable habitat and the absence of any past species occurrence records virtually eliminate the possibility that any CNPS-listed plants occur in the study area. Seasonally-appropriate surveys to confirm absence of CNPS-listed species were not conducted.

Animals- W&K evaluated CNDDB-listed special status animal species with the potential to occur in the study area (W&K, 2011). Special status species known in the vicinity of the study area include: federally threatened California Coast Evolutionary Significant Unit (ESU) chinook salmon

(*Oncorhynchus tshawytscha*), federally threatened Southern Oregon and Northern California Coast ESU coho salmon (*Oncorhynchus kisutch*), Northern California ESU steelhead (*Oncorhynchus mykiss*, state species of special concern coast cutthroat trout (*Oncorhynchus clarkii clarkia*), federally endangered tidewater goby (*Eucyclogobius newberryi*), sandy beach tiger beetle (*Cicindela hirticollis gravida*), the federally threatened western snowy plover (*Charadrius alexandrinus nivosus*) and the federally endangered California clapper rail (*Rallus longirostris obsoletus*), and state listed (recently federally delisted) American peregrine falcon (*Falco peregrinus*). The CNDDB also lists heron and egret rookeries on nearby Indian Island, but these are not further discussed herein due to the distance to the rookery locations and the relative lack of risk associated with the proposed project.

Special Status Fish - There are several special status fish, including federally threatened and endangered species that may be present during various times of the year within Humboldt Bay. W&K did not conduct physical surveys for these species and the Bay is not within the NFI study area. Construction and earthmoving in close proximity to the Bay has the potential to cause water quality impacts that could result in indirect impacts to these species.

Special Status Birds - The California clapper rail requires abundant pickleweed habitat that does not occur within the study area. The clapper rail has not been documented in the area since a CNDDB-listed 1932 occurrence in the Indian Island and is, therefore, assumed absent from the study area. The federally threatened western snowy plover is known from sandy areas on the North Humboldt Bay Spit and Elk River Spit, but requires loose sandy areas for nesting. This habitat type is not present and the species is assumed not to occur within the study area. The federally delisted American peregrine falcon was observed on the Balloon Track in 2007 and is known to occur in the study area (Huffman, 2008a). The project area may offer some marginal foraging ground for the falcon, but it does not represent a suitable nesting area.

Special Status Insects – The sandy beach tiger beetle is a CNDDB-listed rare species but does not have a state of federal listing status. The species is known from a 1905 record in shoreline areas near Eureka and is believed extirpated from the area.

IVb, c)

Summary - The proposed trail alignment is entirely within developed and degraded areas and, therefore, generally avoids impacts to sensitive biological habitats. With the possible exception of an area of low-quality one-parameter wetland, the proposed construction footprint occurs entirely within developed urban streets/sidewalks and low value weedy upland habitat adjacent the NCRA railroad tracks.

Wetlands - A wetland delineation conducted by GHD in May 2012 (Appendix D) identified one three parameter wetland area with a potential to receive direct and indirect impact from the project (Wetland 1, Figure 4.14). Wetland information in the delineation supersedes preliminary wetland information in the Natural Features Inventory (Appendix B). A jurisdictional determination has not yet been conducted (this will be accomplished as part of the permitting process), but USACE-verified three-parameter wetlands are subject to USACE jurisdiction and are considered environmentally sensitive habitat (ESHA) by the Coastal Commission. Although the current design shows a very narrow (1'-2') trail footprint encroachment into Wetland 1, the trail can be adjusted slightly to avoid direct impacts to Wetland 1, as required by **Mitigation Measure IV-1a**.

Because the trail runs in close proximity to Wetland 1, and the 2007 wetlands located at the southerly terminus of the trail, construction will likely result in temporary construction-related wetland impacts. Impacts may include inadvertent side-casting, equipment intrusion, and worker foot traffic among other minor ground disturbing activities within approximately 160 square feet of the wetlands. **Mitigation Measure IV-1b** requires practicable avoidance and minimization of temporary impacts to this wetland during construction, and restoration of pre-project conditions at the conclusion of construction, thereby reducing anticipated temporary impacts to Wetland 1 below a threshold of significance.

All other identified wetlands in the study area would be avoided by the proposed trail alignment. The trail will, however, permanently encroach within approximately 692 square feet of a small one-parameter urban drainage structure developed for storm water conveyance, as identified as Area 3 in Figure 3.2. Additional temporary construction impacts may occur in approximately 448 square feet of Area 3. As described in the wetland delineation, the area has hydrophytic vegetation, but does not exhibit wetland hydrology or wetland soil indicators. This area is predominately comprised of non-native plant species. The dominate vegetation in this area is dune willow (facultative wet - FACW) and many non-native invasive plants, such as birds foot trefoil (facultative - FAC) and creeping bentgrass (facultative wet - FACW). The soils were characterized as imported fill with soils textures of loam, silt loam, and sandy loam. Redoximorphic features typical of wetlands were not observed. The water table was observed at 15.5 inches below ground surface. Based on observation of wetland indicators, the wetland delineation concludes that Area 3 is not a coastal wetland or an ESHA because the facultative plants present are not growing as hydrophytes. As with all disturbed soil areas, temporary ground disturbance within Area 3 would be subject to BMPs to prevent erosion and sedimentation from trail improvement construction (see **Mitigation Measure IX-1**, in Hydrology and Water Quality section, below).

ESHA Protection – As identified in the wetland delineation and Natural Features Inventory for the project, the proposed trail would be adjacent to degraded wetland habitat in several areas. Local LCP [Zoning Ordinance Section 156.052 (D)] and California Coastal Act regulations (Section 30240) require the protection of environmentally sensitive habitat areas (ESHA) when a project has the potential to directly or indirectly impact an adjacent ESHA, such as a wetland. Although the ESHA throughout much of the alignment is severely degraded, several project design features would act to improve existing habitat values in these areas. As discussed in the project description, the project would establish several landscaped areas to provide protection and a natural buffer between sections of the trail and adjacent ESHA. The planting plan for the project (Appendix C) includes native plants with habitat-specific planting specifications for areas adjacent to ESHA. In addition to landscaping, the following project measures and existing circumstances would serve to protect ESHA and natural habitat:

- Construction of the trail would permanently eliminate the existing invasive vegetation that lies within the trail alignment.
- Wetland, ESHA, and sensitive habitat setbacks will be maintained to the greatest extent practicable.
- Protective measures will be put into place during construction to prevent or minimize temporary wetland impacts from construction and pedestrian/vehicle traffic.
- The city's leash law will assist in limiting disturbance by dogs along the trail.
- Mitigation Measure I-1 insures protection of ESHA from lighting impacts.

Based on the above discussion, there will not be any significant direct or indirect impacts to juxtaposed ESHA.

IV d) 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, or impede the use of native wildlife nursery sites.

IV e) The project would be constructed in compliance with City policies or ordinances protecting biological resources, including all applicable policies of the City Local Coastal Program.

IV f) The project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.

FINDINGS: With the incorporation of mitigation, the proposed project would have a less than significant adverse impact on biological resources (See also Mitigation Measures in the Hydrology and Water Quality Section of this Initial Study).

MITIGATION MEASURES:

Mitigation Measure IV-1a: Direct permanent impact to or fill within Wetland 1 (as identified in Figure 4.14) shall be avoided by adjusting the final design of the trail footprint to avoid the Wetland 1 boundary.

Mitigation Measure IV-1b: Temporary impacts to wetlands shall be reduced to the extent practicable through avoidance and minimization, and through restoration of pre-project conditions. Where feasible, temporary barriers to intrusion shall be placed at the edge of the verified wetland boundaries. Unavoidable temporary impacts wetlands shall be mitigated through the reseeding of a native wetland seed mix at the manufacturer's suggested application rate. All areas of disturbed soil within the verified wetland boundaries shall receive reseeding treatment. As appropriate based on the conditions, mulch and or temporary irrigation may be necessary to encourage plant survival. Disturbed areas that have not recovered to the density of surrounding undisturbed wetland habitat shall be reseeded annually until the wetland plant cover in disturbed areas is similar to the undisturbed areas.

Timing for Implementation/Compliance: Prior to and during construction.
Person/Agency Responsible for monitoring: City of Eureka official.
Monitoring Frequency: Prior to project approval and upon implementation.
Evidence of Compliance: Completion of and adherence to required documents and measures

V. CULTURAL RESOURCES. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in '15064.5?				
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to '15064.5?		✓		
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		✓		

d) Disturb any human remains, including those interred outside of formal cemeteries?		✓		

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree the proposed project would cause (a) physical changes in known or designated historical resources, or in their physical surroundings, in a manner that would impair their significance; (b) physical changes in archaeological sites that represent important or unique archaeological or historical information; (c) unique paleontological resource site or unique geologic feature; or (d) disturbance of human burial locations.

DISCUSSION: The following responses are based on North Coast Information Center (NCIC) cultural resources records search and a cultural resources field survey and studies conducted for the proposed project by Roscoe and Associates in February 2011. Roscoe and Associates also consulted with Wiyot Tribal representatives regarding the proposal. The full texts of the reports are not included in this Initial Study because of their confidential nature. They are available for review by qualified persons (archaeologists, Tribal Historic Preservation Officers, etc.) at the City of Eureka Community Development Department at 531 K Street, Eureka.

V a) A subsurface historically sensitive area has been delineated by RosUSACE and Associates near the project alignment. However, based on the shallow depth of proposed excavation, the archeologist has determined that the project poses no significant impact to the historic Resource.

V b-c) The project area lies within the traditional territory of the Wiki division of the Wiyot Indian tribe. Wiyot occupied the lands adjacent to Humboldt Bay and typically lived in villages that were close to water and wetlands where they had ample access to food (fish, shellfish, marine mammals, waterfowl, deer, elk, and small land animals), and traveled by water. A subsurface historically sensitive area has been delineated by RosUSACE and Associates near the project alignment. However, based on the shallow depth of proposed excavation, the archeologist has determined that the project poses no significant impact to the archeological resource.

However, given ethnographic evidence of Native American habitations along Humboldt Bay, there is the potential that Native American resources are present below the ground surface of the project site. If such resources were discovered during project construction and determined to be significant or unique, the project could potentially cause a substantial adverse change in the significance of archaeological resources, as defined in Section 15064.5 of the State CEQA Guidelines, and/or destroy unique paleontological resources. If a site is determined to be an historic resource, the lead agency shall refer to the provisions of Section 21084.1 of the Public Resources Code and Section 15126.4 of the CEQA Guidelines. If any resources are discovered the impact would be ***less than significant with mitigation incorporated***

V d) The project site is located within both the traditional territory of the Wiki division of the Wiyot Indian tribe, and the more recent boundaries of the City of Eureka. Thus, the project site has the potential to contain human remains, including those interred outside of formal cemeteries, and project construction activities would have the potential to disturb such remains, if present. This impact would be ***less than significant with mitigation incorporated.***

MITIGATION MEASURES:

Mitigation Measure V-bc: If potential archaeological or paleontological resources are encountered during project subsurface construction activities, all work within 50 feet of the find shall be stopped, and a qualified archaeologist funded by the applicant and approved by the City of Eureka shall be contacted to evaluate the find, determine its significance, and identify any required mitigation. The applicant shall be responsible for implementing the mitigation prior to construction activities being re-started at the discovery site.

Timing for Implementation/Compliance: Throughout the duration of project construction.
Person/Agency Applicant, Contractor, and City of Eureka
Monitoring Frequency: Throughout the duration of project construction.
Evidence of Compliance: If archaeological or paleontological resources are discovered: (1) hiring of a qualified archaeologist by the applicant acceptable to the City; and (2) implementation of any mitigation identified by the archaeologist prior to resumption of construction activities at the location.

Mitigation Measure V-d: In accordance with California Health and Safety Code Section 7050.5 and California Public Resources Code Sections 5097.94 and 5097.98, if human remains are uncovered during project construction activities, work within 50 feet of the remains shall be suspended immediately, and the City of Eureka Community Development Department, Humboldt County Coroner shall be immediately notified. If the remains are determined by the Coroner to be Native American in origin, the Native American Heritage Commission (NAHC) shall be notified within 24 hours, and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains.

Timing for Implementation/Compliance: Throughout the duration of project construction.
Person/Agency Applicant, Contractor, and City of Eureka
Monitoring Frequency: Throughout the duration of project construction
Evidence of Compliance: Notification by the applicant and CDD of the County Coroner, relevant Native American representative and NAHC if human remains are found.

VI. GEOLOGY AND SOILS. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Expose people or structures to 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.			✓	
ii) Strong seismic ground shaking?			✓	
iii) Seismic-related ground failure, including liquefaction?			✓	
iv) Landslides?				✓
b) Result in substantial soil erosion or the loss of topsoil?		✓		

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?			✓	
d) Be located on expansive soil, as defined by the California Building Code (2007), creating substantial risks to life or property?				✓
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?				✓

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers project-related effects that could involve or result from: (a) damage to project elements as a direct result of fault movement along a fault identified in the Alquist-Priolo study or other known fault; (b) damage to project elements as a direct or indirect effect of seismically derived ground movement; (c) damage to project elements because of landslides that are not seismically related; (d) project-derived erosion by water or wind of more than a minimal volume of earth materials; (e) project-derived or project-caused secondary instability of earth materials that could subsequently fail, damaging project elements or other sites or structures; (f) location of project elements on expansive soils that are identified by professional geologists, which could result in damage to project elements or other sites or structures.

DISCUSSION:

VI a) Humboldt County is a very active tectonic region subject to seismic ground shaking from earthquakes as a result of close proximity to the triple junction fault zone. However, the proposed trail alignment does not occur on any fault zones and the Alquist-Priolo Earthquake Fault Zone has not been mapped in the City of Eureka. The closet faults are the Freshwater fault to the north and Little Salmon-Yager fault to the south, according to the California Geological Survey Index Figure 4A (CGS, 2007). Additionally, the project does not include construction of any features that would likely present a hazard in the event of a seismic incident. Furthermore, all constructed features would comply with the 2007 California Building Code (CBC), including the requirements of the special Seismic Design Category zones (SDC). Considering the distance from known faults to the project, lack of constructed features that impose a risk in a seismic event, and CBC and SDC requirements, potential impacts resulting from fault rupture are anticipated to be less than significant.

VI b) Minor site grading would be performed in compliance with the Best Management Practices prescribed in the Eureka Municipal Code, Regional Water Quality Control Board regulations and the Uniform Building Code. In areas where the trail would be located in close proximity to designated ESHA, BMPs would be implemented to prevent erosion and sedimentation from trail improvement construction. Protection measures include a Stormwater Pollution Prevention Plans (SWPPPs) which would be required prior to any grading or construction activities in excess of one acre. (see **Mitigation Measure IX-1**, in Hydrology and Water Quality section, below) Therefore, no substantial soil erosion or loss of topsoil would result from the project and a less than significant impact is expected to occur as a result of the project.

VI c) The project area is on predominately flat ground with no potential for landslides. The site is classified as undifferentiated nonmarine terrace deposits (Holocene and Pleistocene) according to U.S. Department of the Interior U.S. Geologic Survey western Eureka quadrangle (Sheet 1) (USGS, 2000). The project is within an area of historical fill over bay muds and may be subject to some

degree of ground liquefaction during strong seismic shaking. Together with much of the land in and around Humboldt Bay and associated coastal streams, the trail alignment is mapped within an area of "Relative Stability" on the County of Humboldt County GIS Portal. The project will comply with the seismic requirements of the California Building Code.

VI d) The project is not located on expansive soils and, therefore no related significant risk to life or property is anticipated.

VI e) The proposed project does not include septic tanks or other alternative wastewater disposal systems, and no impact related to wastewater disposal in soils would result. The project area is served by existing municipal wastewater disposal infrastructure. No significant impacts are anticipated.

FINDINGS: Based on the above discussion, staff concludes that the project would have less than significant impacts on geology and soils.

VII. GREEN HOUSE GAS EMISSIONS. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			✓	
b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?			✓	

THRESHOLDS OF SIGNIFICANCE: This initial study considers to what degree the project would contribute to greenhouse gas emissions and global warming.

DISCUSSION:

VII a) The Earth's atmosphere is composed of a number of gases that act like the glass panes of a greenhouse, retaining heat to keep the temperature of the Earth stable and hospitable for life. The following are green house gases (GHG's) which are known to trap heat: water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydro fluorocarbons, per fluorocarbons, and sulfur hexafluoride.

Elevated concentrations of the GHG's in the atmosphere have had a de-stabilizing effect on the global climate and are considered pollutants. Of these gases, CO_2, CH_4, N_2O are the primary GHG pollutants of concern and are emitted in the greatest quantities from human activities. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas CH_4 results from off-gassing associated with agricultural practices and landfills. Considering GHG's have long-term impacts and reside in our atmosphere for long periods of time, not one project alone can be the cause of global climate change.
Some amount of GHG emissions would result from motor vehicle trips and construction operations on the trail. It can be reasonably expected that non-motorized use of the trail may correlate to a small decrease in vehicle miles traveled (VMT) in the region and a related decrease in GHG emission. However, it is not anticipated that the trail would have an individually discernable effect on global climate change, and therefore no significant impact is anticipated.

VII b) As of July 2010, the North Coast Unified Air Quality Management District or the County of Humboldt has not adopted any thresholds of significance in determining project-related greenhouse

gas (GHG) impacts. However, recent land-use legislation has been adopted in California; the Global Warming Solutions Act of 2006 ***AB 32*** requires the State to implement a series of actions to achieve a reduction in GHG emissions to 1990 levels by 2020 and Redesigning communities to Reduce Greenhouse Gases, ***SB 375,*** is a mechanism for local communities to combat the real issues of global warming that result from emitting large quantities of GHG's, including fossil fuels.

In 2007, the County of Humboldt Board of Supervisors joined the International Council on Local Environmental Initiatives with the intention of reducing the local government and unincorporated areas of the County GHG emission levels to 10 percent below 2003 levels. The City of Eureka does not yet have a Climate Action Plan.

The City of Eureka has been planned and zoned as a mixed-use City for over 40 years and the City encourages development that leads to decreased GHG emissions. As such, the City encourages infill over suburban development and is actively involved in the development and promotion of regional trails, including the proposed project. Properly located redevelopment and infill can greatly reduce vehicle miles traveled (VMT) to jobs and services. Lessening VMTs within personal vehicles obviously saves energy and reduces greenhouse gas emissions. The proposed project would also provide a multi-use, ADA accessible trail through Eureka's Waterfront, thus potentially reducing vehicle miles traveled (VMT) and resulting in a beneficial air quality impact.

Sea Level Rise
The California Energy Commission has produced sea level rise estimates in the 2009 Climate Change Scenarios Assessment. The Assessment indicates that the sea level on the coast of California may rise between 0.5 and 1.4 meters by the end of the twenty-first century, which significantly exceeds previous estimates. It should be noted that sea level rise predictions are based on mathematical models in a rapidly evolving field of study, and that actual sea level rise may be significantly different than current predictions.

The proposed project is in a relatively low-lying waterfront area of the City of Eureka, a portion of which is in the mapped 100-year floodplain. If the current sea level rise predictions materialize, the proposed trail may be exposed to an increased level of periodic inundation as a result of high tide and flood events. The proposed trail, however, is not expected to be subject to significant damage as a result of such inundation and is not an essential facility required to be operational in the event of a flood.

The proposed project does not conflict with any applicable plan, policy or regulations related to reducing GHG emissions and therefore a less than significant impact is expected.

FINDINGS: Based on the discussion above, the project would not significantly impact GHG emissions or conflict with regulations related to the reduction of GHG emissions.

VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			✓	

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?		✓		
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			✓	
d) Be located on a site which is included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?		✓		
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 for people residing or working in the project area?			✓	
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?			✓	
g) Impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan?		✓		
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized area or where residences are intermixed with wildlands?			✓	

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree the proposed project would involve: (a) potential storage or use, on a regular basis, of chemicals that could be hazardous if released into the environment; (b) operating conditions that would be likely to result in the generation and release of hazardous materials; (c) use of hazardous materials, because of construction-related activities or operations, within a quarter-mile of an existing or proposed school; (d) project-related increase in use intensity by people within the boundaries of, or within two miles of, the Airport Planning Areas; (e) project-derived physical changes that would interfere with emergency responses or evacuations; (f) potential major damage because of wildfire.

DISCUSSION:

VIII a) With the exception of construction equipment fuels/lubricants and application of approved herbicide for invasive plant control, there would be no hazardous materials used to complete the proposed project.

VIII b, c) The project would utilize heavy equipment and machinery to perform some tasks including grading, paving, 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. 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. Staging, fueling and maintenance of equipment shall be conducted only in upland locations and no closer than 15o feet from open water or in any location where hazardous material spills could become entrained in flowing water.

There is evidence to indicate that contaminated soils or hazardous materials are present in the vicinity, but not in close proximately, along the proposed trail alignment. However, as stated below in **Mitigation Measure VII-1**, during project implementation, if there is any evidence that indicates contaminated soil or hazardous materials are present on the site, either from visual

observations or odors indicative of regulated substances, the applicant shall be responsible for performing soil sample analyses. Based on the results of the analysis, the applicant shall consult with jurisdictional agencies regarding follow-up procedures. The applicant shall comply with all requirements/regulations of the appropriate agencies with regard to handling, transport and disposal of potential hazardous substances to the satisfaction of the applicable agency. Therefore, the project will have a less than significant impact.

VIII d) The project alignment is near areas in the CalEPA list of hazardous materials sites which meet "Cortese List" requirements under Government Code Section 65962.5, including:

- Old Coal Gas Plant 119-1B, First and C Street, Eureka – Status Open Inactive
- City of Eureka LUST Cleanup Site, 133 Waterfront Drive, Eureka – Status Closed
- Several Listed Monitoring Wells, Balloon Track 736 4th St, Eureka – Status Open Remediation
- Eureka City Small Boat Basin Land Disposal Site, Waterfront Drive, Eureka – Status Open
- Schmidbauer Lumber Company, 1099 Waterfront Drive, Eureka – Status Open Remediation
- Unocal Terminal LUST Cleanup Site, 1200 Railroad Ave, Eureka – Status Open Remediation (Includes Land Use Restrictions available for at: https://geotracker.waterboards.ca.gov/regulators/deliverable_documents /9671476066/05222006unocal%20deed%20restriction.pdf)
- Simpson Plywood Mill, 1200 Del Norte St, Eureka – Status Open Assessment and Interim Remedial Action

The CalEPA sites listed above were included on the Cortese List due to underground soil and groundwater contamination. Although the proposed trail alignment runs near several listed sites, avoidance of significant subsurface disturbance in the contaminated areas would avoid project-related impacts. In the event any hazardous, toxic, noxious, objectionable, or unknown chemicals are encountered during trail construction, construction shall be halted by the construction crew on duty and reported to the general contractor for the project and the City of Eureka, as discussed in **Mitigation Measure VIII-1**, below. Therefore, with incorporation of mitigation, the project will have a less than significant impact.

VIII e, f) The project site is approximately 2.5 miles from Murray Field Airport and is located outside the airspace analysis zone identified in the 1993 Airport Land Use Compatibility Plan for Murray Field. The southern portion of the proposed project alignment is approximately 1.3 miles northeast of the City owned Eureka Municipal Airport in Samoa. The project is not close enough to either airport to pose a significant risk to the public. Therefore, the project will have a less than significant impact.

VIII g) The project area is located in close proximity to Humboldt Bay and, together with all areas north of 2nd Street and west of Broadway in Eureka; the site is within the Tsunami Evacuation Area as mapped by the Humboldt County GIS Portal. The site is also within high, moderate, and low hazard inundation areas of the Tsunami Hazards Map. The Pacific Tsunami Warning Center in Ewa Beach, Hawaii, is staffed full-time by scientists, who quickly collect and analyze incoming tsunami data and decide whether to issue a tsunami warning. In the event of a tsunami warning, the City of Eureka Emergency Operations employees are trained in disaster preparedness including broadcasting an emergency tsunami warning and giving direction to the public on the actions they should take in the event of a potential tsunami in Humboldt Bay. To help inform trail users of

tsunami hazards and evacuation procedures, the proposed project should include adequate signage to notify the public of tsunami hazards and evacuation routes (see Hydrology and Water Quality **Mitigation Measure IX-2**). Because there are existing tsunami evacuation plans for the area, and the project includes additional tsunami hazard signage, the project would not interfere with any existing emergency response plans. Therefore, the project will have a less than significant impact.

VIII h) The project site is located within City Limits of Eureka; there are no "wildlands" near the project site. Therefore, there would be no impact as a result of wildland fires.

MITIGATION MEASURES:

Mitigation Measure VIII-1: In the event any hazardous, toxic, noxious, objectionable, or unknown chemicals are encountered during trail construction, construction shall be halted by the construction crew on duty and reported to the general contractor for the project and the City of Eureka. Prior to resuming any work the City shall be responsible for obtaining a soil sample contamination analysis. The findings of the analysis shall be submitted, as applicable, to the NCRWQCB and any other appropriate regulatory agencies. Work shall not continue until and unless written approval is obtained from these agencies. The applicant shall comply at all times with the requirements and regulations of the NCRWQCB and other appropriate regulatory agencies with regard to the handling, transport, and disposal of hazardous materials such as contaminated soils to the satisfaction of these agencies. Disposal of all hazardous materials will be in compliance with all applicable California hazardous waste disposal laws.

Timing for Implementation/Compliance: During design and construction.
Person/Agency Responsible for monitoring: Contractor and City of Eureka official.
Monitoring Frequency: During Construction.
Evidence of Compliance: Compliance with applicable regulations if hazardous materials are encountered.

IX. HYDROLOGY AND WATER QUALITY. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?			✓	
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?			✓	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off-site?		✓		

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?		✓		
e) 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?			✓	
f) Otherwise substantially degrade water quality?		✓		
g) Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary of Flood Insurance Rate Map or other flood hazard delineation map?				✓
h) Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?			✓	
i) Expose people or structures to a significant risk or loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				✓
j) Result in inundation by seiche, tsunami, or mudflow?		✓		

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree the proposed project would involve: (a) improvements that would violate standards set for water quality and for discharge of waste water; (b) use of, or interference with ground water such that the amount of flow of groundwater is adversely impacted; (c) drainage improvements that would alter or cause an increase in amount or flow of drainage, or that would affect the free-flow of a stream or river or cause an increase in silt runoff as to cause adverse impact; (d) added runoff from the site that would exceed the capacity of drainage facilities; (e) the creation of polluted runoff or other general adverse water quality impacts; (f) the placement of housing or other structures within the 100-year flood plain, or other area subject to flooding; (g) development in such a manner or location that it would be adversely affected by seiche, tsunami or mudflow.

DISCUSSION:

IX a) Minor grading necessary to construct the trail would be conducted in accordance with the Best Management Practices (BMP's) described in the Eureka Municipal Code, Uniform Building Code, CASQA BMP guidelines and the regulations of the RWQCB. Because the project involves only minor grading and includes BMPs, no violations to water quality standards or waste discharge requirements are expected to result. Therefore, the project will have a less than significant impact.

IX b) The project does not include development that would substantially deplete groundwater supplies or interfere with groundwater recharge. The project is not expected to result in any change in the use or recharge of any groundwater source or aquifer. Therefore, the project will have a less than significant impact.

IX c, d) There are no proposed changes to drainage patterns to most of the proposed alignment. Possible minor alterations to drainage patterns include limited realignment, extension, or replacement of low volume culverts, and other minor strormwater infrastructure device alterations to better accommodate the trail. To mitigate for potential significant runoff impacts that could result in minor erosion, completion of a Stormwater Pollution Prevention Plan to the satisfaction of the RWQCB is included as **Mitigation Measure IX1**, below. With the incorporation of this mitigation measure, the proposed project changes would have a less than significant impact on

stormwater-related siltation and erosion on or offsite.

IX e) As provided in the project description, the project trail would incorporate native vegetation which will serve a number of purposes, including reducing stormwater runoff. If funding is available, pervious trail surfacing materials will be utilized to allow water to locally infiltrate. Furthermore, the proposed project will not alter the current pattern of drainage or result in excessive erosion or siltation on or offsite of the project study area boundaries. In addition, no motorized vehicles will be allowed on the trail, so it would not be expected to be significant source of polluted stormwater runoff. The existing substrate is predominantly compacted imported fill associated with the railroad grade. Although the project would add a paved surface to the compacted material, there would be a negligible change in the volume and path of runoff. Any water falling on the paved trail would simply flow downhill to surrounding areas where percolation would occur. Project implementation is, therefore, expected to have a less than significant impact on the capacity of storm water drainage systems that would affect flood capacity or result in a net increase of surface run-off or be a source of pollution that would substantially degrade water quality. Therefore, the project will have a less than significant impact.

IX f) In areas where the trail would be located in close proximity to designated ESHA, BMPs would be implemented to prevent erosion and sedimentation from trail improvement construction. Protection measures include a Stormwater Pollution Prevention Plans (SWPPPs) which would be required prior to any grading or construction activities in excess of one acre (see **Mitigation Measure IX1**, below). The project as mitigated is not expected to degrade water quality within ESHA. Therefore, the project will have a less than significant impact.

IX g) The project does not include housing; therefore no housing will be placed in the 100-year flood hazard areas and therefore no impact will occur.

IX h) Based on review of the Flood Insurance Rate Map prepared by the Federal Emergency Agency, a small portion of the proposed project area is within Zone A (Areas of 100-year flood; No base flood elevations are determined) of the 100-year flood plain *(FIRM Preliminary August 7, 2009 Map Number 06023C0865F, Panel 865 OF 2050)*. Areas within mapped floodplain include the Southern Terminus segment and a portion of the Commercial Street to Washington Street segment near the Eureka Public Marina. However, formalizing the trail in this area will not impede or redirect flood flows nor expose people or structure to flooding. Therefore, the project will have a less than significant impact.

IX i) The project is not in close proximity to any dam or levee that has the potential to expose people or structures to a significant risk or loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

IX j) 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. Humboldt State University has conducted a number of studies on the impacts to Humboldt Bay resulting from tsunami inundation. These studies indicate that, although a wave from 12 to 20 feet high could threaten the southern end of the north Spit, including the U.S. Coast Guard base, Fairhaven and parts of Samoa, the largest tsunamis occurring on Humboldt Bay, including those dating back as early as 1700 A.D., did not entirely inundate the

north spit. The last recorded tsunami of any observable height to occur in Humboldt Bay was in 1964 as a result of the Gulf of Alaska earthquake. It had a recorded maximum height of twelve feet on the inside of the north spit and breached a ten-foot seawall at the Eureka Boat Basin. The bay was filled with logs and debris and nine changes in tidal height were reported over the night causing high current velocities within the bay. Fourteen-knot currents were reported in the channel opposite the Coast Guard Stations (Lander and others, 1993).

Inundation is only one of the hazards posed by tsunami. The extremely high velocity caused by rapid changes in water elevation is capable of causing significant erosion and damage to structures - especially when the water is laden with debris. High velocity water can cause damage even when the water height is not significantly high. Docks, piers and structures built directly on the waterfront are the most vulnerable. In the shallow waters of bays and harbors, a tsunami frequently will initiate seiching.

The National Oceanographic and Atmospheric Administration (NOAA) published a tsunami inundation model of the Humboldt Bay region which mathematically computed the expected inundation levels caused by a magnitude 8:4 earthquake on the Cascadia Subduction Zone (CSZ) (Bernard and others, 1994). In the model, the north and south spit bear the brunt of the impact. Both spits are overrun and the waves travel across Humboldt Bay flooding Woodley and Indian Islands. The shallowness of the bay dissipates the wave energy and flooding on the east side of the bay is expected only in the immediate waterfront area and at King Salmon, which sits directly across from the mouth of the bay.

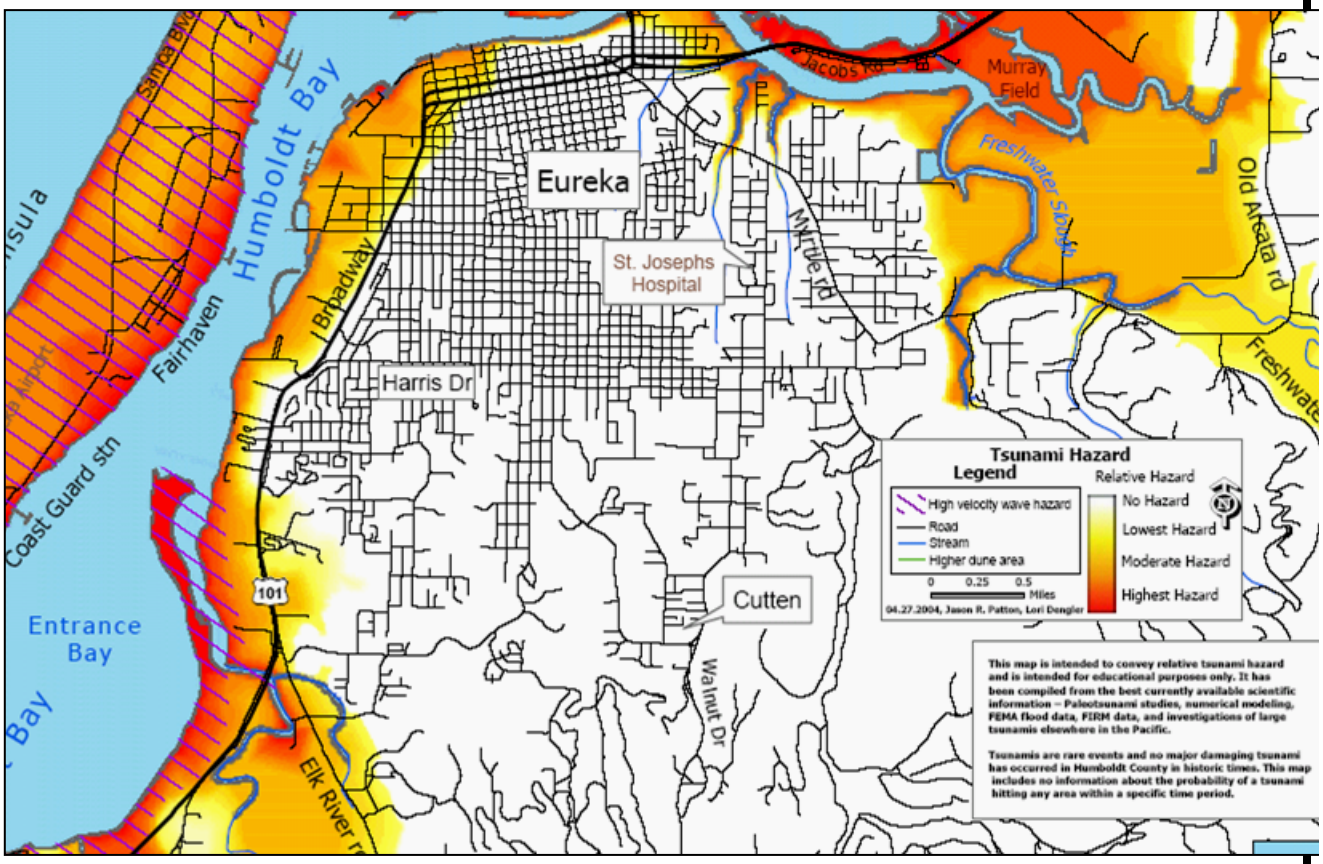
Configuration of the coastline, shape of the ocean floor, and character of the advancing waves play an important role in the destruction wrought by tsunamis along any coast, whether near the generating area or thousands of kilometers from it. The United States has collaborated with other countries around the Pacific to build and maintain a warning system that detects earthquake, sea surface levels, and ocean-bottom movements of water. The Pacific Tsunami Warning Center in Ewa Beach, Hawaii, is staffed full-time by scientists, who quickly collect and analyze incoming data and decide whether to issue a tsunami warning. In the event of a tsunami warning, the City of Eureka Emergency Operations employees are trained in disaster preparedness including broadcasting an emergency tsunami warning and giving direction to the public on the actions they should take in the event of a potential tsunami in Humboldt Bay.

In 2004, the Humboldt Earthquake Education Center of Humboldt State University completed tsunami inundation hazard mapping for the Humboldt Bay area (See Tsunami Hazards Map, below); although the mapping has not been adopted by the City or County it may be useful for determining potential risk and is helpful for disaster preparedness. The Humboldt County Tsunami Hazard Map combines the results of past studies to depict the relative tsunami hazard, but unlike inundation maps with a single line to show the inland extent of flooding, the map uses a four-tiered hazard system to represent relative risk: Highest hazard areas include low areas adjacent to Humboldt Bay and areas mapped as zone A (100 year flooding) on FEMA Flood Insurance Rate Maps; Moderate hazard areas include those areas likely to be flooded by a major tsunami generated by the CSZ; low hazard areas are likely to provide refuge in all but the most extreme event; and, no hazard areas where the potential for tsunami inundation is extremely unlikely.

The project site is located in close proximity to Humboldt Bay and, together with all areas north of 2nd Street and west of Broadway in Eureka; the site is within the Tsunami Evacuation Area as

mapped by the Humboldt County GIS Portal. The site is also within high, moderate, and low hazard inundation areas of the Tsunami Hazards Map. As such, the proposed project should include adequate signage to notify the public of tsunami hazards and evacuation routes (see **Mitigation Measure IX2**, below). Because there are existing tsunami evacuation plans for the area, 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.

Tsunami Hazards Map



The proposed trail alignment does run adjacent to the Humboldt Bay, which lies directly within Coastal Tsunami Hazard zone. The City of Eureka along with FEMA, NOAA, and the State of California, has developed an emergency response procedures incorporated into the City's emergency response plans. While Tsunamis can be devastating, they are a distant threat and technology currently in place will help the city respond in a timely and appropriate manner.

Findings: The project area is currently used for recreational activity, and planned improvements will not create significant additional risk. Based on the discussion above, and with the mitigation measures described below, the project is expected to result in less than significant impacts to hydrology and water quality.

MITIGATION MEASURES:

Mitigation Measure IX-1: To mitigate the potential for increased stormwater runoff resulting from construction of impervious trail surfaces, the applicant shall, prior to commencement of any construction, submit a Stormwater Pollution Prevention Plan (SWPPP) to the City of Eureka Public Works Stormwater Division. The SWPPP shall be subject to approval by the North Coast Regional Water Quality Control Board, and City of Eureka Building, Planning, Engineering, and Public Works Departments. SWPP implementation shall be subject to enforcement by the aforementioned agencies.

The SWPPP shall incorporate BMPs as appropriate. No debris, soil, silt, sand, slash, sawdust, rubbish, cement or concrete washings, oil or petroleum products, or other organic or earthen material from construction operations shall be allowed to enter or be placed where it may become entrained in any flowing or standing water. Erosion control measures and BMPs would be implemented during all phases of construction.

Timing for Implementation/Compliance: During design and construction phase.
Person/Agency Responsible for monitoring: City of Eureka official and engineer.
Monitoring Frequency: Once during plan check and during construction.
Evidence of Compliance: City of Eureka official will inspect and approve.

MITIGATION MEASURE IX-2: To inform the general public of the potential of tsunami run-up inundating the trail area, each trailhead location shall have signage informing the public of what actions to take in the event of seismic activity. Said signage shall be posted to the satisfaction of the City of Eureka and prior to the trail being open to the general public.

Timing for Implementation/Compliance: During design phase.
Person/Agency Responsible for monitoring: City of Eureka official and engineer.
Monitoring Frequency: Once during plan check and during construction.
Evidence of Compliance: City of Eureka official will inspect and approve.

X. LAND USE AND PLANNING. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Physically divide an established community?				✓
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?			✓	
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				✓

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree the proposed project would (a) divide an established community or conflict with existing land uses within the project's vicinity, such as agriculture resources; (b) conflict with the Eureka General/Coastal Plans designation, policies, and zoning ordinances regarding commercial, public, and quasi-public facilities; (c) conflict with applicable environmental plans and protection measures enforced by regulatory agencies that have jurisdiction over the project, such as habitat conservation plans or a

natural community conservation plan.

DISCUSSION:

X a) The trail corridor is proposed along the Eureka Waterfront of Humboldt Bay. The proposed project would not result in the physical division of an established community since the proposed trail alignment would utilize existing roads, sidewalks and rail corridors already developed within the City of Eureka and runs on the edge of town rather than through the community.

X b) Zoning in the project area includes Core Waterfront Commercial (C-WFC) and Coastal-Dependent Industrial Districts (C-CDI) The primary existing land uses in the project area include: railroad rights-of-way, developed and abandoned industrial and commercial lands, and municipal boating and recreational facilities. Land use designations in the project area include: Public/Quasi Public (PQP), Public (P), Light Industrial (LI), and Limited Industrial (ML).

The project is within the Coastal Zone and therefore subject to applicable coastal zone policies and regulations of the Coastal Act and the City of Eureka Local Coastal Program. The northern portion of the project between C Street to the southern terminus falls within an area of City Coastal Zone jurisdiction. The project avoids or mitigates all significant impacts to the environment and, thus does not conflict with Local Coastal Program or Coastal Act provisions intended to protect the environment and thus the impact is considered less than significant.

The City of Eureka General Plan identifies multiple pedestrian and recreation related goals and policies within the Waterfront and Core Areas of Eureka. The proposed project is consistent with the following General Plan goals and policies:

- Policy 1.A.3.i – *"The City shall work with the Harbor District to…complete a waterfront bicycle/pedestrian trail from K Street to Del Norte Street."*
- Policy 1.B.1 – "*The City shall promote the development of a compact Core Area of concentrated commercial, residential, fishing-related. Civic, cultural, and recreational activities by unifying parts of the three historic central "districts" (i.e., Old Town, Downtown, and the Waterfront)."*
- Policy 1.D.2 – *"…the City shall ensure public access along the full length of the shoreline within the Core Area through development of multiple access points such as walkways, paths, docks, and piers."*
- Policy 1.G.1 – "*The City shall provide a coordinated and unified system of plazas, squared, parks, and public-ways…that promotes pedestrian vitality in the Core Area."*
- Policy 3.A.8 - "*The City shall develop Waterfront Drive along Humboldt Bay from the Elk River Interchange to the vicinity of Eureka Slough, consistent with all other applicable General Plan and LCP policies*."
- Goal 3.C – "*To encourage the use of the bicycle as an alternate, energy efficient mode of transportation within the city and to develop a system of bikeways and bicycle parking facilities which will safely and effectively serve those wishing to utilize the bicycles for commute or recreation."*
- Policy 3.D.2 – *"The City shall develop a bicycle/pedestrian trail along the waterfront extending from the I-255 Bridge to Del Norte Street. The Trail should be developed according to the theme that recognizes and integrates the unique features of Eureka's waterfront."*
- Policy 5.B.1. – *"Develop Waterfront Drive from the Elk River Interchange to a terminus near Eureka Slough, with provisions for bicycle lanes, pedestrian walkways, and supporting facilities."*

- Policy 5.B.7. –*" The City shall establish a coordinated continuous public access system throughout its Coastal Zone, consisting of pedestrian walkways, nature walks, and bikeways with necessary support facilities."*

X c) The project will not have any impact on any habitat or on any natural community subject to a conservation plan and, therefore, is not expected to conflict with any applicable habitat conservation plan or natural community conservation plan.

FINDINGS: Based on the above discussion, the project will not divide the community and is expected to have a less than significant impact to land use and planning.

XI. MINERAL RESOURCES. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
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?			✓	
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?			✓	

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree the proposed project would interfere with the extraction of commodity materials or otherwise cause any short-term or long-term decrease in the availability of mineral resources that would otherwise be available for construction or other consumptive uses.

DISCUSSION:

XI a, b) The proposed project may require minor use of quarry 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 State. The project site contains no mineral resources that would be impacted by the project.

FINDINGS: The mineral resources needed for the trail improvements within the City would be of limited quantities and the project is expected to have a less than significant impact on local mineral resources.

XII. NOISE. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		✓		
b) Expose persons to or generate excessive ground borne vibration or ground borne noise levels?			✓	
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			✓	
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?		✓		

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 expose people residing or working in the project area to excessive noise levels?				✓
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				✓

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers whether the proposed project would produce: (a) sound-pressure levels contrary to the City of Eureka noise standards; (b) long-term ground vibrations and low-frequency sound that would interfere with normal activities and which is not currently present in the project area; (c) a substantial increase in ambient short-term or long-term sound-pressure levels; (d) changes in noise levels that are related to operations, not construction-related, which will be perceived as increased ambient or background noise in the project area.

DISCUSSION:

XII a) The City of Eureka includes residential noise exposure policies in the Draft General Plan Policy Document, Part II, Section 7-5, 1996. The stated goal of the General Plan with regard to noise exposure is "To protect Eureka residents from the harmful and annoying effects of exposure to excessive noise." For non-transportation related noise, the maximum allowable noise at the property line of lands designated for noise-sensitive uses cannot exceed 65dB (nighttime) to 70dB (daytime). Transportation noise sources are defined as "public roadways, railroad line operations, and aircraft in flight."

The project site and surrounding area is characterized by residential, commercial, and industrial land uses, well-developed arterial and local roadways, with local and commuter traffic. Noise in the vicinity of the project is primarily associated with vehicular traffic along Waterfront Drive and Railroad Ave and other immediately surrounding intersections. Additional noise sources in the vicinity include commercial and industrial activity, the bay, water and shore birds, and commercial and recreational boating activities.

In order to prevent construction noise from disturbing homes and businesses in the project vicinity during the generally quieter nighttime hours, construction activities will be limited to the hours of 7:00 AM to 7:00 PM on weekdays and 8:00 AM. to 6:00 PM on Saturdays, Sundays, and Holidays, except in emergencies or with prior approval from the City of Eureka **(Mitigation Measure XII-1).** With the incorporated mitigation, the minor incremental increase in noise associated with trail construction, use, and maintenance activities would not expose persons to noise levels in excess of applicable standards and would not represent a significant increase in noise. With incorporation of mitigation, the minor incremental increase in noise associated with trail construction, use, and maintenance activities would not expose persons to noise levels in excess of applicable standards and would not represent a significant increase in noise.

XII b) Project construction would cause minor ground borne noise and localized ground borne vibration. Proposed construction activities would be temporary and involve standard construction not capable of generating excessive ground borne vibration or noise. Therefore, the project would not expose persons to or generate excessive ground borne vibration or ground borne noise levels.

XII c) The project does not involve any construction or operational feature that would cause any permanent increase to noise levels. Construction activities would result in a minor temporary

increase in ambient noise. The project will, therefore, not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

XII d) Construction activities would result in a minor temporary increase in ambient noise levels from construction equipment and construction-related traffic. Constructing the trail would include using heavy equipment for earth moving, grading and compaction, paving, and hauling. The construction phase would increase localized truck trips to transport materials and equipment to and from the proposed trail corridor. Although construction-related noise would be unavoidable, it would be temporary and intermittent and construction hours would be limited (**Mitigation Measure XII-1)**. The proposed project would comply with all applicable City policies to abate construction-related noise impacts. The impact on ambient noise levels would be less than significant with incorporation of mitigation.

XII e, f) The project site is approximately 2.5 miles from Murray Field Airport and is located outside the airspace analysis zone identified in the 1993 Airport Land Use Compatibility Plan for Murray Field. The southern portion of the proposed project alignment is approximately 1.3 miles northeast of the City-owned Eureka Municipal Airport in Samoa. These airports are relatively distant to the project and neither is capable of serving large and loud airplanes. Therefore, a less than significant impact is anticipated.

FINDINGS: Based on the discussion above and the mitigation measures below, the uses and activities along the proposed trail alignment, is not anticipated to be different than has occurred in the past or currently occurs. Nor will the project result in the production of unacceptable noise levels that would expose people working or living in the project area. Based on this analysis, the project is expected to have a less than significant impact on noise.

MITIGATION MEASURES:

Mitigation Measure XII-1: Construction activities will be limited to the hours of 7:00 AM to 7:00 PM on weekdays and 8:00 AM. to 6:00 PM on Saturdays, Sundays, and Holidays, except in emergencies.

Timing for Implementation/Compliance: During design and construction phase.
Person/Agency Responsible for monitoring: City of Eureka official and engineer.
Monitoring Frequency: Once during plan check and once during construction.
Evidence of Compliance: City of Eureka official will inspect and approve.

XIII. POPULATION AND HOUSING. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (e.g., by proposing new homes and/or businesses) or indirectly (e.g., through extension of roads or other infrastructure)?				✓
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				✓
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				✓

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree the proposed project would result in, or contributes to, population growth, displacement of housing units, demolition or removal of existing housing units, or any project-related displacement of people from occupied housing.

DISCUSSION:

XIII a) The project would only consist of enhancements to non-motorized vehicular transportation facilities in the immediate vicinity of the project. Trail construction would not involve construction of any facility that would directly or indirectly induce population growth. Therefore the project would have no impact on population growth.

XIII b) The project does not displace existing housing and therefore would have no impact.

XIII c) The project does not displace any populations and therefore would have no impact.

FINDINGS: Based on the discussion above, the project would not result in substantial adverse impacts regarding population and housing.

XIV. PUBLIC SERVICES. 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:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Fire protection?			✓	
b) Police protection?			✓	
c) Schools?				✓
d) Parks?			✓	
e) Other public facilities?			✓	

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree the proposed project would result in any changes in existing fire or police protection service levels, or a perceived need for such changes, as well as any substantial changes in the need for, or use of, schools, parks, or other public facilities.

DISCUSSION:

XIV a, b) The City of Eureka Fire and Police Departments currently serve the project area and the project would not necessitate any related new or altered facilities. The project would not result in significant adverse effects on service ratios for the police or fire departments. The proposed project may result in increased motorized and non-motorized traffic in the vicinity. The proposed project will facilitate improved foot access on trails and vehicle access on maintenance roads and parking areas for law enforcement and emergency services personnel. The project is not expected to substantially increase the need for patrols by local law enforcement or emergency services. The project may have a beneficial effect on reducing the need for patrol by encouraging more public use and decreasing unwanted uses of the area. A less than significant impact with respect to fire and police facilities is anticipated.

XIV c). The proposed project is in an area served by Eureka City Schools and would not necessitate additional school facilities. The proposed project has no relation to school district service ratios or school facilities and no impact to schools would occur.

XIV d, e) The proposed project would present a new recreational opportunity and would increase trail connectivity. The project is expected to enhance parks and recreation options within the City of Eureka. Additional recreational opportunities and increased recreational traffic along the Eureka Waterfront may reduce other less desirable use that currently occurs in the project vicinity. The project would not require services beyond the capacity of the service providers and, therefore, a less than significant impact is anticipated.

FINDINGS: Based on the above, it is expected that the project would result in a less than significant impact on public services.

V. RECREATION. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
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?			✓	
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?			✓	

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree any aspect of the proposed project would be related to demand for recreational facilities or increase use of existing recreational areas such that those areas are physically degraded, including secondary effects such as degradation through over-use of environmentally sensitive areas.

DISCUSSION:

V a) The project would have a long-term positive effect on recreation by increasing recreational opportunities in the area. The proposed trail represents a segment of a regional trail system that has potential not only to significantly increase non-motorized transportation, but also link regional parks and other recreational facilities.

Although the project would likely lead to an increase in use of recreational facilities adjoining the project such as, PALCO Marsh trail, Del Norte Pier and Day Use Area, the Fisherman's Terminal, Boat launch, and the Public Marina, the project is not expected to contribute to the physical deterioration of facilities and would have an overall beneficial impact to regional recreational facilities. Increasing visibility and usage among these public use facilities may deter illegal activity, such as illegal dumping or camping, thereby enhancing public safety and the overall health of the trail corridor.

V b) The proposed trail is a recreational facility that is likely to encourage the construction of other recreational facilities – predominantly other connecting trails and trail-related facilities. Future connecting and related trail and recreational facility projects with the potential to cause significant environmental impacts would be subject to CEQA and other environmental regulations enacted to protect the environment. Therefore, a less than significant impact is expected to occur.

FINDINGS: As discussed above, neither the proposed recreational facilities, nor related recreational facility projects that may be constructed subsequently are expected to have an adverse physical effect on the environment (refer to Biological Resources as well as Hydrology and Water Quality, above).

XVI. TRANSPORTATION/TRAFFIC. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Exceed the capacity of the existing circulation system, based on an applicable measure of effectiveness (as designated in a general plan policy, ordinance, etc.), taking into account all relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?			✓	
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?			✓	
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks?				✓
d) Substantially increase hazards due to design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			✓	
e) Result in inadequate emergency access?			✓	
f) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?			✓	

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree, if any, the proposed project would be associated with (a) changes in traffic, circulation, or other changes that might be perceived as adverse, including traffic effects resulting from temporary construction-related changes; (b) any project-related changes in levels-of-service on County or State highways; (c) project-associated travel restrictions that would prevent emergency vehicles from reaching the locations where they were needed.

DISCUSSION:

XVI a, b) The project would be expected to increase recreational use levels at the project area, which could result in minor amounts of additional motorized and non-motorized traffic. However, the proposed project has been designed to accommodate the anticipated traffic level. The project has been designed to meet the operational needs of adjacent and intersecting roadways, the railway system, area businesses, and a variety of potential trail users. Adequate existing parking/trailhead facilities for trail users exists at the foot of C Street, on Marina Way, and at the foot of Del Norte Street, as well as ample on-street parking along the entire trail corridor. Planning, design, and implementation standards were derived from the following sources: City of Eureka General Plan Circulation Element, the current editions of the California Department of Transportation Highway Design Manual, Chapter 1000 “Multi-use path Planning and Design”, the U.S. Department of Transportation, Federal Highway Administration “Manual on Uniform Traffic Control Devices – California Supplement (CAMUTCD)” and the American Association of State Highway and

Transportation Officials' (AASHTO) "Guide for Development of Bicycle Facilities." Additional guidance concerning the design of rails-with-trails facilities was considered, including NCRA's "Trail Projects in the NWP Line Rights-of-Way" and the U.S. Department of Transportations' "Rails-with-Trails: Lessons Learned."

During construction of the proposed project, construction equipment may cause minor delays and cause minor local detours. The use of heavy equipment would be relatively minor and would only occur during certain short intervals during construction, the related traffic delays or disturbances are expected to be less than significant.

Once complete, the proposed project is not expected to significantly increase vehicle traffic on City streets. Construction of the project may actually decrease vehicle trips within the City by encouraging non-motorized travel. Any potential increase in traffic generated by public visitation to the proposed trail and associated access areas would likely be offset by increased non-motorized travel to and from the area by trail users.

The project would:

- not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system,
- take into account all modes of transportation, including mass transit and non-motorized travel
- take into account other components of the transportation system, such as intersections, streets, pedestrian paths, and bicycle paths.

The proposed multi-use trail would provide increased opportunities and routes for safe non-motorized travel within the City. The proposed trail would generally be accessed from the following locations: northern trailhead (C Street), southern head (W. Del Norte Street), Commercial Street, Washington Street, W. 14th Street, and Wabash Avenue.

Based on the above, a less than significant impact is anticipated.

XVI c) The proposed project is not located near an airport and would have no impact on air traffic patterns. The project would not substantially increase air traffic levels and would not result in substantial safety risks. Therefore, no impact is expected to occur.

XVI d) The proposed trail may impact transportation and/or traffic safety at trail/street intersections due to an increase in non-motorized and motorized traffic interaction: (1) along existing City Streets; (2) at existing City street crossings; (3) at access points along Waterfront Drive and Railroad Street and (4) along existing Eureka trails associated with Palco Marsh, the C Street Pedestrian Plaza, and W. Del Norte Street day use area. The trail would typically be separated from City streets by features such as: existing curbs and sidewalks, differentiated pavement coloring, barricades, trail lighting, intersection signage for motorists and trail users, speed tables and improved crosswalk striping at intersections, pedestrian crosswalk refuges/medians and landscaping strips separating trail from traffic.
The trail would intersect and/or cross the following streets (from north to south): northern trailhead (C Street), Commercial Street, Proposed 4th Street Extension (part of the Marina Center Project), Washington Street, W. 14th Street, Wabash Avenue and southern trailhead (W. Del Norte Street). In general, roadway and driveway crossings would be ADA-accessible and include warning

signage and markings both on the trail and the approaching vehicular way. If determined necessary by the City, the trail would include yellow centerline striping and additional warning signage and striping approaching intersections with existing roads and railroad crossings. In addition, signage would be added along the trail warning users of curves, bends, and other hazardous situations. Speed control can only be maintained through signage and striping and other visual cues; speed bumps or other surface irregularities are not permitted to control the speed of bicycles and other non-motorized vehicles. The above design features would be implemented at the intersections as shown in Figure 4 (Appendix A), and would avoid substantial hazards at those trail crossings.

There is a perceived hazard associated with trails adjacent to active rail lines; however in areas where the proposed trail would be directly adjacent to an inactive rail line, the project has been designed to meet all applicable NCRA policies and includes the following safety design features: fencing between the trail and the RR track along the entire alignment with a minimum setback of 8.5 feet from RR centerline, RR crossing pavement markings and signage at all crossing locations, minimum 45° angle for all trail / RR crossing, and the City would work with NCRA to install additional bar crossing as required if the RR becomes active. These features would avoid any substantial conflicts between the rail line (which is currently inactive) and trail users.

The proposed trail may have potential conflicts between these users and bicyclists due to the difference in these activities. However, since the propose trail would have striping, signage, and unpaved shoulders on both sides which could be use by birdwatchers and other uses who want to get out of the main travel lanes, substantial safety related conflicts between trail users and bird watchers would be avoided.

The NCRA policy requires a Trail Safety Plan to be completed by any public agency proposing a rail-with-trail facility. The Trail Safety Plan must address the following issues:

- Section 2.2: Trespassing and Crime Prevention. *Topics include trespassing reduction and crime prevention strategies, such as regulatory signage, emergency access and identification of a Trail Manager.*
- Section 2.3: Emergency Response. *Topics include emergency response procedures and responsibilities.*
- Section 2.4: Security and Patrols. *Topics include signage, establishment of a coordinated and responsive patrol service and other security measures.*
- Section 2.5: Trail Barrier Design Standards. *Topics include recommended barrier systems and right-of-way access.*

With incorporation of a Trail Safety Plan and safety features described above, the proposed project would not substantially increase hazards due to a design feature or incompatible uses. Therefore, a less than significant impact would occur.

XVI e) Emergency access to the project area already exists to these streets, and would continue to exist under the proposed project. Bollards could be placed at trail intersections and entrances to prevent all but emergency and maintenance vehicles from entering. The proposed project would improve emergency access to the area by railroad crossing improvements and by providing a multi-use trail corridor that would increase emergency longitudinal coastal access on foot or bicycle. A less than significant impact is anticipated.

XVI f) As discussed in Land Use and Planning Xb, above, the proposed project would significantly enhance alternative transportation on the Eureka Waterfront and is supported by several adopted City policies, plans, and programs aimed at supporting alternative transportation. For additional discussion regarding City policies, refer to Section Xb, above. The project is anticipated to have a less than significant impact with regard to alternative transportation.

FINDINGS: Based on the above, staff concludes that the project would have a less than significant impact on transportation or traffic.

XVII. UTILITIES AND SERVICE SYSTEMS. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				✓
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				✓
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?		✓		
d) Have insufficient water supplies available to serve the project from existing entitlements and resources (i.e., new or expanded entitlements are needed)?				✓
e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				✓
f) Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs?			✓	
g) Violate any Federal, State, and local statutes and regulations related to solid waste?				✓

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree the proposed project would be related to: (a) a substantial demand for water supplies affecting existing entitlements and resources; (b) increase in runoff intensity that exacerbates drainage conditions and changes; and (c) insufficient provision for solid waste disposal.

DISCUSSION:

XVII a,b,e) The proposed project does not involve the use or construction of any facilities that would require water or wastewater infrastructure and would therefore have no impact.

XVII c) As discussed in Hydrology and Water Quality, above, there are no proposed changes to drainage patterns to most of the proposed alignment. Possible minor alterations to drainage patterns include limited realignment, extension, or replacement of low volume culverts, and other minor stormwater infrastructure device alterations to better accommodate the trail. To mitigate for potential significant runoff impacts that could result in erosion, completion of a Stormwater Pollution Prevention Plan to the satisfaction of the RWQCB is included as Hydrology and Water

Quality **Mitigation Measure IX-1**, above. With the incorporation of this mitigation, the proposed project changes would have a less than significant impact related to the construction of stormwater drainage facilities.

XVII d) There is sufficient water to supply available to serve the project; Humboldt Bay Municipal Water District currently supplies approximately 40 MGD, but is capable of providing up to 75 MGD. The project may require the temporary use of water for construction, establishment of vegetation, and during routine maintenance operations. These minor water demands would not require or result in the construction of new water supply facilities or new water entitlements, and, therefore, a less than significant impact is anticipated.

XVII f, g) The solid waste provider 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 trail would generate limited solid waste during both construction and operation. Construction solid waste would include the one-time temporary generation of construction waste associated with the proposed development of an approximately 1.38 mile trail. Recyclable construction materials (e.g. scrap metal, wood, concrete, glass) could be shipped to local businesses for reuse, with non-recyclable materials sent to Humboldt Waste Management Authority (HWMA) transfer station in Eureka.

The project includes waste receptacles, spaces for recycling bins, and pet waste stations. The City has a franchise agreement for waste collection along Waterfront Drive, which would cover the project. Solid waste collected as a part of the project would be disposed of at Humboldt Waste Management Authority (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 projects solid waste disposal needs, and a less than significant impact is anticipated.

FINDINGS: The project, as mitigated, is expected to have less than significant impacts related to utilities or service systems.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Does the project have the potential to 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 a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		✓		
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).		✓		

c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?		✓		

XVIII a) As discussed herein, the project, with incorporation of mitigation measures, does not have the potential to 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 a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory.

XVII b) A cumulative impact is any environmental impact that would occur due to the combination of the proposed trail project together with other projects causing related impacts. These impacts occur when the incremental impact of the project, when combined with the effects of other past, present and reasonably foreseeable future projects, are cumulatively considerable. This typically occurs when impacts compound or increase existing environmental problems.

Projects likely to occur in the vicinity of the proposed trail include: the Balloon Track Marina Way Development, ongoing and new contamination clean-up at several waterfront locations, and development or redevelopment of other waterfront commercial, industrial, and recreational facilities. The proposed project and other related projects in the area fall under the jurisdiction of multiple agencies with discretion over projects that would have an adverse impact on the environment. Projects in the area also typically receive a high degree of scrutiny from the public and other stakeholders regarding environmental impacts. As such, the projects will be required to comply fully with environmental regulations and are unlikely to cause significant environmental impacts.

The project is also a part of the greater planned CCT and may induce the construction of connecting segments of the statewide trail system. These segments would also undergo environmental review and be subject to local, state, and federal environmental regulations. As such, these projects would not likely have significant unmitigated environmental impacts, and, therefore, would not contribute to the subject project's environmental impacts.

The proposed project would not cause significant cumulatively considerable environmental impacts when viewed with the effects of past, current, or future projects.

XVIII c) The project has been designed to avoid significant environmental impacts. This Initial Study identifies additional mitigation measures which are expected to reduce environmental impacts to a less than significant level. As discussed herein, the project is not expected to cause any environmental effects that would cause harm to human beings either directly or indirectly.

SOURCE/REFERENCE LIST: The following documents were used in the preparation of this Initial Study. The documents are available for review at the Community Development Department, 3rd floor, City Hall, during regular business hours.

1. Climate Change Scenarios and Sea Level Rise Estimates for the California 2009 Climate Change Scenarios Assessment. Cayan et al. A Paper from the California Climate Change Center. 2009.
2. Humboldt County Coastal Trail Implementation Strategy, 2011 Public draft. Natural Resources Service Division of Redwood Community Action Agency Alta Planning + Design, Planwest Partners, and Streamline Planning Consultants.
3. Eureka Trails Committee Waterfront Trail and Promenade Recommendations, RCAA. 2005.
4. Eureka Community Plan Volume II, 1995. City of Eureka General Plan Policy Document, adopted 1997, amended through 1999, as Amended by Council Resolution 2008-08, adopted 2008.
5. North Coast Railroad Authority: Policy & Procedures Manual Section 0907: Trail Projects on the NWP Line Rights-of-Way: Design, Construction, Safety, Operations, and Maintenance Guidelines, 2009
6. Public Utilities Commission of the State of California: General Order No. 26-D: Regulations Governing Clearances on Railroads and Street Railroads with Reference to Side and Overhead Structures, Parallel Tracks, Crossings of Public Roads, Highways and Streets.
7. Caltrans: Highway Design Manual (Chapter 1000: Bikeway Planning and Design), 2006.
8. American Association of State Highway and Transportation Officials (AASHTO), A Policy on Geometric Design of Highways and Streets, 2004.
9. AASHTO, Guide for the Development of Bicycle Facilities, 1999.
10. U.S. Department of Transportation (USDOT), Federal Highway Administration (FHA), Manual of Uniform Traffic Control Devices (MUTCD), 2003.
11. California Manual of Uniform Traffic Control Devices (CAMUTCD), 2006 (FHWA's MUTCD 2003 edition as amended for use in California).
12. Institute of Transportation Engineers (ITE), Design and Safety of Pedestrian Facilities, 1998.
13. U.S. Department of Transportation Federal Highway Administration: Evaluation of Safety, Design, and Operation of Shared-Use Paths Final Report, 2006.
14. Rails-with-Trails: Lessons Learned, U.S. Department of Transportation, August 2002.
15. Rails-to-Trails Conservancy, Rails-with-Trails, Sharing Corridors for Transportation and Recreation, 1996.
16. RosUSACE & Associates, 2006. A Cultural Resources Investigation of the Proposed Balloon Track Development.
17. SHN Consulting Engineering & Geologists, Inc. 2006. Geotechnical Characterization Report for the Balloon Track, Eureka California.
18. The Impacts of Sea-Level Rise on the California Coast. Herberger et al. Pacific Institute. A Paper from the California Climate Change Center. 2009.
19. Zentner and Zentner, 2007. Balloon Track Coastal Zone Wetland Delineation Coastal Commission Methodology.
20. Huffman-Broadway Group, Inc. 2008. Biological Assessment Marina Center Project Balloon Track Property Eureka, California.
21. Winzler & Kelly (W&K), 2011. Natural Features Inventory
22. Winzler & Kelly (W&K), 2011b. *Hazardous Materials Corridor Study, Phase I Environmental Site Assessment, Eureka Trail Project.* January.

Exhibit 3: CEQA Documents

Exhibit 3: CEQA Documents

Exhibit 3: CEQA Documents

Exhibit 3: CEQA Documents

CEQA
Mitigation Monitoring / Reporting Program

CITY OF EUREKA

This Mitigation Monitoring/Reporting Program (MMRP) has been prepared for the project described below in conformance with California Environmental Quality Act (CEQA) Section 21081.6 and CEQA Guidelines Section 15097.

SCH #: 2012052053

PROJECT TITLE: Eureka Waterfront Coastal Trail

PROJECT APPLICANT: City of Eureka

CASE NOS:

PROJECT LOCATION: Northwestern Eureka along Waterfront Drive paralleling the coast of Humboldt Bay from C Street (at north end) to Del Norte Street (at south end); entirely within the Right-of-Way of Waterfront Drive or the Right-of-Way of the North Coast Railroad Authority (NCRA) railroad that parallels Waterfront Drive with the exception of small portions of the project that pass through parcels APNs 003-062-024**;** 003-072-006; 001-011-010; 001-013-011; 001-014-002; 001-014-003; 003-021-008; 003-021-009; 003-031-002; 003-031-006; 003-041-007; 003-051-001; 003-062-024; 003-072-003; 003-072-006; 003-082-006; 003-082-021; 003-082-022; 007-031-002; 007-031-003; and 007-031-004.

ZONING & GENERAL PLAN DESIGNATION: Zoning: Limited Industrial; Public; Coastal Dependent Industrial; and Natural Resources. Land Use: Core Coastal Dependent; Light Industrial; Core Retail Commercial; Public/Quasi-Public; Coastal-Dependent Industrial; General Industrial; Natural Resources

PROJECT DESCRIPTION: The City of Eureka proposes to construct an approximately 1.38 mile multi-use trail along Waterfront Drive and Railroad Avenue from C Street at the north end to W. Del Norte Street at the south end (See Figures 1 and 2, Appendix A). The purpose of the Eureka Waterfront Coastal Trail is to enhance non-motorized/pedestrian connectivity, and increase public access to and along Eureka's Waterfront on Humboldt Bay. The project is intended to encourage an appreciation of the environment and historic uses of the area, increase opportunities for active living to improve public health, increase the safety of non-motorized transportation, and recover native habitat values where possible. In addition, the project seeks to initiate a transition of uses along the Waterfront Drive corridor and to improve safety and cleanliness of the area. The proposed alignment is an important piece in the statewide initiative to complete the California Coastal Trail (CCT). The proposed Waterfront Trail and associated coastal access improvements are key elements in the Eureka General Plan.

The proposed project includes surfacing/resurfacing the alignment for multi-use and ADA compliance, construction of trail heads, installation of interpretive signs, new crossings of roads and rails including cross walks and installation of crossing signage to increase public safety, lighting, fencing, drainage improvements, invasive plant removal and revegetation, and landscaping to buffer environmentally sensitive habitats (ESHA). The trail would be entirely within the rights-of-way of the City's Waterfront Drive and the North Coast Railroad Authority (NCRA) railroad corridor that parallels Waterfront Drive, with two small exceptions that may require easements (APN#s 003062024 and 003072006).

LEAD AGENCY: City of Eureka**,** 531 "K" Street, Eureka, CA 95501-1165

CONTACT PERSON: Robert S. Wall, AICP, Director; *phone*: (707) 441-4160; *fax*: (707) 441-4202; *e-mail*: rwall@ci.eureka.ca.gov

INTRODUCTION: On June 19, 2012, the subject Mitigated Negative Declaration was approved by the City Council of the City of Eureka and implementation of the mitigation measures in the Initial Study were made a condition of project approval. The purpose of this MMRP is to ensure that the mitigation measures adopted in connection with project approval are effectively implemented. This MMRP establishes the framework that the City of Eureka and others will use to implement the adopted migration measures and the monitoring and/or reporting of such implementation.

CEQA provides that the City of Eureka may choose whether the MMRP will monitor mitigation, report on mitigation, or both. "Reporting" generally consists of a written compliance review that is presented to the decision making body or authorized staff person. A report may be required at various stages during project implementation or upon completion of the mitigation measure. "Monitoring" is generally an ongoing or periodic process of project oversight. There is often no clear distinction between monitoring and reporting and the program best suited to ensuring compliance in any given instance will usually involve elements of both. The choice of program may be guided by the following:

(1) Reporting is suited to projects which have readily measurable or quantitative mitigation measures or which already involve regular review. For example, a report may be required upon issuance of final occupancy to a project whose mitigation measures were confirmed by building inspection.

(2) Monitoring is suited to projects with complex mitigation measures, such as wetlands restoration or archeological protection, which may exceed the expertise of the City of Eureka to oversee; are expected to be implemented over a period of time; or, require careful implementation to assure compliance.

(3) Reporting and monitoring are suited to all but the simplest projects. Monitoring ensures that project compliance is checked on a regular basis during and, if necessary after, implementation. Reporting ensures that the City of Eureka is informed of compliance with mitigation requirements.

ENFORCEMENT: In accordance with CEQA, the primary responsibility for making a determination with respect to potential environmental effects rests with the City of Eureka rather than the monitor or preparer of the CEQA documents. As such, the City of Eureka is identified as the primary enforcement agency for this MMRP.

PROGRAM MODIFICATION: After adoption of this MMRP, minor changes to this MMRP are permitted but can only be made by the City of Eureka. The Director of Community Development, after consultation with affected Departments or Agencies, may make minor modifications to this MMRP. If, for any reason, any mitigation measure specified in this MMRP cannot be implemented due to factors beyond the control of the owner/developer and/or the City of Eureka, substitution of another mitigation measure may be approved, but only at a noticed public hearing before the City Council of the City of Eureka. Deviations from this MMRP allowed only if they continue to satisfy the CEQA Section 21081.6 requirements as determined by the City of Eureka.

SUMMARY OF POTENTIAL PROJECT IMPACTS: Below is a table that summarizes the impact potential for each category of impact as identified and analyzed in the Initial Study.

Environmental Issue		**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
I.	Aesthetics			✓	
II.	Agricultural Resources				✓
III.	Air Quality		✓		
IV.	Biological		✓		
V.	Cultural		✓		
VI.	Geology and Soils		✓		
VII.	Greenhouse Gas Emissions			✓	
VIII.	Hazards and Hazardous Materials		✓		
IX.	Hydrology and Water Quality		✓		
X.	Land Use and Planning			✓	
XI.	Mineral Resources			✓	
XII.	Noise		✓		
XII.	Population and Housing				✓
XIII.	Public Services			✓	
XIV.	Recreation			✓	
XV.	Transportation and Traffic			✓	
XVI.	Utilities & Service Systems		✓		
XVII.	Mandatory Findings of Significance		✓		

I. AESTHETICS

Mitigation Measure I.1: To avoid adverse impacts, new sources of light, including any outside night lighting associated with construction, will be designed to protect wildlife and nighttime views, including views of the night sky. This design goal will be satisfied using a variety of means as applicable, including fixture types, cut off angles, shields, lamp arm extensions, and pole heights. Specific design preferences include not directing light upward or to other properties, avoiding brightly illuminated vertical surfaces where feasible, such as walls and lamp poles, and not directing lighting toward environmentally sensitive habitats. The Recommended Practices (RPs) of the Illuminating Engineering Society of North America (IES) should be consulted for lighting levels and quality of light.

Timing for Implementation/Compliance: Final design and construction.
Person/Agency Responsible for monitoring: City of Eureka official.
Monitoring Frequency: Prior to project approval and during implementation.
Evidence of Compliance: Completion of and adherence to required documents.

II. AGRICULTURE RESOURCES

No mitigation required.

III. AIR QUALITY

Mitigation Measure III.1: The applicant and/or construction designee, at all times, shall comply with Air Quality Regulation 1, Chapter IV to the satisfaction of the NCUAQMD. This will require, but may not be limited to:

1. Water all active construction areas as needed per the direction of the City and the RWQCB and use erosion and sediment control measures to prevent water runoff containing silt and debris from entering the storm drain system.
2. Cover trucks hauling soil, sand, and other loose material.
3. Pave, water, or apply non-toxic soil stabilizers on unpaved access roads and parking areas.
4. Sweep paved access roads and parking areas daily.
5. Sweep streets daily if visible material is carried onto adjacent public streets.

Timing for Implementation/Compliance: During construction.
Person/Agency Responsible for monitoring: City of Eureka official.
Monitoring Frequency: Throughout construction.
Evidence of Compliance: Adherence to requirements.

IV. BIOLOGICAL RESOURCES

V. CULTURAL RESOURCES

Mitigation Measure V-bc: If potential archaeological or paleontological resources are encountered during project subsurface construction activities, all work within 50 feet of the find shall be stopped, and a qualified archaeologist funded by the applicant and approved by the City of Eureka shall be contacted to evaluate the find, determine its significance, and identify any required mitigation. The applicant shall be responsible for implementing the mitigation prior to construction activities being re-started at the discovery site.

Timing for Implementation/Compliance: Throughout the duration of project construction.
Person/Agency Applicant, Contractor, and City of Eureka
Monitoring Frequency: Throughout the duration of project construction.
Evidence of Compliance: If archaeological or paleontological resources are discovered: (1) hiring of a qualified archaeologist by the applicant acceptable to the City; and (2) implementation of any mitigation identified by the archaeologist prior to resumption of construction activities at the location.

Mitigation Measure V-d: In accordance with California Health and Safety Code Section 7050.5 and California Public Resources Code Sections 5097.94 and 5097.98, if human remains are uncovered during project construction activities, work within 50 feet of the remains shall be suspended immediately, and the City of Eureka Community Development Department, Humboldt County Coroner shall be immediately notified. If the remains are determined by the Coroner to be Native American in origin, the Native American Heritage Commission (NAHC) shall be notified within 24 hours, and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains.

Timing for Implementation/Compliance: Throughout the duration of project construction.
Person/Agency Applicant, Contractor, and City of Eureka
Monitoring Frequency: Throughout the duration of project construction
Evidence of Compliance: Notification by the applicant and CDD of the County Coroner, relevant Native American representative and NAHC if human remains are found.

VI. GEOLOGY AND SOILS

See **Mitigation Measure IX1**, in Hydrology and Water Quality section.

VII. GREENHOUSE EMMISIONS

No mitigation required.

VIII. HAZARDS AND HAZARDOUS MATERIALS

Mitigation Measure VIII-1: In the event any hazardous, toxic, noxious, objectionable, or unknown chemicals are encountered during trail construction, construction shall be halted by

the construction crew on duty and reported to the general contractor for the project and the City of Eureka. Prior to resuming any work the City shall be responsible for obtaining a soil sample contamination analysis. The findings of the analysis shall be submitted, as applicable, to the RWQCB, DTSC, and any other appropriate regulatory agencies. Work shall not continue until and unless written approval is obtained from these agencies. The applicant shall comply at all times with the requirements and regulations of the RWQCB, DTSC, and other agencies with regard to the handling, transport, and disposal of hazardous materials such as contaminated soils to the satisfaction of the applicable agencies. Disposal of all hazardous materials will be in compliance with all applicable California hazardous waste disposal laws.

Timing for Implementation/Compliance: During design and construction.
Person/Agency Responsible for monitoring: Contractor and City of Eureka official.
Monitoring Frequency: During Construction.
Evidence of Compliance: Compliance with applicable regulations if hazardous materials are encountered.

IX. HYDROLOGY AND WATER QUALITY

Mitigation Measure IX-1: To mitigate the potential for increased stormwater runoff resulting from construction of impervious trail surfaces, the applicant shall, prior to commencement of any construction, submit a Stormwater Pollution Prevention Plan (SWPPP) to the City of Eureka Public Works Stormwater Division. The SWPPP shall be subject to approval by the North Coast Regional Water Quality Control Board, and City of Eureka Building, Planning, Engineering, and Public Works Departments. SWPP implementation shall be subject to enforcement by the aforementioned agencies.

The SWPPP shall incorporate BMPs as appropriate. No debris, soil, silt, sand, slash, sawdust, rubbish, cement or concrete washings, oil or petroleum products, or other organic or earthen material from construction operations shall be allowed to enter or be placed where it may become entrained in any flowing or standing water. Erosion control measures and BMPs would be implemented during all phases of construction.

Timing for Implementation/Compliance: During design and construction phase.
Person/Agency Responsible for monitoring: City of Eureka official and engineer.
Monitoring Frequency: Once during plan check and during construction.
Evidence of Compliance: City of Eureka official will inspect and approve.

MITIGATION MEASURE IX-2: To inform the general public of the potential of tsunami run-up inundating the trail area, each trailhead location shall have signage informing the public of what actions to take in the event of seismic activity. Said signage shall be posted to the satisfaction of the City of Eureka and prior to the trail being open to the general public.

Timing for Implementation/Compliance: During design phase.
Person/Agency Responsible for monitoring: City of Eureka official and engineer.
Monitoring Frequency: Once during plan check and during construction.
Evidence of Compliance: City of Eureka official will inspect and approve.

X. LAND USE AND PLANNING

No mitigation required.

XI. MINERAL RESOURCES

No mitigation required.

XII. NOISE

Mitigation Measure XII-1: Construction activities will be limited to the hours of 7:00 AM to 7:00 PM on weekdays and 8:00 AM. to 6:00 PM on Saturdays, Sundays, and Holidays, except in emergencies.

Timing for Implementation/Compliance: During design and construction phase.
Person/Agency Responsible for monitoring: City of Eureka official and engineer.
Monitoring Frequency: Once during plan check and once during construction.
Evidence of Compliance: City of Eureka official will inspect and approve.

XIII. POPULATION AND HOUSING

No mitigation required.

XIV. PUBLIC SERVICES

No mitigation required.

XV. RECREATION

No mitigation required.

XVI. TRANSPORTATION/TRAFFIC

No mitigation required.

XVII. UTILITIES AND SERVICE SYSTEMS

See **Mitigation Measure IX1**, in Hydrology and Water Quality section.

City of Eureka

Eureka Waterfront Trail Phase C CEQA Initial Study & Proposed Mitigated Negative Declaration

February 2014

Exhibit 3: CEQA Documents

City of Eureka

Eureka Waterfront Trail Phase C
CEQA Initial Study &
Proposed Mitigated Negative Declaration

February 2014

Prepared for

City of Eureka
531 K Street
Eureka, CA 95501
(707) 441-4160

Prepared by

GHD Inc.
718 Third Steet
Eureka, CA 985501
(707) 443-8326

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CEQA

INITIAL STUDY & PROPOSED MITIGATED NEGATIVE DECLARATION

CITY OF EUREKA

PROJECT TITLE: Eureka Waterfront Trail Phase C

PROJECT APPLICANT: City of Eureka **CASE NO**: C-14-0001

PROJECT LOCATION: Northeastern Eureka east of Waterfront Drive and the Samoa Bridge; adjacent to and paralleling the south coast of Humboldt Bay; adjacent to and paralleling the west bank of Eureka Slough; connecting to the existing trail at the rear of Target; underneath Highway 101; through the Shoreline RV Park's eastern edge; and connecting to Tydd Street behind the Eureka Community Health Center. APNs: 002-231-010; 002-231-002; 002-231-009; 002-231-012; 002-231-013; 002-231-004; 002-231-002; 002-231-021; 002-201-008; 002-252-028; 002-191-032; 002-191-035; 002-191-028; 002-231-008, and 002-191-025.

ZONING & GENERAL PLAN LAND USE DESIGNATION: Zoning: Waterfront Commercial (CW); Natural Resources (NR); Service Commercial (CS); Multi-Family Residential (RM-1000) and Public (P). General Plan Land Use Designations: Waterfront Commercial (WFC), Natural Resources (NR), General Service Commercial (GSC), High Density Residential (HDR), and Public/Quasi-Public (PQP).

PROJECT OVERVIEW: As designated in the City of Eureka General Plan, the City of Eureka proposes to construct an approximately 1.17 mile multi-use trail between Tydd Street and Front Street (see Figure 1). The trail will serve as both an important non-motorized transportation/commuter corridor and a recreational facility. The proposed project includes the construction of: a new Class I multi-use trail; boardwalk; three bridges; viewing areas and interpretive signs; drainage improvements; fencing; trailheads; lighting; and landscaped buffers. The trail alignment passes through public and private properties. Most of the trail is located within City right-of-way (ROW); however, the City will need to obtain ROW for areas within private property.

For purposes of the describing the project, the project has been broken into 9 segments. An overview of these segments is presented in Table 1, below. These segments will be referred to throughout the remainder of the document.

Table 1: Summary of Project Segments

Segment	Beginning Station	End Station	Total Length (feet)	Length of Asphalt Trail (feet)	Length of Boardwalk Trail (feet)	Length of Bridge (feet)	Number of Viewing Platforms/ Interpretive Sign Areas	Number of Trailheads	New or Relocated Fencing?	Potentially Includes Retaining Structure?	Lighting Planned in this Segment?	Number of Private Parcels Intersected by Project[2]	Number of Public Parcels Intersected by Project	Maximum anticipated depth of excavation[1]	Designed to Allow Temporary Use by Mantenance Vehicles?	Connections
1	0	17+50	1,750	1,660	0	90	2	1	Yes	Yes	No	3	3	3	Yes (except on bridge)	Adorni Trail
2	17+50	23+10	560	0	560	0	0	0	No	No	No	1	0	1	No	None
3	23+10	25+90	280	280	0	0	1	0	Yes	No	No	1	1	3	Yes	X Street Spur, Y Street Spur
Y Street Spur	10+000	10+300	300	300	0	0	0	1	No	No	No	0	1	1	Yes	North end of Y Street
X Street Spur	10+300	10+320	20	20	0	0	0	1	No	No	No	0	2	1	Yes	North end of X Street
4	25+90	33+50	760	700	0	60	1	0	Yes	Yes	No	0	2	3	Yes (except on bridge)	X Street Spur; future potential connection to Humboldt Bay Trail via railroad bridge
5	33+50	39+25	575	575	0	0	0	1	No	No	No	1	0	1	Yes	Target Parking Lot
6	39+25	42+20	295	223	12	60	0	0	No	No	Yes	0	1	1	No	Currently none; future potential connection to Humboldt Bay Trail via US 101 bridge
7	42+20	51+10	890	890	0	0	1	0	Yes	No	No	1	0	0	Yes	Shoreline RV Park
8	51+10	54+50	340	340	0	0	0	0	Yes	Yes	No	0	1	1	Yes	East end of East Street
9	54+50	61+96	746	746	0	0	1	1	No	Yes	No	1	0	1	Yes (except on west end)	North end of Tydd Street
TOTAL	**NA**	**NA**	**6,516**	**5,734**	**572**	**210**	**6**	**5**	**NA**	**NA**	**NA**	**7**	**8**	**NA**	**NA**	**NA**

1. Some parcels are intersected by more than one segment. Therefore, totals reflect actual total parcels intersected by project and not the cumulative sums of the number of parcels listed per segment.

PROJECT PURPOSE: The purpose of the proposed project is to provide a non-motorized trail facility that meets the following criteria:

- Allow bikes and pedestrians to travel from the Myrtle Avenue area of Eureka to the Old Town area without having to interact with vehicular traffic on Highway 101 (4th and 5th Streets).
- Serve as a safe and efficient non-motorized transportation/commuter route connecting Myrtle Avenue and Old Town.Increase opportunities for active living to improve public health, increase the number of safe options for non-motorized transportation, and decrease transportation-related carbon dioxide (CO2) output.
- Formalize public access to and along Eureka Slough by channeling the public into designated trail areas with the intention of decreasing environmental damage caused by illegal/unauthorized trespassing, camping, squatting, littering, and dumping.
- Initiate a formal trail along the Eureka Slough corridor to discourage the current prevalence of illegal/unauthorized trespassing, camping, squatting, littering, and dumping.
- Improve the safety and cleanliness of the Eureka Slough throughout the study area (project area).
- Serve as a recreational corridor along Eureka Slough that encourages an appreciation of the environment and the socio-cultural history of the area by providing opportunities for nature study, including up-close views of local vegetation/habitats, long-range views of Eureka Slough/Humboldt Bay, and interpretive signs that include information regarding local habitats and cultural/historical sites.
- Meet Caltrans Class I multi-use trail design standards and Americans with Disabilities Act (ADA) design standards as practicable.
- Be designated by the City of Eureka as an exclusively non-motorized facility, with the allowance of temporary light motorized City maintenance vehicle and emergency vehicle access along some portions of the facility.

STUDY AREA AND SUPPORTING STUDIES: Figures 2.1 through 2.8 show the project study area. The project starts in north Eureka at the existing Adorni Trail (east of SR 255 Bridge), continues around the edge of Humboldt Bay/Eureka Slough and terminates at Tydd Street behind the new Eureka Community Health and Wellness Center. The study area identified for this project ranges from 15 feet wide to over 100 feet wide in order to cover a variety of alignments that were considered. The project alignment was selected because it minimizes impacts and provides an aesthetic and functional trail. The project will include more than one acre of ground disturbance (approximately two acres). The project area is within the United States Geological Survey Eureka quadrangle in Township 5 north, Range 1 west, Section 23. Elevations within the study area range from -3 feet to 35 feet (North American Vertical Datum 1988 [NAVD 88]). Within the study area, the predicted maximum high tide in 2013 and 2014 is 8.5 feet (NAVD 88).

The major surface waters within and adjacent to the project area include Humboldt Bay in the north and Eureka Slough to the east. Additional sloughs include Wedge Slough as shown in Figure 2.2, Target Slough as shown in Figure 2.5, First Slough as shown in Figure 2.6, and Second Slough as shown in Figure 2.7. The Front Street Drainage Channel is shown in Figure 2.1. The project has been located and designed to have little to no impact to surface waters in the project area.

The following analyses and studies have been conducted to support the project: wetland delineation (including environmentally sensitive habitat areas (ESHA) (see Figures 3.1 through 3.8)), a Phase I Environmental Site Assessment (see Figures 4.1 through 4.8), and a cultural resources survey report. Field data collection occurred within the project study area, while record searches and other special studies may include information outside of the identified study area.

PROJECT DESCRIPTION**:** The project description includes the following sub-sections:

- Project Overview
- Design Standards
- Description of Project by Segment
- ROW, Easements, and Access
- Staging and Construction
- Operations and Maintenance
- Opportunities for Restoration and Mitigation

Design Standards: Figures 5.1 through 5.8 show the preliminary design. The project is designed to meet the standards of Class I multi-use trails (Caltrans Highway Design Manual, Chapter 1000) and the ADA. Throughout the project alignment, the following design standards will be applied. Further detail is provided below in the segment-by-segment description of the project.

> *Trail width and surface:* The standard trail width for this project will be 10 feet of asphalt with two 2-foot gravel shoulders. In order to comply with Class I and ADA standards, the trail will not exceed a slope of 5% grade. In areas with environmental, cultural resource, or other constraints, the trail width will be reduced to 8 feet in width with two 2-foot gravel shoulders. In areas in which the project intersects tidally influenced waters, the standard trail will consist of a bridge or boardwalk as described below.
>
> *Structural Pavement Sections:* The trail is anticipated to have a typical structural section that has approximately 6 inches of aggregate base and approximately three inches of asphalt concrete. In some locations, there may be up to 1-foot of aggregate based depending on subsurface conditions. In areas of poor soils, the structural section may be increased or other soil stabilization measures such as the use of geotextiles and increased structural section depth and

may be employed.

Bridge Structures: The three bridges associated with the project will consist of pre-manufactured bridge structures comprised of steel, fiberglass or concrete. The bridges will be supported on spread concrete footings, which may include concrete piles to provide additional bearing support at some locations. Prior to completing final design for the project, the City will complete a geotechnical analysis at each bridge location to determine the bearing capacity of the soils and to determine if piles will be necessary. If piles will be necessary, the geotechnical analysis will also determine how deep the piles would need to be. It is assumed that piles would need to be at least 10 feet in depth. Each of the bridges spans over tidal waters. If piles are necessary, piles would not exceed 12 inches in diameter and would be installed at least 33 feet from tidal water at the time of installation to eliminate the potential for noise related impacts to aquatic species. The bridges will include railings designed to comply with Class I and ADA standards. The slope of bridges will not exceed 2% grade.

Boardwalk Structure: A boardwalk structure will be constructed for trail portions that cross tidally influenced waters to allow tidal waters to pass under the trail without blocking tidal flows. The boardwalk will be approximately 10 feet wide between railings and will be comprised of pre-manufactured wood, fiberglass, steel, or concrete spans supported by either piles or concrete foundations. Prior to completing final design for the project, the City will complete a geotechnical analysis at the boardwalk locations to determine the bearing capacity of the soils and to determine if piles will be necessary. If piles are required, as with the bridge structures, the piles would not exceed 12 inches in diameter and would be installed at least 33 feet from tidal water at the time of installation to eliminate the potential for noise related impacts. For safety purposes the boardwalk will include railings that are designed to comply with Class I and ADA standards. The slope of the boardwalk will not exceed 5% grade.

Retaining Structures: If retaining structures are required adjacent to the bridge structures, they may consist of cast-in-place concrete walls, welded-wire walls, or mechanically stabilized earth (MSE) walls. Retaining structures will not exceed 5 feet in height.

Viewing Platforms and Interpretive Signage: The viewing platforms and interpretive sign areas of the project will consist of either low-profile landscaped areas or raised deck platforms comprised of either steel, asphalt concrete, concrete or rail tie borders filled with crushed gravel. Each platform/sign area will include interpretive signs, benches, and/or landscaping. These areas will encourage an appreciation of the environment and the socio-cultural history of the area by providing opportunities for nature study. The opportunities include providing up-close views of local vegetation/habitats, mid-range views of Eureka Slough/Humboldt Bay, long-range views of the surrounding ridge lines, and interpretive signs that include information regarding local habitats and cultural/historical sites.

Directional/Wayfinding Signage: Directional/Wayfinding Signage will be installed along Route 101 and along City streets to inform people of nearby Waterfront Trail. Directional/Wayfinding Signage will be installed at regular intervals to inform trail users of nearby connections to surface streets and nearby destinations.

Trailheads: The five trailheads associated with the project may include new or refurbished parking spaces, interpretive signs, gateway signage, kiosks, benches, and/or landscaping. Locations of the trailheads are identified in the segment-by-segment descriptions below.

Signage, Striping, and Vehicle Control: The trail will not include a centerline stripe. Standard trail-related traffic-control signage will be installed in order to comply with Class I standards. For example, "Stop Ahead" and "Stop" signs will be installed at locations in which the trail intersects a vehicular roadway. Other signage will be installed as required. At locations in which the trail intersects a vehicular roadway, removable bollards will be installed to prevent motorized vehicles from entering the trail. Authorized personnel (e.g. police, emergency-responders, city maintenance crews, etc.) will be able to remove the bollards and temporarily access some portions of the trail with motorized vehicles.

Drainage: The trail will typically have a 2% crown or cross slope to allow surface water to flow away from the trail surface. Preliminary drainage analyses indicate that no new ditches will be required and that existing drainage patterns will remain.

Lighting: Lighting is only proposed to be attached to the under-side of Highway 101 undercrossing. In this location, lighting will consist of pedestrian scale lighting on poles or fixed lighting attached to the bridge abutments adjacent to the trail. The lighting underneath the Highway 101 bridges will be directed downward and will be focused at the trail.

Fencing: Where required, new fencing will consist of four-foot high vinyl coated chain-link fencing except at the Shoreline RV Park where more decorative fencing may be installed. Railings would be located along the boardwalk segments of the trail.

DESCRIPTION OF PROJECT BY SEGMENT: The following describes nine segments of the project from north to south. These segments are differentiated for clarity but do not represent distinct segments during design or construction. The following segment by segment descriptions of the project correspond to Figures 5.1 through 5.8 (Appendix A). Each figure includes centerline stations that may be referenced in the segment descriptions. The segment descriptions include a photograph log which shows typical existing conditions along the trail alignment in each segment. Each photograph indicates the approximate centerline station at which the photograph was taken (see Figures 5.1 through 5.8 for centerline stationing). In project locations that are near tidally-influenced waters, photographs were taken on December 4th, 2013 (the 4th highest tide of 2013) and on December 13th, 2013 (the 6th lowest tide of 2013). These extreme high tide/low tide photos were taken in the same locations in order to provide side-by-side comparisons of high tide and low tide in locations in which the project may intersect tidally-influenced areas.

Segment 1: West Field and North Field: A new trailhead will be installed on the north side of Front Street as shown in Figure 5.1. This trailhead will consist of new parking spaces, trail gateway signage, a kiosk, and landscaping. The existing asphalt path shown in Photo 1 below provides a non-motorized connection from this new trailhead to Station 0+00.

The proposed northern terminus of the project (Station 0+00) is the point at which the proposed trail connects to the existing Adorni Trail at the northwest limit of the project area (see Figure 5.1 and Photo 1). A portion of the existing Adorni Trail will be realigned to provide a better transition between the existing trail and the proposed trail. Immediately east of the connection with the Adorni Trail the proposed trail crosses an existing drainage ditch and culvert (near Station 0+50).

The proposed trail continues east along the edge of former fill areas adjacent to the coastal salt marsh and the edge of Humboldt Bay (along an area referred to as "West Field"). The trail then approaches a tidally-influenced drainage channel referred to as "Wedge Slough." A viewing platform and/or interpretive signage area will be installed where the trail turns southeast just northeast of Station 2+50.

West of Wedge Slough, the trail alignment turns southeast approaching a proposed bridge structure to span Wedge Slough. Because of the existing grade differential between the west and east banks of Wedge Slough, the grade of the trail will be raised on the west side of Wedge Slough using a new fill prism.

There is currently an approximately 9-foot grade differential between the existing west bank (9 feet NAVD88) and east bank of Wedge Slough (18 feet NAVD 88). The distance of this span is approximately 90 feet, which would require a 10% grade to span from bank to bank (see Figure 5.2). However, ADA requirements mandate that the trail surface shall not exceed 5% grade, while it is best practice to keep pedestrian/bike bridges at or below 2% grade (bridges are prone to becoming slippery due to the fact that they are exposed to the elements). Therefore, in order to achieve these slope standards, the western approach to the bridge will be elevated by a small fill prism and the eastern approach will be cut slightly into the embankment. The east and west bridge approach grades will be 5% grade and the bridge grade will be 2% grade.

The proposed bridge will be a pre-manufactured bridge structure approximately 90 feet long and will be comprised of steel, fiberglass or concrete. The bridge will be supported on concrete abutments which may or may not require concrete piles to provide additional bearing support. Prior to completing final design for the project, the City will complete a geotechnical analysis in this location to determine the bearing capacity of the soil and to determine if piles will be necessary. As noted above, if piles are required, they would be installed at least 33 feet from tidal water at the time of installation. As shown in photos 5a and 5b, Wedge Slough is tidally influenced at the location of the proposed bridge. Therefore, if piles are necessary, the piles would be installed at low tide in order to ensure that they would be installed at least 33 feet from tidal water at the time of installation. The bridges will include railings that are designed to comply with Class I and ADA standards.

The trail will continue northeast from Wedge Slough crossing along the top of the existing embankment through an area referred to as "North Field." North Field is a large open upland area located at the junction of Humboldt Bay and Eureka Slough. The north edge of North Field is between 15 and 20 feet in elevation (NAVD 88). A steep embankment drops down to the tidally-influenced edge of Humboldt Bay/Eureka Slough. The proposed trail will wrap around the north edge of North Field and will be located a few feet on the inland side of the top of bank. A viewing area and/or interpretive sign area may be installed near Station 9+50, which is both the northernmost point of North Field and the northernmost point of the overall project. This viewing area will be situated at the approximate confluence of Humboldt Bay and Eureka Slough. A viewing area and/or interpretive sign area may also be installed near Station 15+00. From this viewing area the trail turns southeast along the top of the existing embankment, until the embankment terminates north of the area known as the "Boardwalk Area." At that point, the trail will transition down approximately 6 feet in vertical grade to get down to the grade of the boardwalk. In order to achieve 5% grade (per ADA standards), the trail may need to be slightly cut into the embankment on the far eastern side of North Field.

Segment 1 will consist of a 10-foot wide Class I asphalt trail approximately 1,750 feet in length along the centerline of the trail.

Photo ID: 1	Looking north along existing Adorni Trail toward Station 0+00. The proposed project would connect to this existing trail and travel eastward (to the right).
Segment: South of 1	
Station: South of 0+00	

Photo ID: 2	Looking east near Station 0+50 across area referred to as "West Field." Fence will be removed. Paved trail will be along top of bank.
Segment: 1	
Station: 1+50	

Photo ID: 3	Looking east near Station 1+50 across area referred to as "West Field." Photo shows approach to "Wedge Slough." Trail will be along top of bank.
Segment: 1	
Station: 1+50	

Photo ID: 4	Looking east near Station 2+50 across area referred to as "West Field." Area in photo will include slight fill prism to raise grade for approach to bridge.
Segment: 1	
Station: 2+50	

Photo ID: 5a	Photo taken during extreme low tide (6th lowest tide of year; December 13, 2013). Looking from the west bank of Wedge Slough (Station 3+27) across to east bank (Station 4+17). A bridge will be in this location.
Segment: 1	
Station: 3+27	

Photo ID: 5b	Photo taken at same location at extreme high tide (fourth highest tide of the year; December 4, 2013). A bridge will be constructed in this location.
Segment: 1	
Station: 3+27	

Photo ID: 6 Segment: South of 1 Station: South of 3+75	Photo taken at extreme low tide. Looking north toward Station 3+75. Bridge will be in mid-ground of this photo.

Photo ID: 7 Segment: 1 Station: 4+17	Photo taken at low tide. Looking west from east bank of Wedge Slough (Station 4+17) across to west bank (Station 3+27). East side of bridge location.

Photo ID: 8 Segment: 1 Station: 5+00	Looking northeast near Station 5+00 across area referred to as "North Field." A cut into the east bank of Wedge Slough will occur in this area in the approach to the Wedge Slough bridge.

Photo ID: 9 Segment: 1 Station: 6+50	Looking northeast near Station 6+50 across North Field. Paved trail will generally follow existing volunteer footpath along inland side of top of bank.

Photo ID: 10 Segment: 1 Station: 9+00	Looking northeast near Station 9+00 across North Field at location of viewing platform. Paved trail will generally follow existing volunteer footpath along inland side of top of bank.

Photo ID: 11 Segment: 1 Station: 14+00	Looking northeast near Station 14+00 across North Field. Paved trail will generally follow existing volunteer footpath along inland side of top of bank.

Photo ID: 11a Segment: 1 Station: North of 9+50	Trash/debris to be removed as part of project.

Photo ID:11b Segment: 1 Station: North of 9+50	Trash/debris to be removed as part of project.

Photo ID: 12a Segment: 1 Station: 17+50	Looking south east from top of bank on far eastern side of North Field looking down into "Boardwalk Area." Trail may need to be slightly cut into the embankment. Photo taken at low tide.

Photo ID: 12b Segment: 1 Station: 17+50	Photo taken in same location at high tide.

Segment 2: Boardwalk Segment: The trail alignment continues southeast and transitions from being in North Field on top of the embankment as a paved trail to being down in the Boardwalk Area as a boardwalk. The elevation difference from the top of the embankment to the Boardwalk Area is approximately 6 feet. The grade differential will be tied together by cutting slightly into the eastern bank of North Field and/or by varying the height of piles or concrete foundations that support the boardwalk as the boardwalk transitions from North Field down to the Boardwalk Area.

Through the Boardwalk Area segment of the project (see Figures 5.3 and 5.4), the proposed trail alignment crosses over an area that ranges from approximately 5 feet to 14 feet in elevation (NAVD 88). In 2013 and 2014, the predicted maximum tide is 8.5 feet (NAVD 88). Therefore, a boardwalk structure will be constructed throughout this segment to allow tidal waters to pass under the trail without impeding tidal flow. The proposed boardwalk will be approximately 10 feet wide between railings and will be comprised of pre-manufactured fiberglass, steel or concrete spans, supported by either piles or concrete foundations. Prior to completing final design for the project, the City will complete a geotechnical analysis in this location to determine the bearing capacity of the soil and to determine if piles will be necessary. If piles are required, the piles would be installed at least 33 feet from tidal water at the time of installation. As shown in the photos below, the Boardwalk Area is tidally influenced throughout most of Segment 2. Therefore, if piles are necessary, the piles would be installed at low tide in order to ensure they are installed at least 35 feet from tidal water at the time of installation.

Typical boardwalk spans will be approximately 10 feet long. In limited locations, boardwalk spans may be increased up to 30 feet (depending on soil conditions) in order to minimize the total number of piles and/or in order to avoid environmental impacts. A viewing area and/or interpretive sign area may be installed near Station 22+00. This would require an additional boardwalk segment approximately 10 feet in length and 10 feet wide attached to the primary boardwalk.

The boardwalk structure will run southeast toward the area known as "East Field." The boardwalk will parallel Eureka Slough approximately 300 feet inland of mean sea level. The boardwalk will pass to the east of the parcel associated with the Blue Ox Mill Works, but does not cross the property line. The boardwalk ends at the northern edge of East Field. The total boardwalk segment is approximately 525 feet in length along the centerline of the trail.

Photo ID: 13a	Looking west from a point east of Station 19+00 at grade change between segments 1 and 2. Boardwalk will be in mid-ground on west side of photo and will transition up to paved trail at top of berm on east side. Photo taken at low tide.
Segment: 2	
Station: East of 19+00	

Photo ID: 13b	Photo taken at same location at high tide.
Segment: 2	
Station: East of 19+00	

Photo ID: 14a	Looking south from a point north of Station 20+00. Boardwalk will be in foreground through center of photo. Boardwalk will extend to line of vegetation in background (which is "East Field"). Photo taken at low tide.
Segment: 2	
Station: North of 20+00	

Photo ID: 14b	Photo taken at same location at high tide.
Segment: 2	
Station: North of 20+00	

Photo ID: 14a	Looking west from a point east of Station 21+50. Boardwalk will pass across mid-ground of photo from right side to left side. Photo taken at low tide.
Segment: 2	
Station: East of 21+50	

Photo ID: 14b	Photo taken at same location at high tide.
Segment:	
Station: East of 21+50	

Photo ID: 15a Segment: 2 Station: 22+00	Looking northwest from Station 22+00 back toward Station 18+00. Boardwalk will be in foreground through center of photo. Boardwalk will extend to line of vegetation in background on right side of photo (which is "North Field"). Photo taken at low tide.

Photo ID: 15b Segment: 2 Station: 22+00	Photo taken at same location at high tide.

Photo ID: 16a Segment: 2 Station: East of 22+50	Looking west from a point east of Station 22+50. Boardwalk will pass across mid-ground of photo from right side to left side. Left side of photo is "East Field." Blue Ox Mill Works in in background. Photo taken at low tide.

Photo ID: 16b Segment: 2 Station: East of 22+50	Photo taken at same location at high tide.

Photo ID: 17a Segment: 2 Station: East of 23+00	Looking west from a point east of Station 23+00. Boardwalk will pass across mid-ground of photo from right side to left side. Left side of photo is "East Field." Blue Ox Mill Works in in background. Photo taken at low tide.

Photo ID: 17b Segment: 2 Station: East of 23+00	Photo taken at same location at high tide.

Segment 3: East Field: The trail alignment passes along the western edge of an area known as "East Field," which is southeast of the Blue Ox Mill Works (see Figure 5.4). East Field spans between the Boardwalk Segment and the Railroad Crossing north of Y Street. East Field is a large, flat, open, upland area located along the west bank of Eureka Slough. Within the study area, East Field is between 9 and 12 feet in elevation (NAVD 88). A small embankment drops down to the tidally-influenced areas to the west, north, and east of East Field. The proposed trail will wrap around the west edge of East Field and will be located a few feet on the inland side of the top of bank. A viewing platform and/or an interpretive

sign area may be installed near Station 23+25.

Due east of viewing platform/interpretive sign area (approximately 230 feet east) at the edge of the upland area an osprey platform may be installed. The platform would consist of a 12-inch minimum diameter wood pole and supports with a wood platform on top approximately 15-30 feet above the existing grade.

Near Station 25+65 (at the far southern end of Segment 3), the trail crosses over the NCRA railroad tracks. This crossing will require a General Order 88b permit and approval from the California Public Utility Commission (CPUC). The southern terminus of Segment 3 is at a four-way trail junction connecting Segment 3, Segment 4, the "Y Street Spur," and the "X Street Spur." Segment 3 will consist of a 10-foot wide asphalt Class I trail approximately 275 feet in length along the centerline of the trail.

Photo ID: 18a	Trash/debris to be removed as part of project.
Segment: 3	
Station: East of 23+50	

Photo ID: 18b	Trash/debris to be removed as part of project.
Segment: 3	
Station: East of 23+50	

Photo ID: 18c	Looking north from Station 24+00 towards Station 23+25 at which point the trail transitions from the boardwalk up to East Field.
Segment: 3	
Station: 24+00	

Photo ID: 19	Photo taken looking west toward Station 25+00. Trail will pass along wall of vegetation in photo from right to left. Crossing of NCRA railroad is just to the left (south) of photo.
Segment: 3	
Station: East of 25+00	

Y Street Spur trail: Segments 3 and 4 merge at a four-way junction as described above (see Figure 5.4). The southern leg of this 4-way junction is a small spur trail connecting to the far north end of Y Street on an existing informal trail/road. This spur trail will connect local non-motorized traffic from surface streets in northeast Eureka to the proposed trail. A trailhead is proposed at the far north end of Y Street, which could consist of a kiosk, and re-configuration of existing parking. The Y Street Spur trail will consist of a 10-foot wide asphalt Class I trail 80 feet in length along the centerline of the trail.

Photo ID: 20	Looking south from Station 103+00 toward northernmost end of Y Street. This area is proposed for a trailhead.
Segment: Y St Spur	
Station: 103+00	

Photo ID: 21	Looking south from Station 103+00 toward northernmost end of Y Street. This area is proposed for a trailhead.
Segment: Y St Spur	
Station: 103+00	

X Street Spur trail: Segments 3 and 4 merge at a four-way junction as described above. The western leg of this 4-way junction is a small spur trail connecting to the junction of the far northern end of X Street and the far eastern end of First Street. The eastern half of this spur trail parallels the NCRA railroad tracks along an existing trail and therefore must comply with NCRA Policy 0907 – "Trail Projects on the NWP Line ROW: Design, Construction, Safety, Operations, and Maintenance Guidelines." This document outlines the NCRA's policies regarding "Rails-with-Trails" projects and provides uniform and consistent standards on NCRA's ROW for the design, construction, safety, operations, and maintenance of Rails-with-Trails Projects. The setbacks from the railroad track required in this policy influenced the location and footprint of the proposed trail in this segment. Through most of Segment 4, the trail is parallel to the railroad tracks. Per the NCRA guidelines, where the trail is parallel to the tracks, the northern edge of the trail is offset from the centerline of the railroad tracks by 9.5 feet.

The western half of this spur trail turns southwest away from the railroad tracks and passes under and between mature Monterey pine trees along an existing trail/road. This spur will connect local non-motorized traffic from surface streets in northeast Eureka to the proposed trail. A trailhead is proposed at the far eastern end of First Street, which could consist of a kiosk, and re-configuration of existing parking. The X Street Spur trail will consist of a 10-foot wide asphalt Class I trail approximately 300 feet in length along the centerline of the trail. No trees would be removed to construct the project.

Photo ID: 22	Looking west from Station 103+00 along X Street Spur.
Segment: X St Spur	
Station: 103+00	

Photo ID: 23	Looking west from Station 100+50 towards easternmost end of First Street, at which location a trailhead is proposed.
Segment: X St Spur	
Station: 100+50	

Segment 4: Rail-with-Trail: The western terminus of Segment 4 is at a four-way trail junction between Segment 3 (north leg of 4-way junction), Segment 4 (east leg), the "Y Street Spur" (south leg), and the "X Street Spur" (west leg) (see Figures 5.4 and 5.5). The two spur segments are described in the sub-sections below.

A majority of Segment 4 is within the NCRA railroad ROW and therefore must comply with NCRA Policy 0907 as described above. The setbacks from the railroad track required in this policy influenced the location and footprint of the proposed trail in this segment. Throughout most of Segment 4, the trail is parallel to the railroad tracks. Per the NCRA guidelines, where the trail is parallel to the tracks, the northern edge of the trail is offset from the centerline of the railroad tracks by 9.5 feet.

A viewing platform and/or an interpretive sign area will be installed just east of Station 31+60. At Station 31+60, the trail turns south away from the railroad tracks and approaches the tidally-influenced drainage slough known as "Target Slough." The elevation difference between the north bank of Target Slough and the south bank of Target Slough is 1 foot (NAVD 88). The grade differential will be tied together by building small embankments on both the north bank and south banks and by having the bridge grade slope 2% to the north. The proposed bridge will be a pre-manufactured bridge structure approximately 60 feet long, comprised of steel, fiberglass, or concrete. The bridge will be supported on concrete abutments, which may or may not require concrete piles to provide additional bearing support. Prior to completing final design for the project, the City will complete a geotechnical analysis in this location to determine the bearing capacity of the soil and to determine if piles will be necessary. If piles are required, the piles would be installed at least 33 feet from tidal water at the time of installation. Target Slough is tidally influenced at the location of the proposed bridge. Therefore, if piles are necessary, the piles would be installed at low tide in order to ensure that piles were installed at least 33 feet from tidal water at the time of installation.

Segment 4 primarily consists of a 10-foot wide asphalt Class I trail. However, at Station 31+60 (near the east end of Segment 4), the trail transitions to an 8-foot wide asphalt Class I trail to accommodate grading and environmental constraints. Segment 4 is approximately 725 feet in length along the centerline of the trail.

Photo ID: 24	Looking east from Station 26+00 along Segment 4. Trail would be offset from centerline of railroad tracks by 9.5 feet per NCRA Rail-with-Trail guidelines.
Segment: 4	
Station: 26+00	

Photo ID: 25	Looking east from Station 29+00 along Segment 4. Trail would be offset from centerline of railroad tracks by 9.5 feet per NCRA Rail-with-Trail guidelines.
Segment: 4	
Station: 29+00	

Photo ID: 26	Looking east from Station 31+00 along Segment 4. Just east of this point, trail would begin to tangent away from railroad tracks in order to drop grade down to the crossing of Target Slough.
Segment: 4	
Station: 31+00	

Photo ID: 27	Looking north toward the railroad embankment. The trail will be placed along this embankment and will slowly gain elevation at 5% grade.
Segment: 4	
Station: 32+50	

Photo ID: 28a	Looing northeast toward the existing NCRA bridge crossing the Eureka Slough. A new pre-manufactured bridge would cross the tidal slough and low lying area. Photo taken at low tide.
Segment: 4	
Station: 32+50	

Photo ID: 28b	Photograph taken at approximately same location during high tide.
Segment: 4	
Station: 32+50	

Photo ID: 29a	Looking northeast. North Target Slough bridge footing location, above HTL, shown on left side of photo. Photo taken at low tide.
Segment: 4	
Station: 32+50	

Photo ID: 29b	Photograph taken at approximately same location during high tide.
Segment: 4	
Station: 32+50	

Photo ID: 30a	Looing south across Target Slough toward existing Target Trail. Photo taken at low tide.
Segment: 4	
Station: 32+50	

Photo ID: 30b	Photograph taken at approximately same location during high tide.
Segment: 4	
Station: 32+50	

Photo ID: 31a	Looing west up Target Slough. Trail would bridge across Target Slough in foreground of photo. Photo taken at low tide.
Segment: 4	
Station: East of 33+25	

Photo ID: 31b	Photograph taken at approximately same location during high tide.
Segment: 4	
Station: East of 33+25	

Segment 5: Existing Target Trail: An approximately 575-foot long Class I trail currently exists east of the existing Target Shopping Center just west of Eureka Slough (see Figures 5.5 and 5.6). The proposed project ties into this existing trail at the southern end of Segment 4 and at the northern end of Segment 6. Segment 5 consists of the existing "Target Trail." With a small exception on the north end, no modifications are proposed to the existing Target Trail. The northernmost 100 feet of the existing Target Trail will be removed and replaced with a new trail segment realigned to accommodate the proposed bridge over Target Slough (at the south end of Segment 4). The portion removed will be replaced with grass to match the areas adjacent to the existing trail. A viewing platform and/or an interpretive sign area may be installed near Station 35+00.

Photo ID: 32 Segment: 5 Station: 34+00	Looing south.		Photo ID: 33 Segment: 5 Station: 38+50	Looking south toward southbound bridge of Highway 101 and toward end of existing Target Trail.

Segment 6: Undercrossing of Highway 101: Segment 6 begins where the proposed trail ties into the southern end of the existing Target Trail (at Station 39+15) (see Figure 5.6). At Station 39+50, the trail will span a small tidally-influenced drainage channel and simultaneously pass under an existing electrical utility line. At less than 10 feet wide, the drainage channel is small enough that a small boardwalk or box culvert could be installed at low tide without impacting tidal waters.

At Station 39+75, the trail enters Caltrans ROW and immediately passes under the southbound bridge deck of Highway 101. The trail turns southwest in the area between the southbound and northbound bridges. The trail then turns south and passes under the northbound bridge deck of Highway 101 and approaches the tidally-influenced drainage channel known as "First Slough". This is the deepest tidally-influenced water body to be crossed for the proposed project. There are two 18-inch utility pipes aerially crossing First Slough in the direct vicinity of the proposed project. It is the City's preference that the proposed project does not cross over the exposed portions of these utility pipes. Therefore, as shown in Figure 5.6, a bridge will pass directly west of these pipes.

For either option, at Station 41+50, the trail reaches the northern bank of the tidally-influenced drainage slough known as "First Slough." There is very little elevation difference between the north bank of First Slough and the south bank of First Slough. The proposed bridge will be a pre-manufactured bridge structure approximately 60 feet long, comprised of steel, fiberglass, or concrete. The bridge will be supported on concrete abutments, which may or may not require concrete piles to provide additional bearing support. Prior to completing final design for the project, the City will complete a geotechnical analysis in this location to determine the bearing capacity of the soil and to determine if piles will be necessary. If piles are required, the piles would be installed at least 33 feet from tidal water at the time of installation. First Slough is tidally influenced at the location of the proposed bridge. Therefore, if piles are necessary, the piles would be installed at low tide in order to ensure that piles were installed at least 33 feet from tidal water at the time of installation.

Segment 6 will consist of an 8-foot wide asphalt Class I trail approximately 275 feet long along the centerline of the trail.

			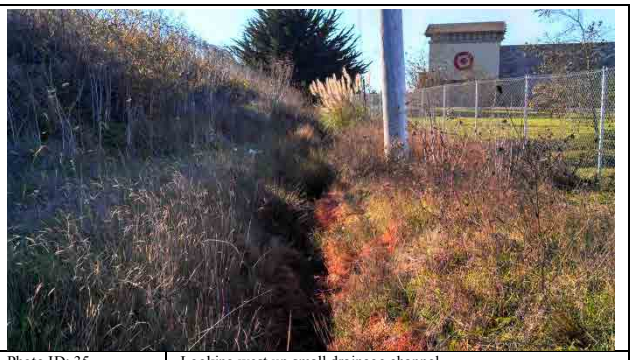	
Photo ID: 34 Segment: 5/6 Station: 39+00	Looing south toward transition from Segment 5 to Segment 6.		Photo ID: 35 Segment: 6 Station: 39+50	Looking west up small drainage channel.

Photo ID: 36	Under southbound bridge of Highway 101 looing south toward northbound bridge of Highway 101. Trail would pass through this location.
Segment: 6	
Station: 39+95	

Photo ID: 37	Looking southwest under southbound bridge of Highway 101. Trail would be located where the tent is shown in the photo (a homeless encampment was located here at the time of the photo).
Segment: 6	
Station: 40+50	

Photo ID: 38a	Looking north toward Highway 101 bridge. Trail would be located to the left (west) of the leftmost bridge pier in the foreground. Photo taken at low tide.
Segment: 6	
Station: 41+50	

Photo ID: 38b	Photo taken at same location at high tide.
Segment: 6	
Station: 41+50	

Photo ID: 39a	Photo taken west of Station 41+00 looking southeast. Note the two utility pipes that cross First Slough on the left side of photo. Proposed bridge would pass either east or west of these pipes (between the Monterey Pine Tree and the white RV). Photo taken at low tide.
Segment: 6	
Station: West of Station 41+00	

Photo ID: 39b	Photo taken at same location at high tide.
Segment: 6	
Station: West of Station 41+00	

Photo ID: 40a Segment: 6 Station: 41+60	Looking south at 12 inch utility pipe crossing over First Slough. A similarly sized pipe is 12 feet to the west of this pipe (just past the right edge of this photo). A bridge is proposed either east or west of these pipes. Photo taken at low tide.

Photo ID: 40b Segment: 6 Station: 41+60	Photo taken at same location at high tide.

Photo ID: 41a Segment: 6 Station: 42+00	Photo taken west of Station 42+00 looking east. Note the two utility pipes that cross First Slough. Proposed bridge would pass either east or west of these pipes. Photo taken at low tide.

Photo ID: 42b Segment: 6 Station: 42+00	Photo taken at same location at high tide.

Segment 7: Shoreline RV Park: Segment 7 begins just south of the bridge over First Slough (Station 42+05) (see Figure 5.6). At this point, the trail passes through an approximately 100-foot long grassy area along the northeast corner of the loop road around Shoreline RV Park (Station 42+95). Shoreline RV Park is accessed via West 6th Street via the same driveway that provides access to the Circle K gas station and the Harley Davidson store. Shoreline RV Park has approximately 55 spaces that are leased to temporarily park recreational vehicles. The 55 spaces are accessed by a loop road and six cross roads. The City of Eureka owns an easement deed granting the City a "twelve foot (12') wide non-exclusive easement for a pedestrian access…" along the eastern side of the eastern most road in the RV park. The easement is coincident with existing pavement. The proposed project will occupy this 12-foot wide area on the eastern half of the eastern road of the RV Park from the north end of Segment 7 (Station 42+95) to the south end of Segment 7 (Station 51+25) (see Figure 5.7). The eastern half of the roadway will become a two-way Class I trail, while the western half of the road will become a one-way (southbound) vehicular roadway. Throughout this segment, a physical barrier (such as a fence or a curb) will be installed in the center of the pavement to prevent motorized vehicles from entering the trail. At the far southern end of Segment 7, the existing fence separating the RV Park from the City Sewer Pump Station will be modified to allow the trail to pass through. Minor impacts to one of the landscaped ends of parking will be modified to accommodate the new trail.

A viewing platform and/or an interpretive sign area will be installed near Station 42+00. Segment 7 will consist primarily of an 8-foot wide asphalt Class I trail approximately 920 feet in length along the centerline of the trail. The last 75 feet of this segment will be a 10-foot wide asphalt Class I trail.

Photo ID: 43	Photo taken west of Station 41+00 looking southeast towards northern end of Segment 7. Trail will pass between tree and RV.
Segment: 6	
Station: West of Station 41+00	

Photo ID: 44	Photo taken at Station 43+00 looking northwest towards northern end of Segment 7. Trail will pass between tree and RV.
Segment: 7	
Station: 43+25	

Photo ID: 45	Photo taken at Station 43+00 looking south along eastern most access road of RV park. Photo taken between tree and RV shown in photos 43 and 44. Trail will occupy east 12' of roadway (on left side of photo).
Segment: 7	
Station: 43+00	

Photo ID: 46	Photo taken at Station 45+00 looking south along eastern most access road of RV park. Trail will occupy east 12' of roadway (on left side of photo).
Segment: 7	
Station: 45+00	

Photo ID: 47	Photo taken at Station 48+00 looking south along eastern most access road of RV park. Trail will occupy east 12' of roadway (on left side of photo).
Segment: 7	
Station: 48+00	

Photo ID: 48	Photo taken at same location looking north. Trail will occupy east 12' of roadway (on right side of photo).
Segment: 7	
Station: 48+00	

Segment 8: Hill Street Pump Station: As shown in Figure 5.7, Segment 8 passes an existing sewer pump station owned and operated by the City of Eureka. The pump station property is currently fenced around the entire perimeter to prevent public access. A 14-foot wide access road is located along the north side of the property. A swing-gate is located at the west side of the road (the northwest corner of the property). City staff is able to drive maintenance vehicles to the far west end of East Road, open the swing-gate, and then drive on the access road in order to access the facility. Within this segment, the project consists of repurposing the existing access driveway to serve as a Class I trail, constructing portions of new paved trail, relocating approximately 360 feet of existing chain-link fence, and relocating the existing swing-gate in the fence.

New paved trail will be constructed from Station 51+25 to Station 52+25, at which point the trail will connect to the existing access road associated with the sewer pump station. From Station 52+25 to 53+60, the existing access road will be repurposed to serve as the trail. The existing fence will also be relocated throughout this stretch to the south side of the trail. New swing-gates will be installed just south of Station 52+25 and just south of Station 52+90. At Station 53+60 the trail will turn south and pass just east of an existing retaining wall. From the northwest corner of the property to Station 54+50, the existing fence along the west side of the property will be relocated to the east side of the trail. At Station 54+50, the trail leaves Segment 8 and enters the parcels associated with the Eureka Community Health and Wellness Center and Segment 9.

Segment 8 will consist of a 10-foot wide asphalt Class I trail approximately 325 feet long along the centerline of the trail.

Photo ID: 49 Segment: 8 Station: 53+60	Looking east from Station 53+60 at existing access road that will be repurposed to serve as the Class I trail. A new fence will be installed just to the left (north) of the utility box in the foreground. A new swing-gate will be installed in the fence to allow City vehicles to access the other two roads that are visible in the photo. The trail will turn to the north (left side of photo) just after the first large tree in the mid-ground of the photo on the left.

Photo ID: 50 Segment: 8 Station: West of Station 53+60	Looking at existing swing gate in existing fence. This portion of the fence and this swing gate will be slightly relocated.

Photo ID: 51 Segment: 8 Station: 53+60	Looking south along existing retaining wall. Trail will be at base of retaining wall. Existing fence will need to be relocated a short distance to the east (left).

Photo ID: 52 Segment: 8 Station: South of 55+00	South of Station 55+00 looking north. Trail will be along base of retaining wall and turns west (towards left side of photo).

Segment 9: Eureka Community Health and Wellness Center: After leaving the pump station property, the trail extends along the south side of the parking lots and buildings associated with the Eureka Community Health and Wellness Center, terminating at the north end of Tydd Street (see Figure 5.8). From Station 54+50 to 55+15, the trail is along the southeast side of an existing retaining wall. A viewing platform and/or an interpretive sign area may be installed just south of Station 55+15. From that point, the trail turns west and will be just south of an existing gravel path up to Station 57+50, at

which point a viewing area and/or interpretive sign area may be installed. From that point, the trail tangents away from the existing gravel path and continues to the west behind the existing buildings. The trail will then pass between the toe of an existing berm and the southwestern-most corner of the building. The trail will then turn north and pass between the Eureka Community Health and Wellness Center building and a small residential structure owned by the Salvation Army. There is an existing concrete path and landscaping between the two buildings which will be replaced by the trail. The trail will terminate at Tydd Street at the existing sidewalk.

Segment 9 will consist mostly of a 10-foot wide asphalt Class I trail approximately 710 feet long along the centerline of the trail. The last 300 feet of this segment will be an 8-foot wide asphalt Class I trail.

Photo ID: 53	Looking southwest. Trail will be along edge of retaining wall.
Segment: 9	
Station: 55+00	

Photo ID: 54	Looking west. Trail turns west and goes south of existing parking lots.
Segment: 9	
Station: 55+15	

Photo ID: 55	Looking west. Trail will be south (left) of existing gravel path leading from parking lot to buildings.
Segment: 9	
Station: 55+50	

Photo ID: 56	Trail tangents away from existing gravel path and continues westward (south of existing Open Door Clinic buildings).
Segment: 9	
Station: 57+50	

Photo ID: 57	Looking west. Trail will continue westward behind buildings. Trail will be north (right) of the existing berm in photo.
Segment: 9	
Station: 59+25	

Photo ID: 58	Near Station 60+00, trail turns northwest around corner of building. Trail continues northwest to Tydd Street.
Segment: 9	
Station: 60+00	

Photo ID: 59	Looking northwest towards Tydd St. Existing concrete path and landscaping will be replaced by trail. A small retaining wall will be located on the south side of trail (just to the right of the fence in the photo).
Segment: 9	
Station: 60+50	

Photo ID: 60	Looking northwest towards Tydd St. Existing landscaping will be replaced by trail. A small retaining wall will be located on the south side of trail (just to the right of the fence in the photo).
Segment: 9	
Station: 61+00	

Photo ID: 61	Looking southeast. Existing landscaping will be replaced by trail. A small retaining wall will be located on the south side of trail (just to the left of the fence in the photo).
Segment: 9	
Station: 61+50	

Photo ID: 62	Standing in center of Tydd Street looking towards terminus of trail. Trail will pass between the two buildings in the photo.
Segment: 9	
Station: Northwest of Station 61+60	

RIGHT-OF-WAY, EASEMENTS, AND ACCESS

Figures 6.1 through 6.8 show the proposed and existing ROW associated with the project.

- Existing – All portions of the alignment on City-owned property, the existing Target Trail and secured pedestrian easement along Shoreline RV Park property.
- Proposed – The City of Eureka will secure easements on privately-owned portions of West Field, North Field, the Boardwalk Area and East Field, North Coast Railroad Authority ROW, Caltrans owned ROW under Highway 101 and the Open Door Health Clinic on Tydd Street.

STAGING AND CONSTRUCTION

It is anticipated that this project would begin construction in the summer of 2015 and be completed within the same construction season. It is anticipated that construction would be completed within the RWQCB "dry season" and no construction activities other than maintenance of permanent erosion and sediment control best management practices would be required during the wet weather period.

Construction would primarily include trail, pre-manufactured bridge assembly and placement and boardwalk construction with limited retaining wall and sidewalk construction on the southwest side of the Open Door Health Clinic. All construction activities would be accompanied by both temporary and permanent erosion and sediment control best management practices.

Trail construction includes the following activities:

- Clearing and Grubbing - To clear vegetation and topsoil from the proposed trail footprint.
- Excavation – Primarily at bridge approaches with other shallow excavations to maintain trail grades.
- Embankment – To maintain trail grades through low areas.
- Aggregate Base – For trail shoulders and to support asphalt paving.
- Asphaltic Concrete Paving - For trail surface and trailhead parking.
- Fencing/Gates - To meet ADA requirements, NCRA requirements and for exclusion.

Pre-manufactured Bridge Assembly and Placement includes the following activities:

- Excavation – For bridge abutment foundations.
- Bridge Abutments – Either pre-manufactured or poured-in-place concrete to support pre-manufactured bridges.
- Bridge Placement – Set pre-manufactured bridges on abutments.
- Miscellaneous Pre-manufactured Bridge Assembly – For bridge rail and connections.

Boardwalk construction includes the following activities:

- Temporary Construction Access – The laydown and pickup of timbers to allow equipment to access construction area with limited impact.
- Boardwalk Support – Pre-fabricated concrete foundation placement or pile driving, construction method is dependent on underlying soil bearing capacity.
- Framing and Decking Placement – Wood framing or pre-manufactured boardwalk segment placement for the finished boardwalk surface.

Equipment required for trail construction would include:

- Tracked Excavator
- Bulldozer
- Dump truck
- Paving machine
- Pick-up trucks

Equipment required for pre-manufactured bridge assembly and placement:

- Excavators
- Track mounted pile driver – If pile driving is necessary.

Equipment required for boardwalk construction:

- Excavators
- Track mounted pile driver – If pile driving is necessary.

Temporary traffic control during construction is anticipated to be limited to a few areas where the proposed trail alignment connects to surface streets and within the shoreline RV Park. The proposed trail connects to X Street, Y Street and Tydd Street, each of which will require temporary lane and sidewalk closures. These closure would not close the entire street or prohibit emergency vehicle access. The primary staging area for the northern portion of the project is along Front Street as shown in Figure 3.1. Staging areas are also shown in Figure 3.4 for the construction areas near the NRCA Railroad and the northern end of Y Street. Figure 3.5 shows three small staging areas for the areas south of the NCRA Railroad Bridge and northeastern corner of Target. Figure 3.7 shows the southern staging area which is adjacent and to the west of the City of Eureka's lift station within the project area boundary.

Construction access will be to and from the staging areas identified above and as shown in Figures 3.1, 3.4, 3.5 and 3.7. Roadways that will be utilized for construction access and the staging areas include Front Street, T Street, X Street, Y Street, 6th Street and Tydd Street.

Construction activities will be limited to the hours of 7:00 AM to 7:00 PM on weekdays and 8:00 AM to 6:00 PM on Saturdays, Sundays, and Holidays, except in emergencies or with prior approval from the City of Eureka.

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

OPERATIONS AND MAINTENANCE

The trail will be used for non-motorized transportation and recreation, including but not limited to walking, running, dog-walking, skateboarding, roller skating and bicycling. No equestrian access will be available on the trail. Dogs will be allowed on leash only, per City of Eureka's leash law.

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

Maintenance will be performed primarily by City of Eureka Parks and Recreation staff. Maintenance will be supplemented by the City's Volunteer Trails Steward Program in conjunction with the Humboldt Trails Council, the Humboldt County SWAP Program and City of Eureka Public Works staff.

If the area underneath the Highway 101 bridges is to be illuminated through this project it is anticipated that electrical service would be provided from the existing utility pole located on the south side of northbound Highway 101 or from the existing utility pole on the north side of northbound Highway 101.

APPROVALS REQUIRED

California Coastal Commission – Coastal Development Permit

U.S. Army Corps of Engineers – Section 404 Permit

Regional Water Quality Control Board – Section 401 Permit

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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
- ❑ Agricultural Resources
- ❑ Air Quality
- ❑ Biological Resources
- ❑ Cultural Resources
- ❑ Geology/Soils
- ❑ Green House Gas Emissions
- ❑ Hazards/Hazardous Materials
- ❑ Hydrology/Water Quality
- ❑ Land Use/Planning
- ❑ Mineral Resources
- ❑ Noise
- ❑ Population/Housing
- ❑ Public Services
- ❑ Recreation
- ❑ Transportation/Traffic
- ❑ Utilities/Service Systems
- ❑ Mandatory Findings of Significance

DETERMINATION: 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** will be prepared.

☑ I find that although the proposed project could have a significant effect on the environment, there will 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** will be prepared.

❑ I find that the proposed project **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 those effects that remain to be addressed.

❑ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier **EIR** or **NEGATIVE DECLARATION** pursuant to applicable standards, and (h) have 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.

Robert S. Wall, AICP
Planning Director, City of Eureka

2/21/14
Date

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CHECKLIST AND EVALUATION OF ENVIRONMENTAL IMPACTS: An explanation for all checklist responses is included, and all answers take into account the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts. The explanation of each issue identifies (a) the significance criteria or threshold, if any, used to evaluate each question; and (b) the mitigation measure identified, if any, to reduce the impact to less than significant. In the checklist below the following definitions are used:

"**Potentially Significant Impact**" means there is substantial evidence that an effect may be significant.

"**Less than Significant With Mitigation Incorporated**" means the incorporation of one or more mitigation measures can reduce the effect from potentially significant to a less than significant level.

"**Less Than Significant Impact"** means that the effect is less than significant and no mitigation is necessary to reduce the impact to a lesser level.

"**No Impact**" means that the effect does not apply to the proposed project, or clearly will not impact nor be impacted by the project.

I. AESTHETICS. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?			✓	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?				✓
c) Substantially degrade the existing visual character or quality of the site and its surroundings?			✓	
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?		✓		

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers whether the proposed project may have any significant effects on visual aesthetics because of: (a) the short-term or long-term presence of project-related equipment or structures; (b) project-related changes in the visual character of the project area that may be perceived by residents or visitors as a detraction from the visual character of the project area; (c) permanent changes in physical features that would result in the effective elimination of key elements of the visual character of the project area near a State scenic highway; or (d) the presence of short-term, long-term, or continuous bright light, such as from welding or nighttime construction, that would detract from a project area that is otherwise generally dark at night or that is subject to artificial light.

DISCUSSION: With regard to scenic vistas and scenic resources, the principle purpose of the proposed Eureka Waterfront Trail Phase C Project is to provide self-guided pedestrian and bicycle access along Humboldt Bay/Eureka Slough from the existing trail near the Adorni Recreation Center south to the Eureka Community Health Center on Tydd Street. The project area is in the coastal zone, and therefore subject to applicable coastal scenic resource protection measures. The scenic vistas along the proposed trail alignment include views of Humboldt Bay/ Eureka Slough, Woodley Island, Daby Island, the Humboldt Bay National Wildlife Refuge, and multiple sloughs. Views also include a variety of commercial, residential, recreational, light industrial, railroad ROW, and highway 101.

The proposed trail alignment runs near the edge of the Bay and Eureka Slough for the majority of its alignment. South of Highway 101 the trail alignment goes through the Shoreline RV Park and then adjacent to the Eureka Community Health Center. The Bay and Eureka Slough are visible from most portions of the proposed trail alignment, except for the southern portion south of the Eureka Slough Bridge. Views from this area include sloughs, commercial uses, residential uses, public uses, and recreational uses.

I a) Implementation of the project would not block or alter any of the existing views noted previously. Views of the project itself would be relatively limited as the project consists mostly of a narrow paved trail surface with few vertical features aside from interpretive signage and benches. Signs associated with the project would be consistent with the existing signage along the existing waterfront trail to the west. Figure 5-1 in the Recreational and Cultural Resource Element of the General Plan includes two scenic vista points along the project alignment. Policy 5.B.1 c. calls for the City to "*establish scenic vista points at numerous locations along the waterfront…*" The project will include scenic vista points along Humboldt Bay and the Eureka Slough (reference figure set 5). The project would not have a substantial adverse effect on a scenic vista, and will instead have a beneficial effect on scenic vistas in the project area. The impact is less than significant.

I b) Based on California Scenic Highway Mapping System information no designated state scenic highways are found adjacent to or within view of the project alignment (California Department of Transportation 2013). There are no officially designated State Scenic Highways within Humboldt County, although Highway 101 for its entire length in Humboldt County has been identified by the State Scenic Highway Mapping System as eligible for state listing. The project site is visible from Highway 101; however, due to the Project's temporary nature of construction, and the fact that Highway 101 is not a designated state scenic highway, no impact has been identified.

I c) The project is expected to improve the scenic quality/character of the area by installation of interpretive signage and native landscaping, by installing scenic vista points, removal of illicit dumping sites and unauthorized camping sites. The attraction of multiple trail user groups may have the added benefit of deterring littering and other potentially damaging activities along the Bay and Eureka Slough.

Temporary adverse visual impacts may occur from construction activities associated with the project; however, the project alignment is primarily undeveloped except for the existing section of trail behind Target and the project alignment south of Target. This impact would be short term and less than significant. In the long-term the existing visual character along the project alignment would improve for the reasons mentioned above.

I d) Low-level, low-glare lighting will be constructed at locations in which the trail intersects roadways, the railroad tracks, and underneath Highway 101, to provide public safety. No additional trail lighting will be used. Nighttime glare will increase slightly where lighting is installed in the project area; therefore, **Mitigation Measure I-1** is included to reduce the impacts of new light sources to a less than significant level.

FINDINGS: Therefore, based on the discussion above, the project will not result in significant adverse aesthetic impacts that could not be reduced to a less-than-significant level with

incorporation of mitigation. The project is expected to improve aesthetics and visitor access to scenic vistas in the project area.

MITIGATION MEASURES:

Mitigation Measure I-1: To avoid adverse impacts, new sources of light, including any outside night lighting associated with construction, will be designed to protect wildlife and nighttime views, including views of the night sky. This design goal will be satisfied using a variety of means as applicable, including fixture types, cut off angles, shields, lamp arm extensions, and pole heights. Specific design preferences include not directing light upward or to other properties, avoiding brightly illuminated vertical surfaces where feasible, such as walls and lamp poles, and not directing lighting toward ESHA. The Recommended Practices (RPs) of the Illuminating Engineering Society of North America (IES) should be consulted for lighting levels and quality of light.

Timing for Implementation/Compliance: Final design and construction.
Person/Agency Responsible for monitoring: City of Eureka Building Department.
Monitoring Frequency: Prior to project approval and during implementation.
Evidence of Compliance: Completion of and adherence to required documents.

II. AGRICULTURE RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?				✓
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				✓
c) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?				✓
d) Result in the loss of forest land or conversion of forest land to non-forest use?				✓
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?				✓

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree the proposed project would: (a) change the availability or use of agriculturally important land areas designated under one or more of the programs above; (b) cause or promote changes in land use regulation that would adversely affect agricultural activities in lands zoned for those uses, particularly lands designated as Agriculture Exclusive or under Williamson Act contracts; (c) change the availability or use of agriculturally important land areas for agricultural purposes; (d) convert forest land to non-forest use; or (e) involve other changes which could convert farmland to non-agricultural use or convert forest land to non-forest use.

DISCUSSION:
II a, b, c, d, e) The project alignment has no Important Farmlands as mapped by the Farmland Mapping and Monitoring Program of the California Department of Conservation (DOC 2011). There is no land in agricultural production, land zoned for agricultural use, land designated (General Plan Land Use) for agriculture use, or land under Williamson Act contract within the project alignment or in the vicinity (City of Eureka 2013). There is no forest land or timber harvesting in the project vicinity, nor are there lands suitable for timber harvesting; therefore, the project will not encroach upon or affect timber harvesting, or cause the rezoning of forest land.

FINDINGS: Therefore, as discussed above, the project would have no impact on farm land, agricultural lands, or forest land.

III. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?			✓	
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			✓	
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?			✓	
d) Expose sensitive receptors to substantial pollutant concentrations?			✓	
e) Create objectionable odors affecting a substantial number of people?			✓	

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree the proposed project would (a) directly interfere with the attainment of long-term air quality objectives identified by the North Coast Unified Air Quality Management District (NCUAQMD); (b) contribute pollutants that would violate an existing air quality standard, or contribute to a non-attainment of air quality objectives in the project's air basin; (c) produce pollutants that would contribute as part of a cumulative effect to non-attainment for any priority pollutant; (d) produce pollutant loading near identified sensitive receptors that would cause locally significant air quality impacts; or (e) release odors that would affect a number of receptors.

DISCUSSION:
III a, b) The project site is located within the North Coast Air Basin (NCAB), which is under the jurisdiction of the NCUAQMD. The NCAB is comprised of three air districts, the NCUAQMD, the Mendocino County AQMD, and the Northern Sonoma County Air Pollution Control District (APCD). The North Coast AQMD includes Del Norte, Humboldt, and Trinity Counties; the Mendocino County AQMD consists of Mendocino County; and the Northern Sonoma County APCD comprises the northern portion of Sonoma County. The NCAB currently meets all federal air

quality standards; however, the entire air basin is currently designated as non-attainment for the state 24-hour and annual average particulate matter smaller than 10 microns in size (PM10) standards. The air basin is designated as unclassified for the state annual PM2.5 standard – available data are insufficient to support designation as attainment or non-attainment. Both natural and anthropogenic sources of particulate matter (including vehicle emissions, wind generated dust, construction dust, wildfire and human caused wood smoke, and sea salts) in the NCAB have led to the PM10 non-attainment designation.

To address non-attainment for PM10, the NCUAQMD adopted a Particulate Matter Attainment Plan in 1995. This plan presents available information about the nature and causes of PM10 standard exceedances and identifies cost-effective control measures to reduce PM10 emissions to levels necessary to meet California Ambient Air Quality Standards.

The project would not directly contribute any air emissions once the project is in full operation, because only non-motorized use is allowed on the trail. The project would temporarily generate a minor amount of particulate emissions over the duration of construction in the form of dust and vehicle emissions as a result of earthwork, grading, paving, and other construction activities. The project would not cause any long-term increase in the emissions of particulate matter or other air pollutants. To further reduce potential impacts to air quality to a level below the thresholds of significance, state law requires the construction contractor to operate in accordance with Air Quality Regulation 1 – Air Quality Control Rules, which will reduce potential fugitive dust emission impacts. These rules and regulations are set forth to achieve, maintain, and protect health-based State and Federal Ambient Air Quality Standards and prevent deterioration of levels of air quality which may jeopardize human health and safety; prevent injury to plant and animal life; avoid damage to property; and preserve the comfort, convenience, and enjoyment of the natural attractions of the NCAB.

Pursuant to Air Quality Regulation 1, Chapter IV, Rule 400 – General Limitations, a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property. Visible emissions include emissions that are visible to the naked eye, such as smoke from a fire. The project is not expected to produce any source of visible emissions except for minimal dust due to site-grading discussed above. This potential impact would be reduced to a less than significant level by adherence to the NCUAQMD's rules and regulations as noted above.

The project will not result in adverse air quality impacts including exceeding or violating an air quality plan.

III c) The closest air basin monitoring station to the project site is located in Eureka at 529 I Street, approximately one mile west of the project alignment. For the purposes of this analysis, the I Street monitoring station data is considered reflective of the project site. From 2009-2011, data collected at the monitoring station exceeded the California 24-hour PM10 standard of 50 micrograms per cubic meter on average six days per year (there was insufficient or no data published for 2012). In addition, data collected at the monitoring station exceeded the California three-year average standard greater than 20 micrograms per cubic meter for years 2009 through 2012 (CARB 2010a).

The construction and demolition activities associated with the proposed project will result in temporary emissions of diesel and gasoline engine combustion products and earthen dust. The project involves a relatively low level of construction activity, limited in scope and duration, with respect to air quality, and the net increase to PM10 will be minor and temporary. These ordinary construction emissions will not result in violations or attainment plan conflicts. Although minor potential impacts are expected, they will be less than significant with adherence to the NCUAQMD's rules and regulations.

The project would not directly contribute any air emissions once the project is in full operation, because only non-motorized use is allowed on the trail. The proposed project would also provide a multi-use, Americans with Disabilities Act (ADA) accessible trail from the Eureka Waterfront to Tydd Street, thus potentially reducing vehicle miles traveled (VMT) and resulting in a beneficial air quality impact. The proposed project would not obstruct implementation of the NCUAQMD Particulate Matter Attainment Plan, violate air quality standards, or contribute substantially to an existing or projected air quality violation. However, the project may result in an increased number of vehicle trips to the project vicinity to make use of the trail (see Section XVI Transportation for further discussion on increased traffic). When viewed together with background vehicle emission levels, and considering that any increase in motor vehicles trips is likely to cause a corresponding increase in non-motorized activity on the trail, PM10 emissions related to the project are expected to be less than significant.

Given the relatively small footprint of the project, short duration of construction activities, and limited use of machinery and equipment it is not anticipated that construction activities would result in PM10 emissions above the de minimis threshold (100 tons per year). It is also not anticipated that any of the other criteria pollutants would be emitted at a significant level. Therefore, impacts would be less than significant.

III d) 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, or near, the project alignment, include residences along Tydd Street, the Eureka Community Health Center on Tydd Street, and the residences at the north end of X Street. The NCUAQMD has advised that, generally, an activity that individually complies with the state and local standards for air quality emissions will not result in a cumulatively considerable increase in the countywide PM10 air quality violation. Therefore, staff concludes that with the required compliance with NCUAQMD standards and regulations, the project will not result in adverse air quality impacts, nor result in a cumulatively considerable increase in the PM10 non-attainment status.

III e) The project would not create odors that could reasonably be considered objectionable by the general public because no aspect of project construction is anticipated to create objectionable odors except for limited exhaust fumes from gas powered equipment. During times of low tide, the Bay and sloughs may produce objectionable odors. However, the proposed trail would allow people who use the trail to move beyond areas that may produce objectionable odors at any given time. Therefore, impacts would be less than significant.

FINDINGS: Based on the conclusions above and adherence to the NCUAQMD's rules and regulations, the project will not result in any significant adverse air quality impacts, nor result in a cumulatively considerable increase in PM-10 emissions; therefore, impacts would be less than significant. No mitigation measures are required.

IV. **BIOLOGICAL RESOURCES**. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?		✓		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		✓		
c) Have a substantial adverse effect on Federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?		✓		
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?				✓
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			✓	
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?			✓	

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers whether the proposed project would result in significant adverse direct or indirect effects to: (a) individuals of any plant or animal species (including fish) listed as rare, threatened, or endangered by the Federal or State government, or effects to the habitat of such species; (b) more than an incidental and minor area of riparian habitat or other sensitive habitat (including wetlands) types identified under Federal, State, or local policies; (c) more than an incidental and minor area of wetland identified under Federal or State criteria; (d) key habitat areas that provide for continuity of movement for resident or migratory fish or wildlife, (e) other biological resources identified in planning policies adopted by the City of Eureka; or (f) conflict with an applicable conservation plan.

DISCUSSION: This discussion is based on information from the following sources: the GHD Inc. 2013 Wetland Delineation conducted for the project (Appendix B), California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) search and California Native Plant Society's (CNPS) Inventory of Rare and Endangered Vascular Plants, and species list provided by the U.S. Fish and Wildlife Service (USFWS) (Appendix C). Table IV-1 identifies sensitive species by type, which have the potential to be present within the project area.

IVa)
Summary - No special-status animals are expected to be impacted by the proposed project. Special-status plant surveys have not yet been completed, thus presence is assumed for species if suitable habitat is present. The highly modified and degraded habitat that would be impacted by most of the proposed trail alignment does not meet the habitat requirements for the majority of rare plants or wildlife known to occur in the vicinity. Standard BMPs (incorporated in the Stormwater Pollution Prevention Plan (SWPPP)) directed at preventing construction-related water quality impacts should be implemented to avoid indirect impacts to special-status fish species known to inhabit nearby Humboldt Bay and Eureka Slough.

Table IV-1: Sensitive Species Potentially Present

Scientific Name	Common Name	Status	Preferred Habitat	Potential Habitat	Comments
Plants					
Abronia umbellata var. breviflora	pink sand-verbena	1B.1	Coastal dunes and coastal strand	Low potential	Several colonies mapped near north end of Lupin Road
Angelica lucida	sea-watch	4.2	Moist areas along marine shorelines	Moderate potential	Late spring bloomer
Astragalus pycnostachyus var. *pycnostachyus*	marsh milk vetch	1B.2	Salt marsh, possibly extirpated in Humboldt Bay; flowers April – October	Low Potential	Reported historically near the town of Samoa, but has not been recorded in the region for decades
Carex arcta	northern clustered sedge	2B.2	Bogs and fens, north coast coniferous forest	High potential	Exact location unknown. Mapped by CNDDB in general vicinity of Eureka (n part of town)
Carex lyngbyei	Lyngbye's sedge	2.2	From the north coast of California to British Columbia, in both salt and freshwater marshes; identifiable year-round flowers April- August	Yes	Known from the mouth of Elk River, and reported near the North Spit and Eureka Slough
Carex praticola	northern meadow sedge	2.2	Moist to wet meadows, riparian edges, open forest flowers May–Jul	High potential	North Coast (Humboldt Co.), Outer North Coast Ranges, High North Coast Ranges, High Sierra Nevada; Rocky Mountains, North America
Castilleja ambigua ssp. *humboldtiensis*	Humboldt Bay owl's clover	1B.2	Salt marsh; flowers April-August	High potential	Occurs near Mad River Slough, and other salt marsh habitats throughout Humboldt Bay
Castilleja affinis ssp. *litoralis*	Oregon coast Indian paintbrush	2.2	Coastal bluffs, coastal dunes coastal scrub; flowers June	Yes	Known from historical collections near Humboldt Bay; reported in 1918 from the coastal dunes in Eureka vicinity

Chloropyron maritimum ssp. palustre	Point Reyes bird's-beak	1B.2	Salt marsh	Yes	Potential habitat is present near project area
Erysimum menziesii	Menzies' wallflower	1B.1	Salt dunes	No	Sand dunes nw of the mouth of Mad River Slough, west of Arcata
Erythronium revolutum	coast fawn lily	2.2	Streambanks, wet places in woodland; flowers Mar–July	Not likely	Redwood Forest, Mixed Evergreen Forest, wetland-riparian**;** North Coast, Klamath Ranges, Outer North Coast Ranges
Gilia capitata ssp. *pacifica*	Pacific gilia	1B.2	Coastal bluffs and sand dunes in northwestern California; flowers late May-August	Yes	Documented as occurring in Manila and other dune habitats throughout Humboldt Bay
Gilia millefoliata	dark-eyed gilia	1B.2	Widely distributed over much of the northwestern California in coastal bluff and dunes; flowers April-July	Yes	The reported historical account for Eureka is a grassy field behind Bucksport
Glehnia littoralis ssp. leiocarpa	American glehnia	4.2	Coastal Strand, Ocean beaches flowers May–June	Yes	North Coast; to Alaska. Other subsp. coastal
Hesperevax sparsiflora var. brevifolia	short-leaved evax	1B.2	Sandy, grassy or wooded coastal bluffs, terraces, dunes; Coastal Strand, Northern Coastal Scrub flowers March to July	Yes	North Coast, n Central Coast; to sw Oregon
Lathyrus japonicus	seaside pea	2B.1	Coastal dunes	Low Potential	Elk River (mouth), Eureka
Lathyrus palustris	marsh pea	2.2	Moist or wet coastal areas Northern Coastal Scrub flowers May–August	Yes	Northern Coastal Scrub n North Coast; to Alaska
Layia carnosa	beach layia	1B.1	Coastal dunes; flowers March to July	Yes	Widely distributed over much of the Humboldt Bay coastal sand dune habitats. In the project vicinity the species is known from the North Spit
Lilium occidentale	western lily	1B.1	Coastal Prairie, Northern Coastal Scrub, North Coastal Coniferous Forest, Freshwater Wetlands, wetland-riparian flowers June–August	Low potential	Near Crescent City, Del Norte Co.; Humboldt Bay, Humboldt Co
Lycopodium clavatum	running-pine	4.1	Moist shaded woodland, open	Low potential	

			thickets, rocky slopes, pine forests, mixed woods; occasionally swamp and bog edges		
Monotropa uniflora	ghost-pipe	2B.2	Broadleaved upland forest, north coast coniferous forest	No	Redwood Acres in Eureka
Montia howellii	Howell's montia	2B.2	Meadows, north coast coniferous forest, vernal pools	Low potential	Exact location unknown. Mapped by CNDDB in general vicinity of Eureka
Oenothera wolfii	Wolf's evening-primrose	1B.1	Coastal Strand, Coastal Prairie, Northern Coastal Scrub; dunes, coastal flowers May- October	Yes	Coastal sand, including dunes, bluffs, roadsides, generally moist places
Sidalcea malachroides	maple-leaved checkerbloom	4.2	Broadleaved upland forest, coastal prairie, coastal scrub, north coast coniferous forest	Low potential	
Sidalcea malviflora ssp. patula	Siskiyou checkerbloom	1B.2	Open coastal forests, bluffs; flowers May–August	Moderate potential	North Coast; sw Oregon. Occ intergrades with *Sidalcea malviflora* subsp. *rostrata*
Spergularia canadensis var. *occidentalis*	Western sand spurrey	2.1	Known only in northwestern California from Humboldt Bay coastal salt marsh; flowers June-August	Low potential	The reported historical account for Samoa salt marsh is vague and the location unknown
Viola palustris	alpine marsh violet	2.2	Northern Coastal Scrub, Freshwater Wetlands, wetland-riparian; Northern Coastal Scrub, Freshwater Wetlands, wetland-riparian Flowers April–July	Low potential	Marshes, swamps, streambanks, often beneath shrubs; < 75 m. North Coast; to Alaska
Invertebrates					
Haliotis cracherodii	black abalone	FE	Intertidal and shallow subtidal rocks	Low potential	Black abalone range from about Point Arena, CA to Bahia Tortugas and Isla Guadalupe, Mexico
Fish					
Acipenser medirostris	Green sturgeon southern DPS	FT	Ocean and estuary; present in Humboldt Bay	No	No impacts to rivers, estuaries, or offshore areas; present in Humboldt Bay
Eucyclogobius newberryi	Tidewater goby	FE	Brackish backwaters and lagoons	Low to moderate probability	Not known within project area but present in other sloughs along Humboldt Bay
Oncorhynchus kisutch	S. OR/N. CA coho salmon	FT	Anadromous, breeds in rivers and streams	No	No impacts to rivers, estuaries, or offshore areas;

					present in Humboldt Bay
Oncorhynchus mykiss	N. CA steelhead	FT	Anadromous, breeds in rivers and streams	No	No impacts to rivers, estuaries, or offshore areas; present in Humboldt Bay
Oncorhynchus tshawytscha	CA coastal Chinook salmon	FT	Anadromous, breeds in rivers and streams	No	No impacts to rivers, estuaries, or offshore areas; present in Humboldt Bay
Reptiles					
Caretta caretta	Loggerhead sea turtle	FT	Marine	No	No impacts to offshore areas
Chelonia mydas (incl. agassizi)	Green sea turtle	FT	Marine	No	No impacts to offshore areas
Dermochelys coriacea	Leatherback sea turtle	FE	Marine	No	No impacts to offshore areas
Lepidochelys olivacea	Olive (Pacific) ridley sea turtle	FT	Marine	No	No impacts to offshore areas
Birds					
Brachyramphus marmoratus	Marbled murrelet	FT	Rocky seastacks, nests in old growth redwoods	No	No impacts to redwood forests or offshore areas
Charadrius alexandrinus nivosus	Western snowy plover	FT	Ocean beaches, gravel bars in Eel River	No	Historically nested on north spit beaches, nearest recent (post-1999) records are on the south spit. No suitable habitat within project area
Coccyzus americanus	Western yellow-billed cuckoo	FC	Dense riparian	No	No suitable habitat in project area
Phoebastris albatrus	Short-tailed albatross	FE	Open ocean	No	No impacts to offshore areas
Strix occidentalis caurina	Northern spotted owl	FT	Mature forest	No	No impacts to mature forested areas
Synthliboramphus hypoleucas	Xantus's murrelet	FC	Offshore ocean waters, breeds on rocky islands	No	No impact to offshore areas
Mammals					
Baleanoptera borealis	Sei whale	FE	Marine	No	No impacts to offshore areas
Baleanoptera musculus	Blue whale	FE	Marine	No	No impacts to offshore areas
Baleanoptera physalus	Fin whale	FE	Marine	No	No impacts to offshore areas
Eumetopias jubatus	Steller (northern) sea lion	FT	Haul outs on beaches, ledges, or rocky reefs in the North Pacific	No	No impacts to offshore areas, no suitable habitat near project area
Megoptera novaengliae	Humpback whale	FE	Marine	No	No impacts to offshore areas
Orcinus orca	Killer whale, S. resident	FE	Marine	No	No impacts to offshore areas
Physeter macrocephalus	Sperm whale	FE	Marine	No	No impacts to offshore areas

Source: CNDDB/USFWS/CNPS 2014. Eureka quadrangle.
Key:
FE = federal endangered FT = federal threatened FC = federal candidate PE = proposed endangered PT = proposed threatened SE = state endangered ST = state threatened SSC = state special concern FP = state fully protected

Plants- GHD conducted database searches for sensitive plant species listed for the project area on CNDDB (CDFW 2014), California Native Plant Society online listings, and USFWS species list based on U.S.G.S. quadrangle for the site. The database searches were conducted to identify known occurrences of threatened, endangered, or special-status plant species as well as sensitive-listed plant species with potential to occur in the project area. Most sensitive-listed plants were determined to not require further consideration because habitat requirements were not present within the project study boundary. Many of the plants eliminated from further consideration are associated with coastal sand dunes, coastal bluffs, or forested environments, which are not present in the project area and thus these species have a low likelihood of occurrence in the project study boundary.

Several sensitive-listed plants are generally associated with coastal salt marsh habitat, which does occur in several portions of the project study boundary, and thus have potential to occur on the project site. Lyngbye's sedge (*Carex lyngbyei*) has been reported from the vicinity of Eureka Slough, and Humboldt Bay owl's clover (*Castilleja ambigua* ssp. *humboldtiensis*) is known from a number of locations on the margin of the Bay. Research has been conducted by GHD and the City of Eureka to identify seasonally-appropriate surveys for special-status species conducted in the past in segments of the project area that might be applicable to the proposed project.

An Amended Wetland Mitigation and Monitoring Plan was prepared by SHN in June, 2011 for the Eureka Inner Channel Dock and Boardwalk Revitalization Project in Eureka (SHN 2011). This report identified several occurrences of Point Reyes bird's beak (Chloropyron maritimum ssp. palustre) and Humboldt Bay owl's clover (Castilleja ambigua ssp. humboldtiensis) within the salt marsh habitat area generally located within parcel 002-231-012, north of Stations 10+00, 11+00, and 12+00 as shown in Figures 5.2 and 5.3. The location of these species was not within the project area or construction footprint. The report did not specify the exact location or quantity of either species.

A qualified wetland scientist and a qualified botanist from GHD conducted a wetland delineation within the project study boundary in December, 2013, and January, 2014 (Appendix B). While conducting the field studies for that delineation, the GHD field team evaluated the area for vegetative state (non- flowering) of target special-status plant species with potential to occur within saltmarsh in the project study boundary. Vegetative state of special-status species were not reported present in the project area at that time. However, because this field effort was conducted outside of the flowering season (December 2013), the preliminary search for special-status species does not indicate a lack of presence of the target special-status plant species. Accordingly, targeted seasonally-appropriate special-status plant surveys will be conducted within the project study boundary in the spring and summer of 2014, in advance of project implementation. Until the targeted seasonally appropriate surveys are completed, it is assumed that special-status plant species are present within portions of the project area with suitable habitat. Accordingly, for purposes of the current analysis, where there is suitable habitat in the project area, it will be assumed that the entire project footprint will consist of impacts to special-status plant species. Implementation of **Mitigation Measure IV-1a** will reduce potential impacts to plants to a less

than significant level.

Animals- GHD evaluated CNDDB-listed special-status animal species with the potential to occur in the project area (reference Appendix C). Special-status species in the vicinity include several birds which may fly over the project area, but no nesting or other habitat which would encourage extended presence is known. No special-status species were noticed during fieldwork. The CNDDB also lists heron and egret rookeries on nearby Indian Island, but these are not further discussed herein due to the distance to the rookery locations and the relative lack of risk associated with the proposed project. High salinity precludes presence of amphibians in most of the project area. To reduce potential impacts to nesting/migratory birds during project construction, **Mitigation Measure IV-d** will be implemented.

Special-Status Fish - Special status fish in the vicinity of the project area include: federally threatened green sturgeon (*Acipenser medirostris*), federally threatened California Coast Evolutionary Significant Unit (ESU) chinook salmon (*Oncorhynchus tshawytscha*), federally threatened Southern Oregon and Northern California Coast ESU coho salmon (*Oncorhynchus kisutch*), Northern California ESU steelhead (*Oncorhynchus mykiss*, federally endangered tidewater goby (*Eucyclogobius newberryi*), and state listed longfin smelt (*Spirinchus thalyichthys*). GHD did not conduct physical surveys for these species and the Bay is not within the project area. Construction, earthmoving and other activities in close proximity to the Bay have the potential to cause water quality impacts that could result in indirect impacts to these species.

As noted in the Project Description, there will be three bridges which will be supported on spread concrete footings, which may include concrete piles to provide additional bearing support at some locations. Prior to completing final design for the project, the City will complete a geotechnical analysis at each bridge location to determine the bearing capacity of the soils and to determine if piles will be necessary. If piles will be necessary, the geotechnical analysis will also determine how deep the piles would need to be. It is assumed that piles would need to be at least 10 feet in depth. Each of the bridges spans over tidal waters. If piles are necessary, piles would not exceed 12 inches in diameter and would be installed at least 33 feet from tidal water at the time of installation to eliminate the potential for noise related impacts to aquatic species (explained below).

The injury threshold to fish less than two grams in weight is 183 dB accumulated sound exposure level (SEL) and 187 dB SEL for fish greater than two grams according to the Fisheries Hydroacoustic Working Group memorandum from June 12, 2008. This memorandum identifies the interim criteria for injury to fish from pile driving. The signatory agencies included National Marine Fisheries Service (NMFS) Northwest and Southwest Regions, the U.S. Fish and Wildlife Service Regions 1 & 8, the California, Washington and Oregon Departments of Transportation, California Department of Fish and Wildlife, and U.S. Federal Highway Administration.

The impact to marine mammals and fish is anticipated to be less than significant based on prior examples taken from the *Final Technical Guidance for Assessment and Mitigation of the Hydroacoustic Effects of Pile Driving on Fish* (ICF Jones & Stokes and Illingworth & Rodkin 2009). One example included using 12 inch steel pipe, with a drop hammer (3,000 lb.), in six feet of water, from 10 meters away resulted in a 152 dB SEL. Using a wood cushion block for attenuation resulted in a reduction of five dB at 20 meters. If piles are used, based on final design and geotechnical testing, they would be approximately 12 inches in diameter, and only driven at low tide, not in-water like the example project above. Appropriate attenuation measures would also

be used (i.e., wood cushion block); therefore, the impact is expected to be similar to, or less than the example above, (152 dB) and even less with attenuation measures implemented.

If pile driving is required, based on final design and geotechnical testing, then informal consultation would be initiated with the NMFS for potentially affected fish and marine mammals, and a hydroacoustic monitoring plan would be prepared following the technical guidance within the *Final Technical Guidance*. If noise or vibration levels approached or exceeded potentially harmful thresholds, then work would cease and additional attenuation measures such as wood block cushions (or other applicable attenuation measures) would be put in place. This would reduce potential impacts to a less than significant level. However, as noted above, the impact is expected to be less than significant based on other project examples.

IV b, c)

Summary - On December 3, 5, 10, 11, and 13, 2013, and January 3, 2014, GHD conducted an upland and wetland delineation for the project, which consists of approximately 1.1 linear miles of property generally aligned along the Humboldt Bay waterfront (reference Figures 7.1 through 7.8 in Appendix A). Much of the vegetation has been altered through long-term urban and industrial land use practices and consists of predominantly non-native and ruderal species. Most of the project area consists of disturbed soils from dredge spoils, railroad development, berm/dike installation and manipulation, urban and industrial development, and wastewater treatment infrastructure. Few natural soil conditions were noted in the wetland delineation. The natural hydrology is assumed to have also been altered in some areas from historical dike construction and conversion of land to commercial and urban uses.

Wetlands - The wetland delineation conducted for the project (Appendix B) determined the extent of wetland-types based on the extent of wetland-type vegetation, hydric soils, and wetland hydrology in support of the California Coastal Commission and U.S. Army Corps of Engineers (USACE) wetland definitions as the project area is within the Coastal Zone and the City of Eureka. The project area was determined to consist of a total of three jurisdictional wetland areas: estuarine saltmarsh, estuarine emergent ditch, and freshwater emergent ditch. Additionally, three (3) "Other Waters of the U.S./State (Tidal)" are present within the project area and subject to primary jurisdiction. All of the delineated wetlands are USACE jurisdictional three-parameter wetlands and are within the Coastal Zone (one-parameter riparian in the Coastal Zone was mapped as separate habitat type to meet Commission requirements).

A jurisdictional determination has not yet been conducted (this will be accomplished as part of the project's permitting process), but USACE-verified three-parameter wetlands are subject to USACE jurisdiction and are considered environmentally sensitive habitat (ESHA) by the Coastal Commission.

One of the primary reasons the project alignment was chosen was because it has the least impact to wetlands. The trail footprint impacts are approximately 0.094 acre and the trail shade impacts are approximately 0.156 acre, for a total of 0.25 acre of wetland impacts. Since mitigation is required for the loss of wetlands, several potential mitigation sites have been analyzed. The parcel (APN 002-231-004) with the most potential for wetland mitigation (and which is the preferred wetland mitigation site) is located east of Blue Ox Mill and north of the NCRA railroad tracks as shown in Figures 2.4, 3.4, and 7.4, and is labeled "East Field." This is an upland area suitable for wetland creation/expansion. Other potential mitigation sites include the City of Eureka's property (APN

002-231-012) located in the northern portion of the alignment as shown in Figures 2.3, 3.3, and 7.3.

The loss of wetlands is a significant impact; however, implementation of **Mitigation Measure IV-1b** will reduce the impact to a less than significant level. **Mitigation Measure IV-1c** requires practicable avoidance and minimization of temporary impacts to wetlands during construction, and restoration of pre-project conditions at the conclusion of construction, thereby reducing any potential impacts to wetlands to a less than significant level.

Trash and debris within the project area, as shown in many of the images in the Project Description section, will be cleared as part of the proposed project. It is anticipated that the cleaning up of areas within designated wetlands will result in a reduced ratio or credit from the applicable regulatory agencies for wetlands enhancement.

ESHA Protection – As identified in the wetland delineation for the project, the proposed trail would be adjacent to degraded wetland habitat in several areas. Local LCP [Zoning Ordinance Section 156.052 (D)] and California Coastal Act regulations (Section 30240) require the protection of ESHA when a project has the potential to directly or indirectly impact an adjacent ESHA, such as a wetland. Although the habitat throughout much of the alignment is severely degraded, several project design features would act to improve existing habitat values in these areas. As discussed in the project description, the project would establish several landscaped areas to provide protection and a natural buffer between sections of the trail and adjacent ESHA. The planting plan for the project will include native plants with habitat-specific planting specifications for areas adjacent to ESHA. In addition to landscaping, the following project measures and existing circumstances would serve to protect ESHA and natural habitat:

- Construction of the trail would remove the existing invasive vegetation that lies within the trail alignment
- Wetland, ESHA, and sensitive habitat setbacks will be maintained to the greatest extent practicable
- Protective measures will be put into place during construction to prevent or minimize temporary wetland impacts from construction and pedestrian/vehicle traffic
- The city's leash law will assist in limiting disturbance by dogs along the trail
- Mitigation Measure I-1 insures protection of ESHA from lighting impacts

Based on the above discussion, there will be no impact to non-wetland ESHA; however, there will be impacts to wetland ESHA as noted above. **Mitigation Measures IV-1a and 1b** will be implemented to reduce the impact to a less than significant level.

IV d) Wildlife movement corridors are areas that connect suitable wildlife habitat areas in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features such as canyon drainages, ridgelines, 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 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, or impede the use of native wildlife nursery sites. The project would not preclude wildlife mobility, breeding, or reproduction. No impact has been identified.

IV e) The project would be constructed in consistent with and in compliance with applicable City policies or ordinances protecting biological resources, including all applicable policies of the City Local Coastal Program (Policies 6.A.3, 6.A.7, 6.A.8, 6.A.13, 6.A.14, and 6.A.23). The impact is less than significant.

IV f) The project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan because none exists for the project area. No impact has been identified.

FINDINGS: With the incorporation of mitigation, the proposed project would have a less than significant adverse impact on biological resources (See also Mitigation Measures in the Hydrology and Water Quality Section of this Initial Study).

MITIGATION MEASURES:

Mitigation Measure IV-1a Impacts to special-status plants such as Lyngbye's sedge, Humboldt Bay owl's clover, and Point Reyes Bird's Beak shall be avoided to the extent practical, and if not practical, they shall be conserved through translocation and/or re-planting or re-seeding (by hand by a qualified Biologist) into appropriate habitat in the immediate project area. Special-status plants shall be restored at a level sufficient to ensure no net loss of the target species five years after the completion of construction.

Mitigation Measure IV-1b: Impacted USACE and CCC wetlands would be mitigated at a location agreed upon with the appropriate regulatory agencies and at the ratio specified in permit special conditions to ensure no net loss. Mitigation would include wetland areas that would be re-established, established, enhanced, and/or preserved. This measure would mitigate both the permanent onsite loss of wetlands as a result of the proposed project and also the temporary reduction in wetland area within Humboldt County that would result between the time of impact and the successful completion of mitigation. The wetland mitigation would need to provide the same or similar ecological functions as the impacted wetlands. This would include re-establishing, establishing, enhancing, and preserving wetlands with a similar hydrologic regime, and similar vegetation types. The wetland mitigation should be designed to function with the intact wetland features of the mitigation area. As a result, not all wetland mitigation sites may serve exactly the same function, but each area should contribute to the diversity of the ecosystem as a whole.

Mitigation Measure IV-1c: Temporary impacts to wetlands shall be reduced to the extent practicable through avoidance and minimization, and through restoration of pre-project conditions. Where feasible, temporary barriers to intrusion shall be placed at the edge of the verified wetland boundaries. Unavoidable temporary impacts to wetlands shall be mitigated through the reseeding of a native wetland seed mix at the manufacturer's suggested application rate. All areas of disturbed soil within the verified wetland boundaries shall receive reseeding treatment. As appropriate based on the conditions, mulch and or temporary irrigation may be necessary to encourage plant survival. Disturbed areas that have not recovered to the density of surrounding undisturbed wetland habitat shall be reseeded annually until the wetland plant cover in disturbed areas is similar to the undisturbed areas.

Mitigation Measure IV-1d:

- If possible, vegetation clearing activities would take place between August 16 and March 13, outside of the active nesting season for migratory bird species (i.e., March 14 to August).
- If work must be completed during the nesting season, a qualified biologist would conduct preconstruction surveys of all ground disturbance areas to verify absence of nesting migratory birds in the project area prior to vegetation removal and the start of construction. These surveys would be conducted within two weeks prior to start of vegetation removal or any construction activities. If nesting migratory birds are found in the project construction area during the preconstruction surveys, they would be avoided with an appropriate buffer area until the young birds have fledged. Buffers would be 250 feet for raptors, 100 feet for threatened and endangered species, 50 feet for other special-status bird species; however, buffers may be modified after consultation with, and agreement by CDFW. If state listed California Endangered Species Act (CESA), federally listed Endangered Species Act (ESA), or raptors are found outside of the construction area but near the construction area, appropriate buffers will be implemented. If non-listed state CESA, non-listed federal ESA, including state species of special concern are found near, but outside of the construction area, no buffers will be implemented.

Timing for Implementation/Compliance: Prior to and during construction.
Person/Agency Responsible for monitoring: City of Eureka official.
Monitoring Frequency: Prior to project approval and upon implementation.
Evidence of Compliance: Completion of and adherence to required documents and measures.

V. CULTURAL RESOURCES. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?			✓	
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?		✓		
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		✓		
d) Disturb any human remains, including those interred outside of formal cemeteries?		✓		

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree the proposed project would cause (a) physical changes in known or designated historical resources, or in their physical surroundings, in a manner that would impair their significance; (b) physical changes in archaeological sites that represent important or unique archaeological or historical information; (c) unique paleontological resource site or unique geologic feature; or (d) disturbance of human burial locations.

DISCUSSION: The following information and analysis is based on Northwest Information Center (NWIC) cultural resources records search and a cultural resources field survey and studies conducted for the proposed project by Roscoe and Associates during the fall and winter of 2013. Roscoe and Associates also consulted with representatives of local native American tribes including the Bear River Band of the Rohnerville Rancheria, Blue Lake Rancheria, Table Bluff Rancheria,

Wiyot Tribe, and the Tribal Historic Preservation Officer (THPO) for the Bear River Band of the Rohnerville Rancheria. The full texts of the reports are not included in this Initial Study because of their confidential nature (CEQA Guidelines Section 15120 (d)). They are available for review by qualified persons (archaeologists, Tribal Historic Preservation Officers, etc.) at the City of Eureka Community Development Department at 531 K Street, Eureka.

V a) The cultural resources investigation concluded that there are no historic resources within the area of potential effect (APE) (i.e., project area) as shown in Figures 2.1 through 2.8. However, remnant pilings and historic features associated with a historic oil terminal and dock are located within the northwestern terminus of the project APE. According to the cultural resources investigation, the remnants of the oil terminal and storage facility will be recorded and recommended not eligible to the National Register of Historic Places or the California Register of Historic Places under any criteria.

Two other historic properties were identified adjacent to, but outside of the APE including a historic house located at 2188 Tydd Street (within 10 meters) and the Froman Marina and dry dock with remnants of historic features located approximately 30 meters from the APE. No further study is necessary for these two properties as they would not be directly or indirectly impacted by the project.

The cultural resources investigation concluded a finding of "No Adverse Effects to Historical Resources" (Public Resource Code 5020.1). Therefore, the impact is less than significant.

V b-c) The project alignment lies within the traditional territory of the Wiki division of the Wiyot Indian tribe. Wiyot occupied the lands adjacent to Humboldt Bay and typically lived in villages that were close to water and wetlands where they had ample access to food (fish, shellfish, marine mammals, waterfowl, deer, elk, and small land animals), and traveled by water.

The NWIC records indicate that the portions of the project APE had been subject to a previous archaeological investigation by Basin Research in 2003 and by Douglas 1985. The NWIC base and primary maps show that two cultural resources (CA-HUM-61 and CA-HUM-62) have been recorded in close proximity to the project APE. These recorded sites correspond to Wiyot habitation sites which were noted by Loud in his *Ethnography and Archaeology of the Wiyot* (1918). Archaeological deposits associated with these Wiyot habitation sites were not discovered by the previous cultural resource investigations on file with the NWIC nor were any archaeological materials within the APE identified during the cultural resources investigation.

Given ethnographic evidence of Native American habitations along Humboldt Bay, there is the potential that Native American resources are present below the ground surface of the project alignment. If such resources were discovered during project construction and determined to be significant or unique, the project could potentially cause a substantial adverse change in the significance of archaeological resources, as defined in Section 15064.5 of the State CEQA Guidelines, and/or destroy unique paleontological resources. It is Caltrans' policy to avoid cultural resources whenever possible. If however, buried cultural materials are encountered during project construction, work shall stop in the immediate vicinity of the find(s) until the Project Manager can

follow Caltrans' procedures for discovery of cultural resources during implementation of an undertaking, as described at 36 CFR 800.13. The provisions of Section 21084.1 of the Public Resources Code and Section 15126.4 of the CEQA Guidelines are also applicable. If any cultural resources are discovered the impact would be **less than significant with implementation of Mitigation Measure V-1**. Additionally, the project would not directly or indirectly destroy any unique geologic features.

Although no project related excavations are planned from Station 43+00 (see Figure 5.6) to the southern terminus of the APE at Tydd Street, the three tribal THPOs recommend that if any excavations become necessary within this section of the APE, that a cultural monitor be present during the excavations if the excavations are to be more than one foot deep. Therefore, **Mitigation Measure V-2 is incorporated**.

V d) The project site is located within both the traditional territory of the Wiki division of the Wiyot Indian tribe, and the more recent boundaries of the City of Eureka. Thus, the project site has the potential to contain human remains, including those interred outside of formal cemeteries, and project construction activities would have the potential to disturb such remains, if present. This impact would be **less than significant with Mitigation Measure V-3 incorporated.**

MITIGATION MEASURES:

Mitigation Measure V-1: If potential archaeological or paleontological resources are encountered during project subsurface construction activities or geotechnical testing, all work within 50 feet of the find shall be stopped, and a qualified archaeologist funded by the City of Eureka and approved by the City of Eureka shall be contacted to evaluate the find, determine its significance, and identify any required mitigation. The applicant shall be responsible for implementing the mitigation prior to construction activities being re-started at the discovery site.

Timing for Implementation/Compliance: Throughout the duration of geotechnical testing and project construction.
Person/Agency Applicant, Contractor, and City of Eureka
Monitoring Frequency: Throughout the duration of geotechnical testing and project construction.
Evidence of Compliance: If archaeological or paleontological resources are discovered: (1) hiring of a qualified archaeologist by the applicant acceptable to the City; and (2) implementation of any mitigation identified by the archaeologist prior to resumption of construction activities at the location.

Mitigation Measure V-2: If project related geotechnical excavations become necessary, as a result of final design, and those excavations are to be more than one foot deep, then the THPOs of each local native American tribes, as noted above, will be contacted and given the date and time of excavations so that a cultural monitor may be present to observe for the presence of buried archaeological materials.

Timing for Implementation/Compliance: Throughout the duration of geotechnical testing.
Person/Agency Applicant, Contractor, City of Eureka, and THPOs
Monitoring Frequency: Throughout the duration of geotechnical testing.

Evidence of Compliance: If archaeological or paleontological resources are discovered: (1) hiring of a qualified archaeologist by the applicant acceptable to the City; and (2) implementation of any mitigation identified by the archaeologist prior to further geotechnical testing and/or construction activities at the location.

Mitigation Measure V-3: In accordance with California Health and Safety Code Section 7050.5 and California Public Resources Code Sections 5097.94 and 5097.98, if human remains are uncovered during project construction activities, work within 50 feet of the remains shall be suspended immediately, and the City of Eureka Community Development Department (CDD) and Humboldt County Coroner shall be immediately notified. If the remains are determined by the Coroner to be Native American in origin, the Native American Heritage Commission (NAHC) shall be notified within 24 hours, and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains.

Timing for Implementation/Compliance: Throughout the duration of project construction.
Person/Agency Applicant, Contractor, and City of Eureka
Monitoring Frequency: Throughout the duration of project construction
Evidence of Compliance: Notification by the applicant and CDD of the County Coroner, relevant Native American representative and NAHC if human remains are found.

VI. GEOLOGY AND SOILS. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Expose people or structures to 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.			✓	
ii) Strong seismic ground shaking?		✓		
iii) Seismic-related ground failure, including liquefaction?		✓		
iv) Landslides?				✓
b) Result in substantial soil erosion or the loss of topsoil?		✓		
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?			✓	
d) Be located on expansive soil, as defined by the California Building Code (2007), creating substantial risks to life or property?				✓
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?				✓

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers project-related effects that could involve or result from: (a) damage to project elements as a direct result of fault movement

along a fault identified in the Alquist-Priolo study or other known fault; damage to project elements as a direct or indirect effect of seismically derived ground movement; damage to project elements because of landslides that are not seismically related; (b) project-derived erosion by water or wind of more than a minimal volume of earth materials; (c) project-derived or project-caused secondary instability of earth materials that could subsequently fail, damaging project elements or other sites or structures; (d) location of project elements on expansive soils that are identified by professional geologists, which could result in damage to project elements or other sites or structures; or (e) soils incapable of supporting the use of septic tanks or alternate wastewater disposal systems.

DISCUSSION:

VI a) Humboldt County is a very active tectonic region subject to seismic ground shaking from earthquakes as a result of close proximity to the triple junction fault zone. However, the proposed trail alignment does not occur on any fault zones and an Alquist-Priolo Earthquake Fault Zone has not been mapped in the City of Eureka. The closest faults are the Freshwater fault to the north and Little Salmon-Yager fault to the south, according to the California Geological Survey 2010 Fault Activity Map of California (CGS 2010a). The only project components that would likely present a hazard in the event of a seismic incident are the boardwalk and bridges; however, all constructed features would comply with the 2007 California Building Code (CBC), including the requirements of the special Seismic Design Category zones (SDC). The project area does not have the potential for landslides. Considering the distance from known faults to the project, lack of constructed features that impose a risk in a seismic event, and adherence to CBC and SDC requirements, potential impacts resulting from seismic events are anticipated to be less than significant. However, a geotechnical investigation shall be conducted to identify and reduce any potentially significant environmental impacts from seismic ground shaking and other related events. **Mitigation Measure VI-1** will be implemented.

VI b) Construction activities, including cut, fill, removal of vegetation, and operation of heavy equipment would disturb soil and, therefore, have the potential to cause erosion. These activities would be performed in compliance with the Best Management Practices (BMPs) prescribed in the Eureka Municipal Code, Regional Water Quality Control Board (RWQCB) regulations and the CBC. BMPs may include: silt fences, straw bales and wattles, soil stabilization controls, site watering for controlling dust, and sediment detention basins. In areas where the trail would be located within or in close proximity to designated ESHA, BMPs would be implemented to prevent erosion and sedimentation from trail construction. Protection measures include a SWPPP which would be required prior to any grading or construction activities in excess of one acre. Therefore, no substantial soil erosion or loss of topsoil would result from the project and a less than significant impact is expected to occur as a result of the project.

VI c) The project site is classified as Quaternary (Pleistocene – Holocene) alluvium, lake, playa, and terrace, unconsolidated and semi-consolidated deposits according to the California Geological Survey, Geologic Map of California (CGS, 2010b). The project is within an area of historical fill over bay muds and may be subject to some degree of ground liquefaction during strong seismic shaking. Together with much of the land in and around Humboldt Bay and associated coastal streams, the trail alignment is mapped as "Relatively Stable" on the Humboldt County GIS Portal. The project will comply with the seismic requirements of the CBC. The project area is on predominately flat ground with no potential for landslides. The impact is less than significant.

VI d) According to the Wetland Delineation prepared for the project, soil textures ranged from silt loam to sandy loam and sand. The project is not located on expansive soils; therefore, no related

substantial risks to life or property are anticipated. No impact has been identified.

VI e) The proposed project does not include septic tanks or other alternative wastewater disposal systems, and no impact related to wastewater disposal in soils would result. The project area is served by existing municipal wastewater disposal infrastructure. No impact has been identified.

MITIGATION MEASURES:

Mitigation Measure VI-1: A California registered Geotechnical Engineer shall conduct a design-level geotechnical study for the project. The geotechnical study shall evaluate seismic hazards and provide recommendations to mitigate the effect of strong ground shaking; any unstable, liquefiable, or expansive soils; or settlement in adherence with current California Building Code (CBC) standards for earthquake resistant construction. The seismic criteria shall take into account the active faults in the Eureka area and beyond, and ground motions and shaking related to the faults shall be accounted. The geotechnical study shall include evaluation of unstable land in the project area, including areas susceptible to liquefaction, lateral spreading, or settlement, and areas containing expansive soils. The study shall provide measures to repair, stabilize, or avoid such soils, and include grading, drainage, paving, and foundation design recommendations.

The project shall be designed and constructed in conformance with the specific recommendations contained in the design-level geotechnical study, including recommendations for grading, ground improvement, and foundation support. The recommendations made in the geotechnical study shall be incorporated into the final plans and specifications and implemented during construction. Professional inspection of foundation and excavation, earthwork and other geotechnical aspects of site development shall be performed during construction in accordance with the current version of the CBC.

Timing for Implementation/Compliance: Prior to construction.
Person/Agency Responsible for monitoring: City of Eureka Building Department.
Monitoring Frequency: Prior to project approval and upon implementation.
Evidence of Compliance: Completion of and adherence to required measures.

VII. GREEN HOUSE GAS EMISSIONS. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			✓	
b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?			✓	

THRESHOLDS OF SIGNIFICANCE: This initial study considers to what degree the project would contribute to greenhouse gas emissions and global warming.

DISCUSSION:
VII a, b) Climate change refers to change in the Earth's weather patterns including the rise in the Earth's temperature due to an increase in heat-trapping or "greenhouse" gases (GHGs) in the

atmosphere. Unlike emissions of criteria and toxic air pollutants, which have local or regional impacts, emissions of GHGs that contribute to global warming or global climate change have a broader, global impact. Global warming is a process whereby GHGs accumulating in the atmosphere contribute to an increase in the temperature of the Earth's atmosphere. The principal GHGs contributing to global warming are carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O) and fluorinated compounds. These gases allow visible and ultraviolet light from the sun to pass through the atmosphere, but they prevent heat from escaping back out into space. Among the potential implications of global warming are rising sea levels, and adverse impacts to water supply, water quality, agriculture, forestry, and habitats. Like most criteria and toxic air contaminants, much of the GHG production comes from motor vehicles. GHG emissions can be reduced to some degree by improved coordination of land use and transportation planning at the city, county and subregional level, and other measures to reduce automobile use. Energy conservation measures also can contribute to reductions in GHG emissions (BAAQMD 2012).

The California Global Warming Solutions Act of 2006 (Assembly Bill 32) definitively established the state's climate change policy and set GHG reduction targets (Health & Safety Code §38500 et seq.). The state set its target at reducing greenhouse gases to 1990 levels by 2020.

The NCUAQMD does not have rules, regulations, or thresholds of significance for non-stationary or construction-related GHG emissions. In 2011, the NCUAQMD adopted Rule 111 - Federal Permitting Requirements for Sources of Greenhouse Gases to establish a threshold above which New Source Review (NSR) and federal Title V permitting applies and to establish federally enforceable limits on potential to emit greenhouse gases for stationary sources. These are considered requirements for stationary sources and should not be used as a threshold of significance for non-stationary source projects.

The existing Eureka General Plan predates modern planning relevant to GHG emissions and global warming. The City is in the early stage of updating its General Plan as of the release of this document for public review.

Construction of the project would cause GHG emissions as a result of combustion of fossil fuels used in construction equipment. The project would require the use of several pieces of heavy earthmoving equipment, delivery trucks, construction commute and utility vehicles, paving equipment, in addition to generators, and other small engine-powered tools. The NCUAQMD has not adopted thresholds for construction-related GHG emissions against which to evaluate significance and has not established construction-generated criteria air pollutant screening levels above which quantitative air quality emissions would be required.

Since the NCUAQMD does not have specific guidelines for GHG emissions, the guidelines established by the Sacramento Metropolitan Air Quality Management District (SMAQMD) suggest that the SMAQMD would expect qualitative analysis be conducted for projects substantially greater in scope than the proposed project. For example, quantitative analysis would be expected for a school or commercial facility construction project over 30 acres, a city park over 60 acres, or a single family residential development with over 180 units (SMAQMD 2009). Project emissions during construction of the project would not approach the level of emissions associated with these reference project types and would not cause a considerable contribution to the cumulative GHG impact. Given the project's relatively limited scale, scope, and duration, the project would not have a noticeable or considerable contribution to the cumulative GHG impact. The construction impact would be less than significant.

The project would include only minor and negligible operational GHG emissions associated with the repair and maintenance of the trail facilities as needed. The level of repair and maintenance would not lead to an increase in GHG emissions or a related impact. The operational impact would be less than significant.

FINDINGS: Based on the discussion above, the project would not significantly impact GHG emissions or conflict with regulations related to the reduction of GHG emissions.

VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			✓	
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?		✓		
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				✓
d) Be located on a site which is included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?		✓		
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 for people residing or working in the project area?				✓
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				✓
g) Impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan?		✓		
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized area or where residences are intermixed with wildlands?			✓	

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree the proposed project would involve: (a) potential storage or use, on a regular basis, of chemicals that could be hazardous if released into the environment; (b) operating conditions that would be likely to result in the generation and release of hazardous materials; (c) use of hazardous materials, because of construction-related activities or operations, within a quarter-mile of an existing or proposed school; (d) project-related increase in use intensity by people within the boundaries of, or within two miles of, the Airport Planning Areas; (e) project-derived physical changes that would interfere with emergency responses or evacuations; (f) potential major damage because of wildfire.

DISCUSSION:

VIII a) Project construction would require the use of hazardous materials such as fuels, lubricants,

paints, and solvents. Following construction, the project would not require use, storage, or transport of hazardous materials. Numerous federal and state laws and regulations ensure the safe transportation, use, storage and disposal of hazardous materials. Worker safety regulations cover hazards related to exposure to hazardous materials. Regulations and criteria for the disposal of hazardous materials mandated disposal at appropriate landfills. Because the City of Eureka, contractors, and other construction service providers would be required to comply with existing hazardous materials laws and regulations for the transport, use, and disposal of hazardous materials, the impacts associated with the potential to create a significant hazard to the public or the environment would be less than significant.

VIII b) The project would utilize heavy equipment and machinery to perform some tasks including grading, paving, 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. 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. Staging, fueling and maintenance of equipment shall be conducted only in upland locations and no closer than 150 feet from open water or in any location where hazardous material spills could become entrained in flowing water.

A Hazardous Materials Corridor Study (Corridor Study) (GHD 2013) was prepared for the project by GHD in January, 2013, and due to its size (over 400 pages) is not attached as an appendix. It is, however, available for viewing at the City of Eureka Community Development Department located on the 3rd floor of City Hall, 531 K Street, in Eureka. Reference Figures 4.1 through 4.8 for the Corridor Study's features and sites of interest along the project alignment.

The purpose of this Corridor Study was to identify areas of potentially impacted soil and/or groundwater along the Project alignment that may require special handling and disposal during construction or could pose a health exposure risk to construction workers. Based on the data available, each of the sites that could potentially impact the project has been assigned a Hazard Rank in the Corridor Study which is defined as follows:

Hazard Rank 1: A site that will 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.

A number of potentially impacted sites were identified in the EDR Report attached to the Corridor Study and are listed below. None of the sites were identified as having a Hazard Rank 1 and those with a Hazard Rank 4 (three sites) are not included below (but are listed in the Corridor Study).

- Former Shell Bulk Terminal (Hazard Rank 2)
- Pepsi Cola Bottling Company (Hazard Rank 2)
- Target (Hazard Rank 2)
- Former Dolbeer Carson Lumber Company (Hazard Rank 3)
- APN 002-231-012 (Hazard Rank 3)

- APN 002-231-013 (Hazard Rank 3)
- APN 002-231-004 (Hazard Rank 3)
- Former Northwestern Pacific Railroad Corridor (Hazard Rank 3)

There is no evidence to indicate that contaminated soils or hazardous materials are present in the project vicinity; however, as stated below in **Mitigation Measure VIII-1**, during project construction and implementation, if there is any evidence that indicates contaminated soil or hazardous materials are present on the site, either from visual observations or odors indicative of regulated substances, the applicant shall be responsible for performing soil sample analyses. Based on the results of the analysis, the applicant shall consult with jurisdictional agencies regarding follow-up procedures. The applicant shall comply with all requirements/regulations of the appropriate agencies with regard to handling, transport and disposal of potential hazardous substances to the satisfaction of the applicable agency. Therefore, the project will have a less than significant impact with mitigation incorporation.

VIII c) No schools are located within 1/4 mile of the project site. The closest school is Eureka Community School approximately 0.8 mile (0.25 mile) west of the project site on 6th Street. The project will not emit hazardous materials within ¼ mile of the school. No impact has been identified.

VIII d)

The project alignment is near areas in the California Environmental Protection Agency (Cal/EPA) list of hazardous materials facilities or sites which meet "Cortese List" requirements under Government Code Section 65962.5, including (note that some of these sites are also listed above in the Corridor Study):

- Shoreline Development Company/Former Shell T0602300071, 2 T Street, Eureka – Cleanup Status: Closed
- Victoria Gardens T0602393253, Foot of V and X Streets, Eureka – Cleanup Status: Open - Inactive
- Montgomery Wards LUST Cleanup Site T0602393605, 2525 Fourth Street, Eureka – Cleanup Status: Closed
- Target Corporation SL0602351190, 2525 Fourth Street, Eureka – Cleanup Status: Closed
- Several Listed Monitoring Wells, north of the intersection of Front Street and T Street and east of 6th Street, south of Highway 101, Eureka – Cleanup Status: Closed

The Cal/EPA sites listed above were included on the Cortese List due to underground soil and groundwater contamination. Although the proposed trail alignment runs near several listed sites, avoidance of significant subsurface disturbance in the contaminated areas would avoid project-related impacts. In the event any hazardous, toxic, noxious, objectionable, or unknown chemicals are encountered during trail construction, construction shall be halted by the construction crew on duty and reported to the general contractor for the project and the City of Eureka, as discussed in **Mitigation Measure VIII-1**, below. **Mitigation Measure VIII-2** is also included to determine whether health and safety concerns are present for construction workers and determine potential soil and/or groundwater handling and disposal options. Therefore, with incorporation of mitigation, the project will have a less than significant impact.

VIII e, f) The nearest airport to the proposed project is Murray Field which is approximately 1.2

miles east of the project on the south side of Highway 101 off Jacobs Avenue. The project would not result in airport-related safety hazards for people residing or working in the project area. There are no other public or private airports/airstrips within two miles of the project alignment. Therefore, no impact has been identified.

VIII g) The project alignment is located entirely within the Tsunami Inundation Area according to the Tsunami Inundation Map for Emergency Planning for the Eureka quadrangle (CalEMA et al. 2009). The Pacific Tsunami Warning Center in Ewa Beach, Hawaii, is staffed full-time by scientists, who quickly collect and analyze incoming tsunami data and decide whether to issue a tsunami warning. In the event of a tsunami warning, the City of Eureka Emergency Operations employees are trained in disaster preparedness including broadcasting an emergency tsunami warning (and sirens) and giving direction to the public on the actions they should take in the event of a potential tsunami in Humboldt Bay. To help inform trail users of tsunami hazards and evacuation procedures, the proposed project would include adequate signage to notify the public of tsunami hazards and evacuation routes (see Hydrology and Water Quality **Mitigation Measure IX-1**). Because there are existing tsunami evacuation plans for the area, and the project includes additional tsunami hazard signage, the project would not interfere with any existing emergency response plans. Therefore, the project will have a less than significant impact.

VIII h) The California Department of Forestry and Fire Protection (CAL FIRE) is required by law to map areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. These Fire Hazard Severity Zones (FHSZ) influence how people construct buildings and protect property to reduce risk associated with wildland fires. The project alignment is located in a local responsibility area (LRA) meaning an area where local governments have financial responsibility for wildland fire protection. The project alignment is in the "LRA Unzoned" and "Other Unzoned" zones, meaning that the project alignment is in an area that has low potential for wildland fire. The impact is less than significant.

MITIGATION MEASURES:

Mitigation Measure VIII-1: In the event any hazardous, toxic, noxious, objectionable, or unknown chemicals are encountered during trail construction, construction shall be halted by the construction crew on duty and reported to the general contractor for the project and the City of Eureka. Prior to resuming any work the City shall be responsible for obtaining a soil sample contamination analysis. The findings of the analysis shall be submitted, as applicable, to the NCRWQCB and any other appropriate regulatory agencies. Work shall not continue until and unless written approval is obtained from these agencies. The applicant shall comply at all times with the requirements and regulations of the NCRWQCB and other appropriate regulatory agencies with regard to the handling, transport, and disposal of hazardous materials such as contaminated soils to the satisfaction of these agencies. Disposal of all hazardous materials will be in compliance with all applicable California hazardous waste disposal laws.

Timing for Implementation/Compliance: During design and construction.
Person/Agency Responsible for monitoring: Contractor and City of Eureka official.
Monitoring Frequency: During Construction.
Evidence of Compliance: Compliance with applicable regulations if hazardous materials are encountered.

Mitigation Measure VIII-2: At least one pre-construction soil boring in each segment (excluding Segment 7 because it's paved) of the trail alignment shall be completed in order to characterize soil and groundwater in anticipation of implementation of construction activities. Laboratory analytical results of soil and groundwater samples collected from the borings will be utilized to ascertain whether health and safety concerns are present for construction workers and determine potential soil and/or groundwater handling and disposal options. Proposed soil borings and/or grab groundwater sample locations will be determined following identification of the areas and depths of soil excavation and dewatering activities.

A Construction Soil and Groundwater Management Plan (SGMP) should also be prepared to proactively manage potentially impacted soil and groundwater within the project segments.

Timing for Implementation/Compliance: Prior to construction.
Person/Agency Responsible for monitoring: Contractor and City of Eureka official.
Monitoring Frequency: Prior to Construction.
Evidence of Compliance: Compliance with applicable regulations if hazardous materials are encountered.

IX. HYDROLOGY AND WATER QUALITY. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?			✓	
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?			✓	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off-site?		✓		
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?			✓	
e) 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?			✓	
f) Otherwise substantially degrade water quality?		✓		
g) Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary of Flood Insurance Rate Map or other flood hazard delineation map?				✓
h) Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?				✓

i) Expose people or structures to a significant risk or loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				✓
j) Result in inundation by seiche, tsunami, or mudflow?		✓		

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree the proposed project would involve: (a) improvements that would violate standards set for water quality and for discharge of waste water; (b) use of, or interference with groundwater such that the amount of flow of groundwater is adversely impacted; (c) drainage improvements that would substantially alter or cause an increase in the amount or flow of drainage, or that would affect the free-flow of a stream or river or cause an increase in silt runoff as to cause adverse impact; (d) added runoff from the site that would exceed the capacity of drainage facilities; (e) the creation of polluted runoff or other general adverse water quality impacts; (f) substantially degrading water quality; (g) and (h) the placement of housing or other structures within the 100-year flood plain, or other area subject to flooding; (i) exposure of people/structures to significant loss from flooding from a levee or dam; or (j) development in such a manner or location that it would be adversely affected by seiche, tsunami or mudflow.

DISCUSSION:

IX a) Minor grading necessary to construct the trail would be conducted in accordance with the BMPs described in the Eureka Municipal Code, CBC, California Stormwater Quality Association (CASQA) BMP guidelines and the regulations of the RWQCB. Because the project involves only minor vegetation removal, excavation, grading and other earthwork activities, and includes BMPs, no violations to water quality standards or waste discharge requirements are expected to result. If minor earthwork activities need to occur outside the dry season, they would be conducted in accordance with the requirements of the Eureka Municipal Code and RWQCB. The project will have a less than significant impact.

IX b) The project will not use any groundwater for any purpose, including irrigation, domestic or commercial demands. The project does not involve operations that would substantially deplete groundwater supplies or interfere with groundwater recharge. Also, 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 or aquifer. Therefore, the project will have a less than significant impact.

IX c, d) There are no proposed changes to drainage patterns associated with the proposed project, and the project will not affect flooding potential. The project will include more than one acre of ground disturbance (approximately two acres). To mitigate for potentially significant runoff impacts that could result in minor erosion, completion of a SWPPP to the satisfaction of the RWQCB is required because the project includes more than one acre of ground disturbance. The preparation of a SWPPP and adherence to the RWQCB's requirements for the preparation of SWPPP's would result in a less than significant impact on stormwater-related siltation and erosion on- or off-site, or flooding on- or off-site.

IX e) Project construction will implement site design measures, source control, and/or treatment control BMPs to reduce potential pollutants, including sediment from erosion or siltation, to the maximum extent practicable. The project design provides for minimal grading and will conform to the natural topography to maintain the existing drainage flow on-site. Additionally, the vegetation

surrounding the trail will act as a natural biofilter. BMPs are required during construction activities and will include, but are not limited to, features such as stabilized construction entrance/exit areas, permeable surfaces, and silt fencing. Silt fences and fiber rolls would be specified to minimize surface transport of sediments.

Since ground disturbance is more than one acre a SWPPP will be required. To mitigate the potential for increased stormwater runoff resulting from construction of impervious trail surfaces, the applicant shall, prior to commencement of any construction, submit a SWPPP to the City of Eureka Public Works Stormwater Division. The SWPPP shall be subject to approval by the NCRWQCB, and City of Eureka Building, Planning, Engineering, and Public Works Departments. SWPPP implementation shall be subject to enforcement by the aforementioned agencies.

The SWPPP shall incorporate BMPs as appropriate. No debris, soil, silt, sand, slash, sawdust, rubbish, cement or concrete washings, oil or petroleum products, or other organic or earthen material from construction operations shall be allowed to enter or be placed where it may become entrained in any flowing or standing water. Erosion control measures and BMPs would be implemented during all phases of construction. No motorized vehicles will be allowed on the trail; therefore, oil, gas or other fluids would not be expected to be a significant source of polluted stormwater runoff.

Due to the factors above, it has been found that the project will not result in significantly increased erosion or sedimentation potential and will not permanently alter any drainage patterns of the site or area on- or off-site. Therefore, the project will have a less than significant impact.

IX f) In areas where the trail would be located in close proximity to designated ESHA, BMPs would be implemented to prevent erosion and sedimentation from trail construction. Protection measures include a SWPPP which would be required prior to any grading or construction activities in excess of one acre. The project as mitigated is not expected to substantially degrade water quality. Therefore, the project will have a less than significant impact.

IX g) The project does not include housing; therefore, no housing will be placed in the 100-year flood hazard area. No impact will occur.

IX h) According to Humboldt County's GIS Portal, which is based on the Federal Emergency Management Agency's (FEMA) National Flood Insurance Program Flood Insurance Rate Map for the City of Eureka, a portion of the project alignment along Humboldt Bay and the Eureka Slough is within the 100-year flood zone (FEMA 1986); however, the project would not place structures that would redirect or impede flood flows within the FEMA-designated 100-year floodplain. No impact has been identified.

IX i) The project is not in close proximity to any dam or levee that has the potential to expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam. No impact has been identified.

IX j) 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. Humboldt State University has conducted a number of studies

on the impacts to Humboldt Bay resulting from tsunami inundation. These studies indicate that, although a wave from 12 to 20 feet high could threaten the southern end of the north spit, including the U.S. Coast Guard base, Fairhaven and parts of Samoa, the largest tsunamis occurring on Humboldt Bay, including those dating back as early as 1700 A.D., did not entirely inundate the north spit. The last recorded tsunami of any observable height to occur in Humboldt Bay was in 1964 as a result of the Gulf of Alaska earthquake. It had a recorded maximum height of 12 feet on the inside of the north spit and breached a 10-foot seawall at the Eureka Boat Basin. The Bay was filled with logs and debris and nine changes in tidal height were reported over the night causing high current velocities within the Bay. Fourteen-knot currents were reported in the channel opposite the Coast Guard Stations (Lander and others, 1993).

Inundation is only one of the hazards posed by a tsunami. The extremely high velocity caused by rapid changes in water elevation is capable of causing significant erosion and damage to structures - especially when the water is laden with debris. High velocity water can cause damage even when the water height is not significantly high.

The National Oceanographic and Atmospheric Administration (NOAA) published a tsunami inundation model of the Humboldt Bay region which mathematically computed the expected inundation levels caused by a magnitude 8.4 earthquake on the Cascadia Subduction Zone (CSZ) (Bernard and others, 1994). In the model, the north and south spit bear the brunt of the impact. Both spits are overrun and the waves travel across Humboldt Bay flooding Woodley and Indian Islands. The shallowness of the bay dissipates the wave energy and flooding on the east side of the bay is expected only in the immediate waterfront area west of the project alignment.

Configuration of the coastline, shape of the ocean floor, and character of the advancing waves play an important role in the destruction wrought by tsunamis along any coast, whether near the generating area or thousands of kilometers from it. The United States has collaborated with other countries around the Pacific to build and maintain a warning system that detects earthquake, sea surface levels, and ocean-bottom movements of water. The Pacific Tsunami Warning Center in Ewa Beach, Hawaii, is staffed full-time by scientists, who quickly collect and analyze incoming data and decide whether to issue a tsunami warning. In the event of a tsunami warning, the City of Eureka Emergency Operations employees are trained in disaster preparedness including broadcasting an emergency tsunami warning and giving direction to the public on the actions they should take in the event of a potential tsunami in Humboldt Bay.

The majority of the project alignment is located adjacent to Humboldt Bay and the Eureka Slough, and the entire project alignment is within the Tsunami Inundation Area as mapped by the California Emergency Management Agency, California Geological Survey and University of Southern California (CalEMA 2009). The site is also within high and moderate inundation areas according to the Tsunami Hazards Map. As such, **Mitigation Measure IX-1** is proposed to require 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.

The proposed trail alignment does run adjacent to the Humboldt Bay, which lies directly within Coastal Tsunami Hazard zone. The City of Eureka along with FEMA, NOAA, and the State of California, have developed emergency response procedures incorporated into the City's emergency

response plans. While Tsunamis can be devastating, they are a distant threat and technology currently in place will help the City respond in a timely and appropriate manner. Additionally, because of the relatively flat terrain, the project area is not susceptible to seiche or mudflow events.

Findings: Based on the discussion above, and with the mitigation measures described below, the project is expected to result in less than significant impacts to hydrology and water quality.

MITIGATION MEASURES:

MITIGATION MEASURE IX-1: To inform trail users of the potential of tsunami run-up inundating the trail area, each trailhead location shall have signage informing the public of what actions to take in the event of seismic activity. Said signage shall be posted to the satisfaction of the City of Eureka and prior to the trail being open to the general public.

Timing for Implementation/Compliance: During design phase.
Person/Agency Responsible for monitoring: City of Eureka official and engineer.
Monitoring Frequency: Once during plan check and during construction.
Evidence of Compliance: City of Eureka official will inspect and approve.

X. **LAND USE AND PLANNING**. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?				✓
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?			✓	
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				✓

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree the proposed project would (a) divide an established community or conflict with existing land uses within the project's vicinity, such as agriculture resources; (b) conflict with the Eureka General/Coastal Plans designation, policies, and zoning ordinances regarding commercial, public, and quasi-public facilities; and (c) conflict with applicable environmental plans and protection measures enforced by regulatory agencies that have jurisdiction over the project, such as habitat conservation plans or a natural community conservation plan.

DISCUSSION:
X a) Except for the existing section of trail on the east side of Target, next to the Eureka Slough, and the Shoreline RV Park, the project alignment is primarily along the perimeter of the City and through undeveloped land adjacent to Humboldt Bay and adjacent sloughs. The project does not traverse established neighborhoods or communities. Therefore, there is no impact.

X b) Zoning in the project area includes Waterfront Commercial (CW), Natural Resources (NR), Service Commercial, (CS), and Public (P). The primary existing land uses in the project area include: developed and abandoned industrial and commercial lands, railroad right-of-way, commercial development, residential development, Highway 101, an RV park, health clinic, and

sloughs. Land use designations in the project area include: Waterfront Commercial (WFC), Natural Resources (NR), General Service Commercial (GSC), and Public/Quasi-Public (PWP).

The project is within the Coastal Zone and therefore subject to applicable coastal zone policies and regulations of the Coastal Act and the City of Eureka Local Coastal Program. The project alignment is entirely within the California Coastal Commission's (CCC) coastal zone and the City of Eureka's adopted Local Coastal Program (LCP). Any new development within the CCC's coastal zone and the City's LCP will require a Coastal Development Permit (CDP) from each jurisdiction. A consolidated CDP can be requested from the CCC so that only CDP needs to be prepared, rather than separate CDPs for the CCC and City of Eureka.

The City of Eureka General Plan identifies multiple pedestrian and recreation related goals and policies within the Waterfront and Core Areas of Eureka. The proposed project is consistent with the following General Plan goals and policies:

- *Policy 1.B.1 – "The City shall promote the development of a compact Core Area of concentrated commercial, residential, fishing-related. Civic, cultural, and recreational activities by unifying parts of the three historic central "districts" (i.e., Old Town, Downtown, and the Waterfront)."*
- *Goal 1.D – "To revitalize the Core Area waterfront, enhancing coastal-related tourism and recreation, while maintaining the economic base and employment provided by the fishing industry."*
- *Policy 1.D.2 – "…the City shall ensure public access along the full length of the shoreline within the Core Area through development of multiple access points such as walkways, paths, docks, and piers."*
- *Policy 1.G.1 – "The City shall provide a coordinated and unified system of plazas, squared, parks, and public-ways…that promotes pedestrian vitality in the Core Area."*
- *Goal 3.C – "To encourage the use of the bicycle as an alternate, energy efficient mode of transportation within the city and to develop a system of bikeways and bicycle parking facilities which will safely and effectively serve those wishing to utilize the bicycles for commute or recreational trips."*
- *Policy 3.C.6 – "The City shall pursue development of a system of local bikeways that extends throughout the urban sections of the City and which is interconnected with the regional bikeway system."*
- *Goal 3.D – "To encourage and facilitate walking throughout the City.*
- *Policy 3.D.1 – "The City shall provide for the extension of sidewalks, trails, and walking facilities throughout the City to allow for convenient and safe pedestrian movement.*
- *Policy 3.D.3 – "The City shall ensure that pedestrian walkways are separated, safe, and protected from automobile traffic."*
- *Policy 5.B.7. –" The City shall establish a coordinated continuous public access system throughout its Coastal Zone, consisting of pedestrian walkways, nature walks, and bikeways with necessary support facilities."*

The project is consistent with the City of Eureka Zoning Ordinance and General Plan policies noted above, therefore, the impact is less than significant.

X c) There are no habitat or natural community conservation plans that cover the project area, therefore, no impact has been identified.

FINDINGS: The project would not require a General Plan Land Use designation or zoning change,

would not physically divide the community or conflict with any applicable habitat conservation plan or natural community conservation plan with jurisdiction over the area. The impact is less than significant.

XI. **MINERAL RESOURCES**. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?				✓
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?				✓

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree the proposed project would interfere with the extraction of commodity materials or otherwise cause any short-term or long-term decrease in the availability of mineral resources that would otherwise be available for construction or other consumptive uses.

DISCUSSION:

XI a, b) The proposed project may require minor use of quarry 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 State. There are no locally important mineral resource recovery sites in the project vicinity, and the project site contains no mineral resources that would be impacted by the project. No impact has been identified.

FINDINGS: The mineral resources needed for the trail improvements within the City would be of limited quantities and the project is expected to have a less than significant impact on local mineral resources.

XII. **NOISE**. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		✓		
b) Expose persons to or generate excessive ground borne vibration or ground borne noise levels?			✓	
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?			✓	
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?		✓		
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 expose people residing or working in the project area to excessive noise levels?				✓

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				✓

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers whether the proposed project would produce: (a) sound-pressure levels in excess of the City of Eureka noise standards; (b) long-term ground vibrations and low-frequency sound that would interfere with normal activities and which is not currently present in the project area; (c) a substantial increase in ambient short-term or long-term sound-pressure levels; (d) a substantial temporary or periodic increase in ambient noise levels; or (e) and (f) expose people to excessive noise levels within the vicinity of a public or private airport.

DISCUSSION:

XII a) The City of Eureka includes residential noise exposure policies in the General Plan Policy Document, Part II, Section 7 (February 1997). The overall goal under "Residential Noise Exposure" is "To protect Eureka residents from the harmful and annoying effects of exposure to excessive noise." For non-transportation related noise, the maximum allowable noise at the property line of lands designated for noise-sensitive uses cannot exceed 65dB (nighttime, 10 p.m. to 7 a.m.) to 70dB (daytime, 7 a.m. to 10 p.m.). Transportation noise sources are defined as "public roadways, railroad line operations, and aircraft in flight."

The project alignment and surrounding area is characterized by undeveloped land, commercial, and light industrial land uses, Shoreline RV Park, the Eureka Community Health Center, Highway 101 and local roadways, with local and commuter traffic. Residential uses (single family and multifamily) are adjacent to the project alignment at the southern portion of the alignment on Tydd Street. Noise in the vicinity of the project is primarily associated with vehicular traffic along Highway 101 (4th and 5th Streets) and other immediately surrounding intersections. Additional noise sources in the vicinity include commercial and industrial activity, the Bay, water and shore birds, and commercial and recreational boating activities.

In order to prevent construction noise from disturbing homes and businesses in the project vicinity during the generally quieter nighttime hours, construction activities will be limited to the hours of 7:00 AM to 7:00 PM on weekdays and 8:00 AM to 6:00 PM on Saturdays, Sundays, and Holidays, except in emergencies or with prior approval from the City of Eureka (**Mitigation Measure XII-1**). With mitigation incorporated, the minor incremental increase in noise associated with trail construction, use, and maintenance activities would not expose persons to noise levels in excess of applicable standards and would not represent a significant increase in noise. With mitigation incorporation, the minor incremental increase in noise associated with trail construction, use, and maintenance activities would not expose persons to noise levels in excess of applicable standards and would not represent a significant increase in noise. The impact is less than significant with mitigation incorporated.

XII b) Project related activities would not involve the use of explosives or other intensive construction techniques that could generate significant ground borne vibration or noise. Prior to completing final design for the project, the City will complete a geotechnical analysis at each bridge location to determine the bearing capacity of the soils and to determine if piles will be necessary. If piles will be necessary, the geotechnical analysis will also determine how deep the piles would need to be. It is assumed that piles would need to be at least 10 feet in depth. Each of the bridges spans over tidal waters. If piles are necessary, piles would not exceed 12 inches in diameter and would be

installed at least 33 feet from tidal water at the time of installation to eliminate the potential for noise related impacts to aquatic species.

Noise impacts to humans are anticipated to minor based on the fact that the piles (if needed based on final design) would be a maximum diameter of 12 inches; the piles would be spaced so as few are used as feasible; attenuation measures such as (but not limited to) wood cushion blocks at impact would be used; and there are no noise sensitive groups adjacent to the areas where piles would be used. Smaller piles, such as 12-inch piles, compared to 24-inch piles, result in less vibration and less noise. Minor vibration adjacent to mechanized equipment and road/trail treatments during construction work would be generated only on a short-term basis. Therefore, ground borne vibrations and noises would have a less than significant impact. Reference Section IV (Biological Resources) for a discussion of potential impacts to biological resources.

XII c) The project is a passive recreational facility; motorized vehicles would be prohibited on the facility. It does not involve any operational feature that would cause any permanent increase to noise levels. The project will, therefore, not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. The impact is less than significant.

XII d) Construction activities would result in a minor temporary increase in ambient noise levels from construction equipment and construction-related traffic. Segment 9 would be the only segment of the proposed trail where construction noise could be an issue because of the open door clinic. Constructing the trail would include using heavy equipment for earth moving, grading and compaction, paving, and hauling. The construction phase would increase localized truck trips to transport materials and equipment to and from the proposed trail corridor. Although construction-related noise would be unavoidable, it would be temporary and intermittent and construction hours would be limited, as required by **Mitigation Measure XII-1** presented below. The proposed project would comply with all applicable City policies discussed above to abate construction-related noise impacts. The impact on ambient noise levels would be less than significant with incorporation of mitigation.

XII e, f) The project site is approximately 1.4 miles west of Murray Field Airport and is located outside the airspace analysis zone identified in the 1993 Airport Land Use Compatibility Plan for Murray Field. The southern portion of the proposed project alignment is approximately 3.7 miles northeast of the City-owned Eureka Municipal Airport in Samoa. These airports are relatively distant to the project and the project would not expose people in the project area to excessive noise levels from either airport. No impact has been identified.

<u>FINDINGS</u>: The project would not result in any changes to the noise levels related to an airport or private airstrip and would not expose people to excessive noise levels from an airport or private airstrip. Based on this analysis, the project is expected to have a less than significant impact on noise.

<u>MITIGATION MEASURES:</u>

Mitigation Measure XII-1: Construction activities will be limited to the hours of 7:00 AM to 7:00 PM on weekdays and 8:00 AM to 6:00 PM on Saturdays, Sundays, and Holidays, except in emergencies.

Timing for Implementation/Compliance: During design and construction phase.
Person/Agency Responsible for monitoring: City of Eureka official and engineer.
Monitoring Frequency: Once during plan check and once during construction.
Evidence of Compliance: City of Eureka official will inspect and approve.

XIII. POPULATION AND HOUSING. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (e.g., by proposing new homes and/or businesses) or indirectly (e.g., through extension of roads or other infrastructure)?				✓
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				✓
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				✓

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree the proposed project w ould result i n, o r contributes to, p opulation g rowth, d isplacement o f h ousing u nits, demolition or removal of existing housing units, or any project-related displacement of people from occupied housing.

DISCUSSION:
XIII a, b, c) The City of Eureka's 2013 population was approximately 27,021 according to the Department of Finance's population estimates (DOF 2013). Eureka's 2000 and 2010 population was 26,128 and 27,191, respectively. This was a four percent increase in population from 2000 to 2010 (DOC 2000 and 2010) and a 0.6 percent decrease in population from 2010 to 2013.

The project would only consist of enhancements to non-motorized vehicular transportation facilities and recreational facilities in the immediate vicinity of the project. Trail construction would not involve construction of any facility that would directly or indirectly induce population growth. Therefore the project would have no impact on population growth.

By its nature and based on the project description, the project will not be growth inducing or growth inhibitive, but rather extend the Eureka Waterfront Trail (Phase C) from Tydd Street in the south to the Adorni Recreation Center. There is no housing being displaced or built as part of the project and the project will not displace any people, necessitating the construction of replacement housing elsewhere.

FINDINGS: Based on the discussion above, the project would not result in substantial adverse impacts regarding population and housing. No impact has been identified.

XIV. PUBLIC SERVICES. 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:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

a) Fire protection?			✓	
b) Police protection?			✓	
c) Schools?				✓
d) Parks?			✓	
e) Other public facilities?			✓	

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree the proposed project would result in any changes in existing fire or police protection service levels, or a perceived need for such changes, as well as any substantial changes in the need for, or use of, schools, parks, or other public facilities.

DISCUSSION:

XIV a, b) The City of Eureka Fire and Police Departments currently serve the project area. As a non-motorized transportation facility, the project would not necessitate any related new or altered facilities. The project would not result in significant adverse effects on service ratios for the police or fire departments. The proposed project may result in increased motorized and non-motorized traffic in the vicinity. The proposed project will facilitate improved foot access on trails and vehicle access on maintenance roads and parking areas for law enforcement and emergency services personnel. The project is not expected to substantially increase the need for patrols by local law enforcement or emergency services. The project may have a beneficial effect on reducing the need for patrol by encouraging more public use and discouraging unwanted uses of the area. A less than significant impact with respect to fire and police facilities is anticipated.

XIV c). The proposed project is in an area served by the Eureka City School District and would not necessitate additional school facilities. The proposed project has no relation to school district service ratios or school facilities and no impact to schools would occur.

XIV d , e) The proposed project would present a new passive recreational opportunity by increasing trail connectivity. The project is expected to enhance parks and recreation options within the City of Eureka. Additional recreational opportunities and increased recreational traffic along the Eureka Waterfront and under Highway 101 may reduce other less desirable uses that currently occur in the project vicinity. The project would not require services beyond the capacity of the service providers; therefore, a less than significant impact is anticipated.

FINDINGS: The project does not involve the construction of new or physically altered governmental facilities including but not limited to fire protection facilities, police facilities, schools, or parks in order to maintain acceptable service ratios, response times or other performance service ratios or objectives for any public services. Therefore, the project will not have an adverse physical effect on the environment because the project does not require new or significantly altered services or facilities to be constructed. The impact is less than significant.

V. RECREATION. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?			✓	

b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?			✓	

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree any aspect of the proposed project would be related to the demand for recreational facilities or increase use of existing recreational areas such that those areas are physically degraded, including secondary effects such as degradation through over-use of environmentally sensitive areas.

DISCUSSION:

V a) The project would have a long-term positive effect on recreation by increasing recreational opportunities in the area. The proposed trail represents a segment of a regional trail system that has potential not only to significantly increase non-motorized transportation, but also link regional parks and other recreational facilities.

The proposed project would not lead to an increase in the use of recreational facilities that would contribute to the physical deterioration of recreational facilities. In fact, the project enhances the existing trail system and would have an overall beneficial impact to the regional trail system. Increasing visibility and usage among public use facilities may deter illegal activity, such as illegal dumping or camping, thereby enhancing public safety and the overall health of the trail corridor. Trails are generally low maintenance facilities and the additional wear-and-tear would be minimal. The impact is less than significant.

V b) The proposed trail is a recreational facility that is likely to encourage the construction of other recreational facilities – predominantly other connecting trails and trail-related facilities. 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 regulations enacted to protect the environment. Therefore, a less than significant impact is expected to occur.

FINDINGS: As discussed above, neither the proposed recreational facilities, nor related recreational facility projects that may be constructed subsequently are expected to have an adverse physical effect on the environment (refer to Biological Resources as well as Hydrology and Water Quality, above). The impact is less than significant.

XVI. TRANSPORTATION/TRAFFIC. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exceed the capacity of the existing circulation system, based on an applicable measure of effectiveness (as designated in a general plan policy, ordinance, etc.), taking into account all relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?			✓	
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?				✓
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks?				✓

d) Substantially increase hazards due to design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			✓	
e) Result in inadequate emergency access?			✓	
f) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?			✓	

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree, if any, the proposed project would be associated with (a) changes in traffic, circulation, or other changes that might be perceived as adverse, including traffic effects resulting from temporary construction-related changes; (b) any project-related changes in levels-of-service on County or State highways; (c) a change in air traffic patterns that would result in a safety risk; (d) substantially increasing hazards due to a design feature; (e) project-associated travel restrictions that would prevent emergency vehicles from reaching the locations where they were needed; or (f) conflicts with plans or policies regarding alternative modes of transportation.

DISCUSSION:

XVI a) The project is expected to increase recreational use levels in the project area, which could result in minor amounts of additional motorized and non-motorized traffic. However, the proposed project has been designed to accommodate the anticipated traffic level. The project has been designed to meet the operational needs of adjacent and intersecting roadways, area businesses, and a variety of potential trail users. Adequate existing parking/trailhead facilities for trail users exist along Waterfront Drive underneath the Samoa Bridge, along Front Street, the parking areas at Target, and on-street parking along Tydd Street. Planning, design, and implementation standards were derived from the following sources: City of Eureka General Plan Circulation Element, the current editions of the California Department of Transportation Highway Design Manual, Chapter 1000 " Multi-use path Planning and Design", the U.S. Department of Transportation, Federal Highway Administration " Manual on Uniform Traffic Control Devices – California Supplement (CAMUTCD)" and the American Association of State Highway and Transportation Officials' (AASHTO) "Guide for Development of Bicycle Facilities."

During construction of the proposed project, construction equipment may cause minor delays on local roadways and local detours. The use of heavy equipment would be relatively minor and would only occur during short intervals during construction. The related traffic delays or disturbances are expected to be less than significant.

Once complete, the proposed project is not expected to significantly increase vehicle traffic on City streets, as it is not intended to increase the area's population or redirect traffic patterns. The project may actually decrease vehicle trips within the City by encouraging non-motorized forms of travel (walking, bicycling, skateboarding, rollerblading, etc.). Any potential increase in traffic generated by public visitation to the proposed trail and associated access areas would likely be offset by increased non-motorized travel to and from the area by trail users.

The project would:

- not conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system,
- take into account all modes of transportation, including mass transit and non-motorized travel
- take into account other components of the transportation system, such as intersections,

streets, pedestrian paths, and bicycle paths.

The proposed multi-use trail would provide increased opportunities and routes for safe non-motorized travel within the City. The proposed trail would generally be accessed from the following locations: Tydd Street at the southern end of the trail alignment; the existing section of trail at the rear of Target; the foot of Y Street; Front Street; and from the existing parking area on Waterfront Drive underneath the Samoa Bridge.

A Traffic Impact Study was not prepared because of the small size/scope of this project. However, a basic analysis of trip generation was conducted based on the ITE Trip Generation Manual and an analysis of a similar nearby facility. City of Eureka Harbor staff conducted a count at the Truesdale Trailhead of the City's Hiskshari Trail on two consecutive Tuesdays in mid-January 2014. Those counts found that approximately 10 vehicles drove to the parking lot each day to access the trail system. It is anticipated that the number of vehicle-trips generated at each of the project's proposed trailheads would be equal to or less than those generated at the Truesdale Trailhead. The Truesdale Trailhead is a primary parking lot and trailhead for the City's overall "Waterfront Trail" and therefore is expected to generate more vehicle-trips than the much smaller and less formal trailheads associated with the proposed project. In addition, the Hiskshari Trail is a popular recreational destination that independently generates vehicle trips (i.e. people driving to the trail to recreate). The proposed project, on the other hand, is primarily a through-transportation commuter facility and is not expected to serve as a primary recreational destination or to independently generate the same volume of vehicle trips as the Hiskshari Trail or its Truesdale Trailhead.

ITE Trip Generation Manual (7th edition) does not include "Trailheads" for either recreational or commuter trails. The closest land uses or facility types included in the manual are "City Park" and "County Park." According to the manual, a City Park is expected to generate 1.59 trips per acre per hour on a weekday, while a County Park is expected to generate 2.28 trips per acre per hour on a weekday. At 12 feet wide and 1.1 miles long, the project is approximately 1.6 acres. According to this methodology, over the course of an 8-hour period in the middle of the day, the project could be expected to generate between 20 and 30 trips divided among the four potential trailheads (between 5 and 7.5 trips each weekday at each trailhead).

Therefore, according to the analysis of a similar nearby facility and basic trip generation estimates, the project is not expected to generate significant additional traffic at any of the proposed trailheads. Based on the information above, a less than significant impact is anticipated.

XVI b) The project area is not subject to a Congestion Management Program (CMP) as one does not exist for the project area. The project will not contribute to a congestion problem; therefore, there would be no impact.

XVI c) The proposed project does not contain any component that involves air transportation. Therefore, the project would not cause a change in air traffic patterns. No impact has been identified.

XVI d) 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 trail will be routed underneath Highway 101, so there would be no crossing of the highway by bicyclists or

pedestrians. The proposed trail may impact transportation and/or traffic safety at the intersection of Tydd Street and within the Shoreline RV Park (not a public roadway); however, traffic is minimal within the rv park and the trail will be along the property's eastern edge. The trail would be separated from Tydd Street by features such as: the existing curb and sidewalk, differentiated pavement coloring, a barricade, intersection signage for motorists and trail users.

Roadway and driveway crossings will be ADA-accessible and include warning signage and markings both on the trail and the approaching vehicular way as applicable. If determined necessary by the City, the trail would include yellow centerline striping and additional warning signage and striping approaching intersections with existing roads. In addition, signage would be added along the trail warning users of curves, bends, and other hazardous situations. Speed control can only be maintained through signage and striping and other visual cues; speed bumps or other surface irregularities are not permitted to control the speed of bicycles and other non-motorized vehicles. The above design features would be implemented at the intersections as shown in Figures 5.1 through 5.8 (Appendix A), and would avoid substantial hazards at those trail crossings.

There is a perceived hazard associated with trails adjacent to active rail lines; however, the rail line running east-west through the project alignment, north of Highway 101 is inactive. In 2008, the NCRA issued guidelines for the development of multiuse bike paths in the NCRA railroad right-of-way. The official title of the guideline is "Trail Projects on the NWP Line Rights-of-Way: Design, Construction, Safety, Operations, and Maintenance Guidelines." The document provides a range of design guidance and requirements, such as minimum offsets from centerline of tracks. The portions of the project within NCRA right-of-way comply with the NCRA Guidelines. The project also complies with the California Public Utility Commission requirements for crossings of railroads. Therefore, there would be no safety impacts associated with the project crossing the rail line.

The proposed trail 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 trail would have striping, signage, unpaved shoulders on both sides, and scenic vista viewing areas, which could be used by birdwatchers and other uses who want to get out of the main travel lanes, substantial safety related conflicts between trail users and birdwatchers (or other 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.

XVI e) Emergency access to the proposed project alignment already exists for the majority of the alignment. South of Highway 101 access to the project alignment can be from Tydd Street and the Shoreline RV Park. North of Highway 101 between the railroad tracks can be accessed from the Target delivery area in the rear and from Pepsi's parking lot off 2nd Street. The portion of the project alignment on undeveloped land adjacent to Humboldt Bay and Eureka Slough can be accessed from Front Street, X Street and Y Street.

Removable bollards could be placed at trail intersections and entrances to prevent all but emergency and maintenance vehicles from entering. The proposed project would improve emergency access to the area by providing a multi-use trail corridor that would increase emergency coastal access between the Samoa Bridge and Tydd Street, along the Bay and Eureka Slough. A less

than significant impact would occur.

XVI f) As discussed in Land Use and Planning Xb, above, the proposed project will significantly enhance alternative transportation by extending the Eureka Waterfront Trail along the Bay and Eureka Slough south to Tydd Street. The project is consistent with several adopted City policies, plans, and programs aimed at supporting alternative transportation. For additional discussion regarding City policies, refer to Section Xb, above. The project is consistent with City policies and plans for continuation of the Eureka Waterfront Trail and will therefore have a beneficial effect on alternative transportation in the City. Therefore, no impact has been identified.

FINDINGS: Based on the above, it is concluded that the project would have a less than significant impact on transportation or traffic.

XVII. UTILITIES AND SERVICE SYSTEMS. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				✓
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				✓
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?		✓		
d) Have insufficient water supplies available to serve the project from existing entitlements and resources (i.e., new or expanded entitlements are needed)?			✓	
e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				✓
f) Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs?			✓	
g) Violate any Federal, State, and local statutes and regulations related to solid waste?			✓	

THRESHOLDS OF SIGNIFICANCE: This Initial Study considers to what degree the proposed project would: (a) exceed wastewater treatment requirements of the RWQCB; (b) require or result in a substantial demand for new water or wastewater facilities affecting existing entitlements and resources; (c) require or result in an increase in runoff intensity that exacerbates drainage conditions and changes; (d) have insufficient water supplies available to serve the project; (e) result in inadequate wastewater capacity; (f) result in an insufficient provision for solid waste disposal; and (g) violate any regulations related to solid waste.

DISCUSSION:

XVII a,b,e) The proposed project does not involve the use or construction of any facilities that would require water or wastewater infrastructure and would therefore have no impact.

XVII c) As discussed in Hydrology and Water Quality, above, there are no proposed changes to drainage patterns associated with the proposed project. To mitigate for potentially significant runoff impacts that could result in erosion, completion of a SWPPP to the satisfaction of the RWQCB is required because total ground disturbance is more than one acre. The preparation of a SWPPP and adherence to the RWQCB's requirements for the preparation of SWPPP's would result in a less than significant impact to the construction of stormwater drainage facilities.

XVII d) There is a sufficient water supply available to serve the project; Humboldt Bay Municipal Water District currently supplies approximately 40 MGD, but is capable of providing up to 75 MGD. The project may require the temporary use of water for construction, establishment of vegetation, and during routine maintenance operations. These minor water demands would not require or result in the construction of new water supply facilities or new water entitlements; therefore, a less than significant impact is anticipated.

XVII f, g) The solid waste provider 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 trail would generate limited solid waste during both construction and operation. Construction solid waste would include the one-time temporary generation of construction waste associated with the proposed development of the trail. 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.

The project includes waste receptacles, spaces for recycling bins, and pet waste stations. The City has a franchise agreement for waste collection along Waterfront Drive, which would cover the project. Solid waste collected as a part of the project would be disposed of at 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, and a less than significant impact is anticipated.

<u>FINDINGS</u>: The project, as mitigated, is expected to have less than significant impacts related to utilities or service systems.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to 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 a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		✓		

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).		✓		
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?		✓		

XVIII a) As discussed herein, the project, with incorporation of mitigation measures, does not have the potential to 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 a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory.

XVII b) A cumulative impact is any environmental impact that would occur due to the combination of the proposed trail project together with other projects causing related impacts. These impacts occur when the incremental impact of the project, when combined with the effects of other past, present and reasonably foreseeable future projects, are cumulatively considerable. This typically occurs when impacts compound or increase existing environmental problems.

As discussed in Section X. Land Use and Planning, the project is consistent with the development contemplated in the City of Eureka's General Plan. The project's impacts would not add appreciably to any existing or foreseeable future significant cumulative impact, such as visual quality, historic resources, traffic impacts, or air quality degradation. Incremental impacts, if any, would be negligible and undetectable. As reported throughout the document, any applicable cumulative impacts to which this project would contribute would be mitigated to the less-than-significant level.
XVIII c) The project has been designed to avoid significant environmental impacts. This Initial Study identifies additional mitigation measures which are expected to reduce environmental impacts to a less than significant level. As discussed herein, the project is not expected to cause any environmental effects that would cause harm to human beings either directly or indirectly.

SOURCE/REFERENCE LIST: The following documents/websites/data were used in the preparation of this Initial Study. The documents are available for review at the Community Development Department, 3rd floor, City Hall, during regular business hours. The websites can be viewed at the link provided.

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16. Institute of Transportation Engineers (ITE), Design and Safety of Pedestrian Facilities, 1998.
17. U.S. Department of Transportation Federal Highway Administration: Evaluation of Safety, Design, and Operation of Shared-Use Paths Final Report, 2006.

REPORT PREPARERS:

City of Eureka
Robert Wall – Planning Director
Miles Slattery – Project Manager (Director of Public Works)
Sheila Parrott – Traffic Engineer

GHD
Merrit Perry – Consultant Project Director
Rob Holmlund – Consultant Project Manager
Misha Schwarz – Senior Scientist
James Alcorn – Environmental Planner
Jesse Willor – Project Engineer
Dave Davis – Senior Planner
Lia Webb – Wetland Scientist
Cara Scott – Biologist
Anna Gower - Geologist
Gary Davidson – GIS Analyst

Roscoe & Associates
Jamie Roscoe - Director

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Appendix A
Figures

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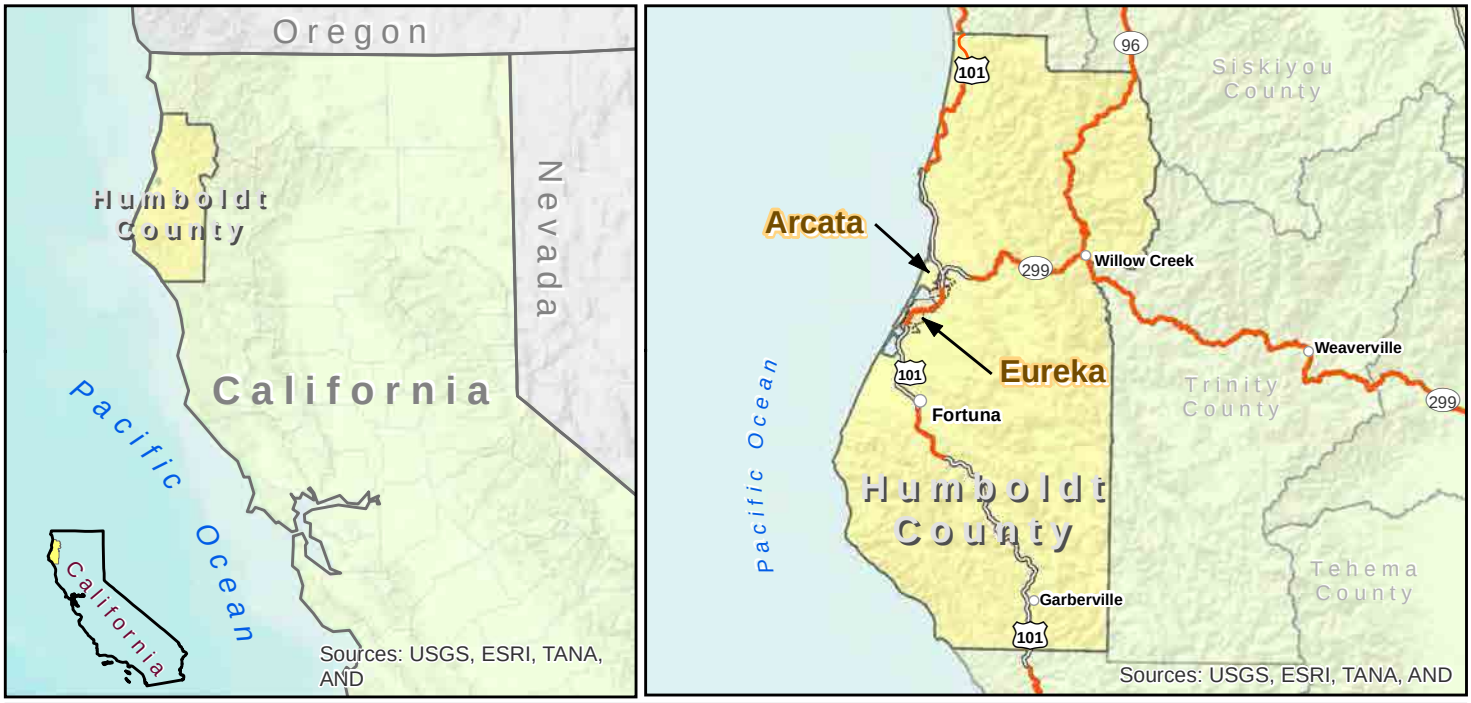

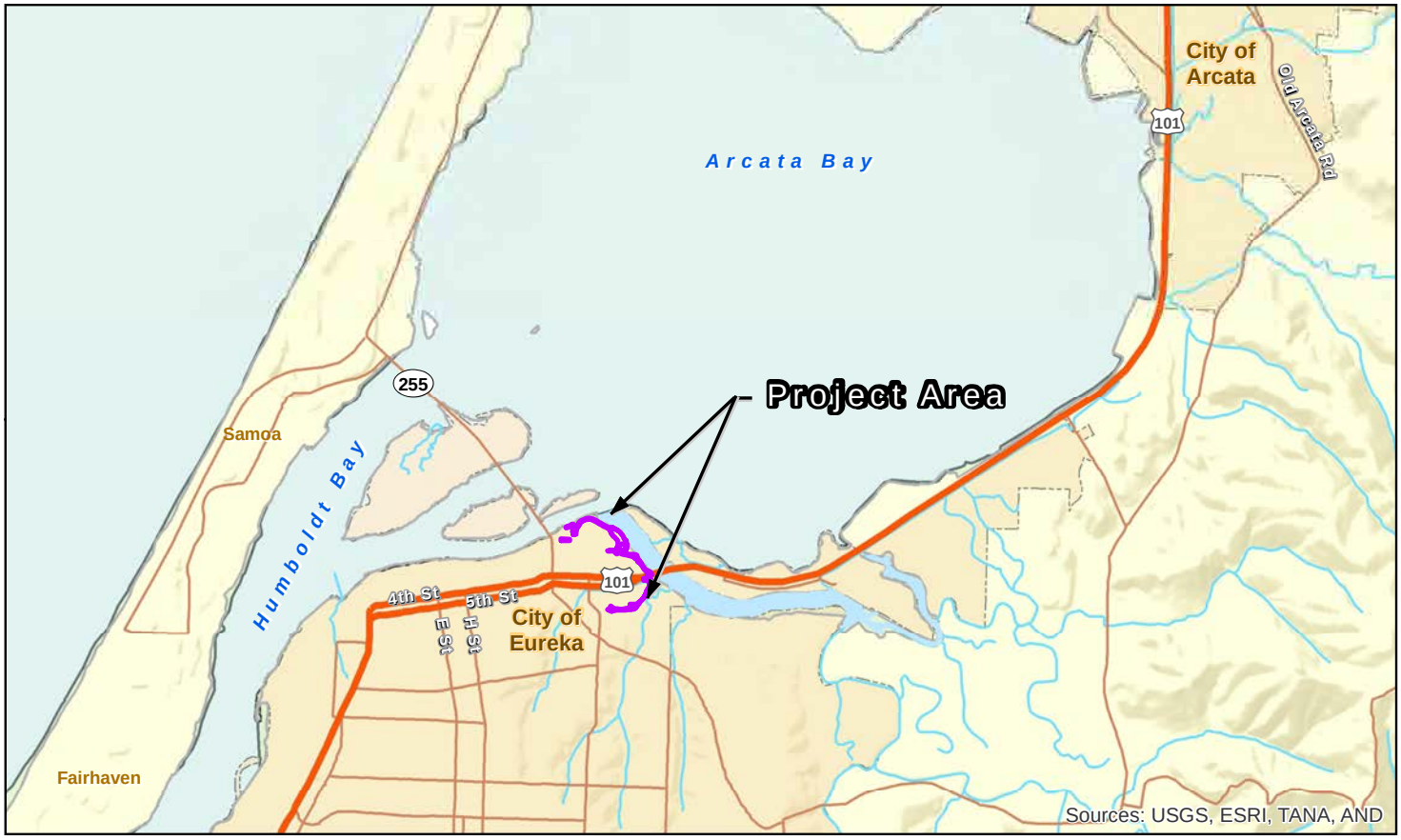

Freeway
Highway
Major Road
Streams
City Limits
Humboldt County
Counties
Project Study Boundary

1: 72,000 @ 8.5' X 11' (ANSI A)
0 2,000 4,000 6,000 8,000
Feet
Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision B
Date 15 Jan 2014

Vicinity and Location

Figure 1

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718 Third Street Eureka, CA 95501 T 707 443 8326 F 707 444 8330 E eureka@ghd.com W www.ghd.com

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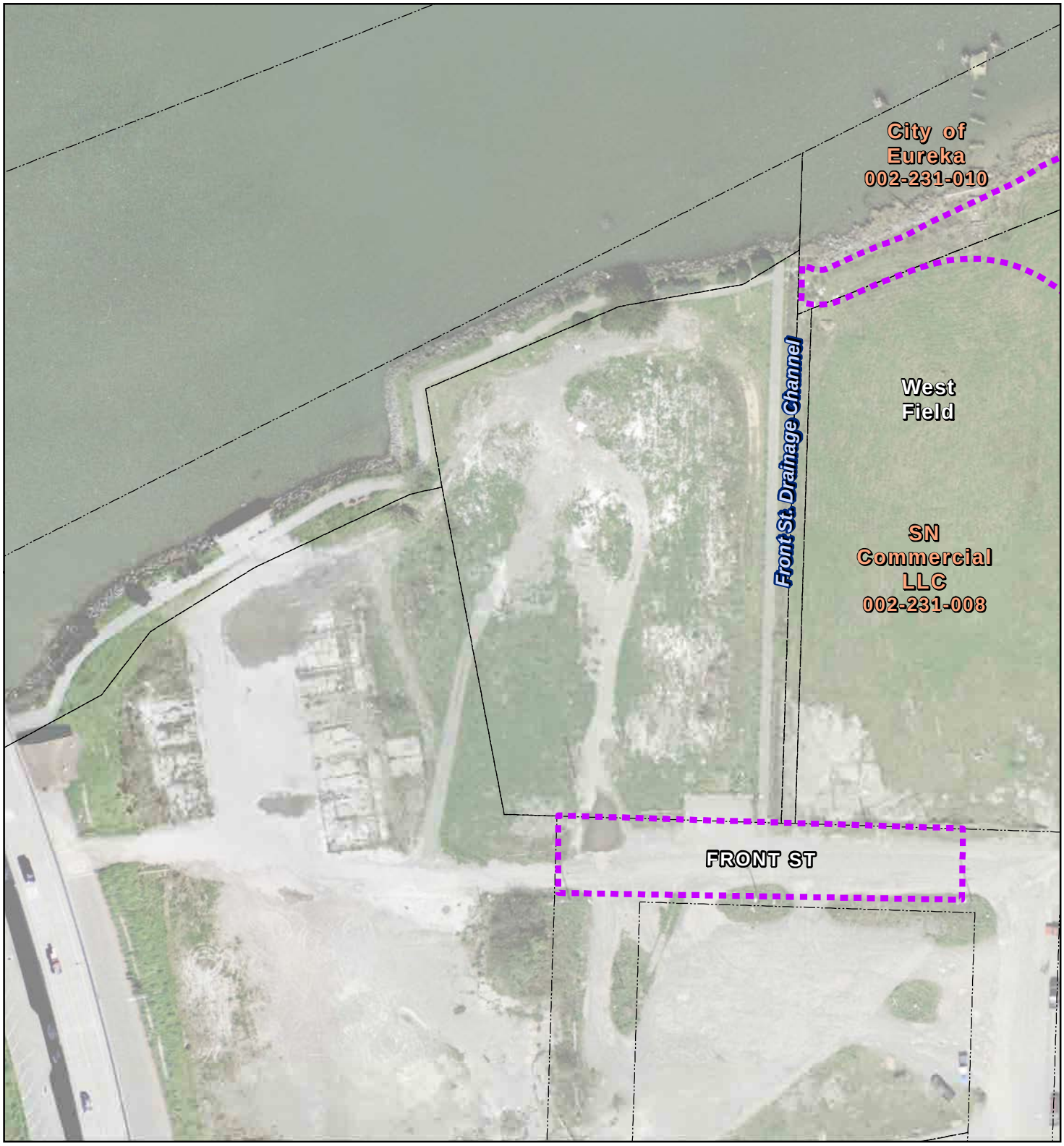
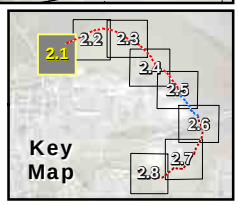
Data source: ESRI: Street Map USA. Created by:gldavidson



Project Study Boundary

Approximate Parcel Boundary



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Feet

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

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number	8410915
Revision	B
Date	15 Jan 2014

Project Study Area

Figure 2.1

718 Third Street Eureka CA 95501 USA T 707 443 8326 F 707 444 8330 E eureka@ghd.com W www.ghd.com

G:\01052 City of Eureka\8410915 Eka-Wtrfrnt Trail PhsC PA-ED\08-GIS\Maps\Figures\NEPA\F2_ProjectStudyArea.mxd

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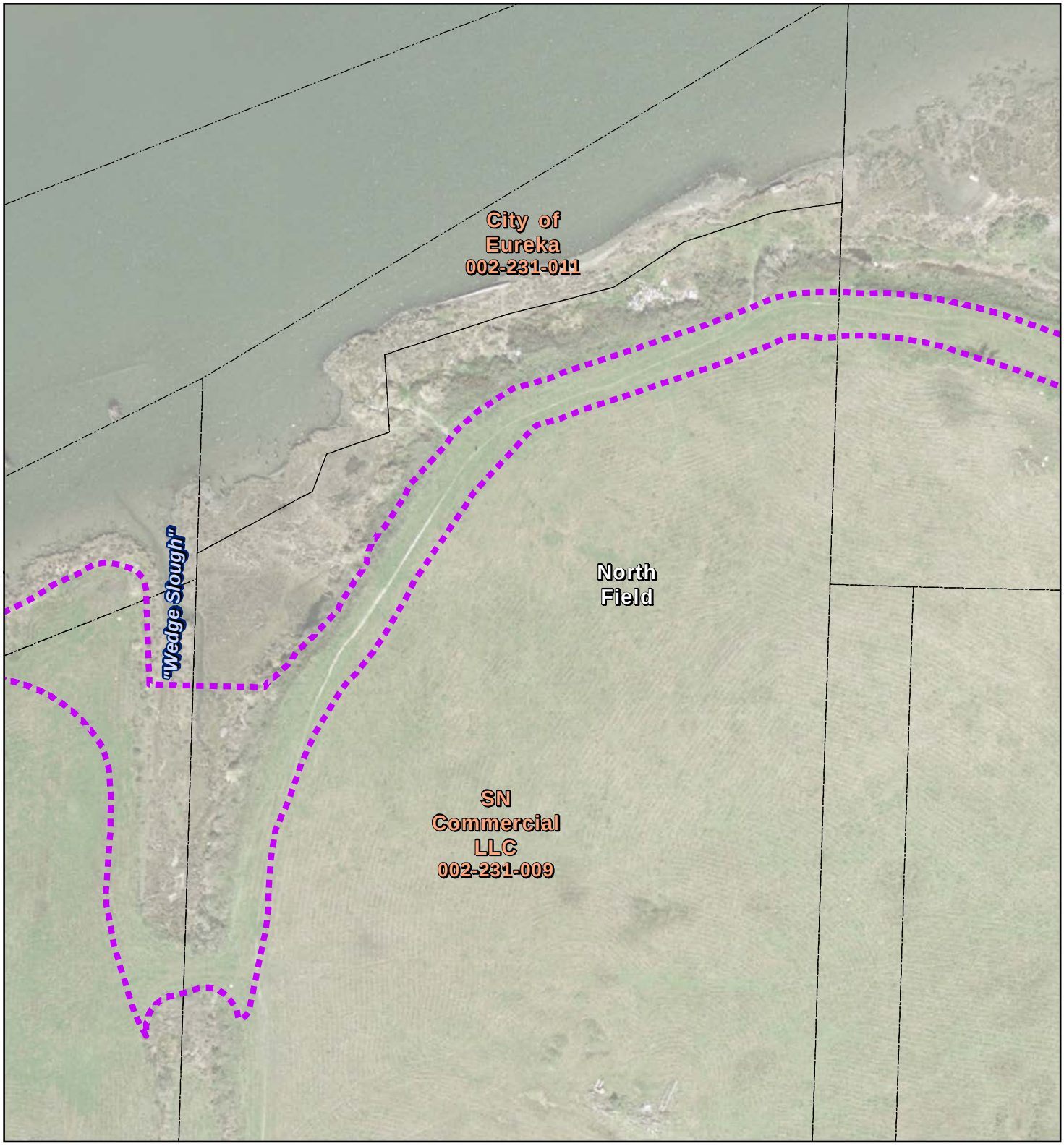
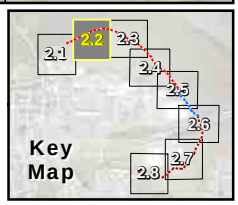
Data source: City of Eureka GIS: parcel layer and 1/2 ft resolution aerial; CPAD: Humboldt Bay Wildlife Refuge GIS layer. Created by:gldavidson



Project Study Boundary

Approximate Parcel Boundary



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N

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number	8410915
Revision	B
Date	15 Jan 2014

Project Study Area

Figure 2.2

718 Third Street Eureka CA 95501 USA T 707 443 8326 F 707 444 8330 E eureka@ghd.com W www.ghd.com

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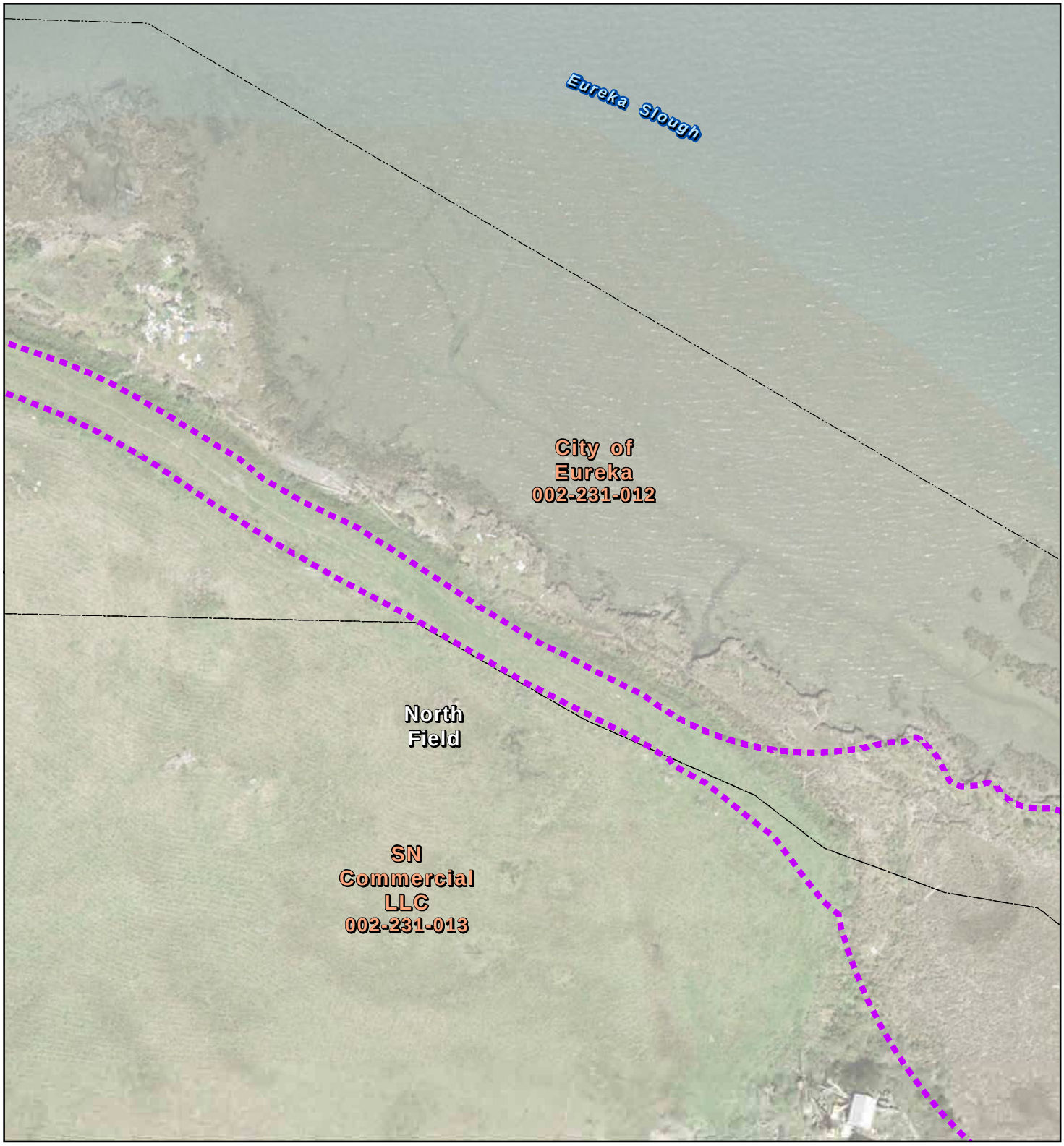
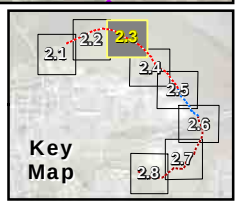


Project Study Boundary

Approximate Parcel Boundary



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Feet

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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number	8410915
Revision	B
Date	15 Jan 2014

Project Study Area

Figure 2.3

718 Third Street Eureka CA 95501 USA T 707 443 8326 F 707 444 8330 E eureka@ghd.com W www.ghd.com

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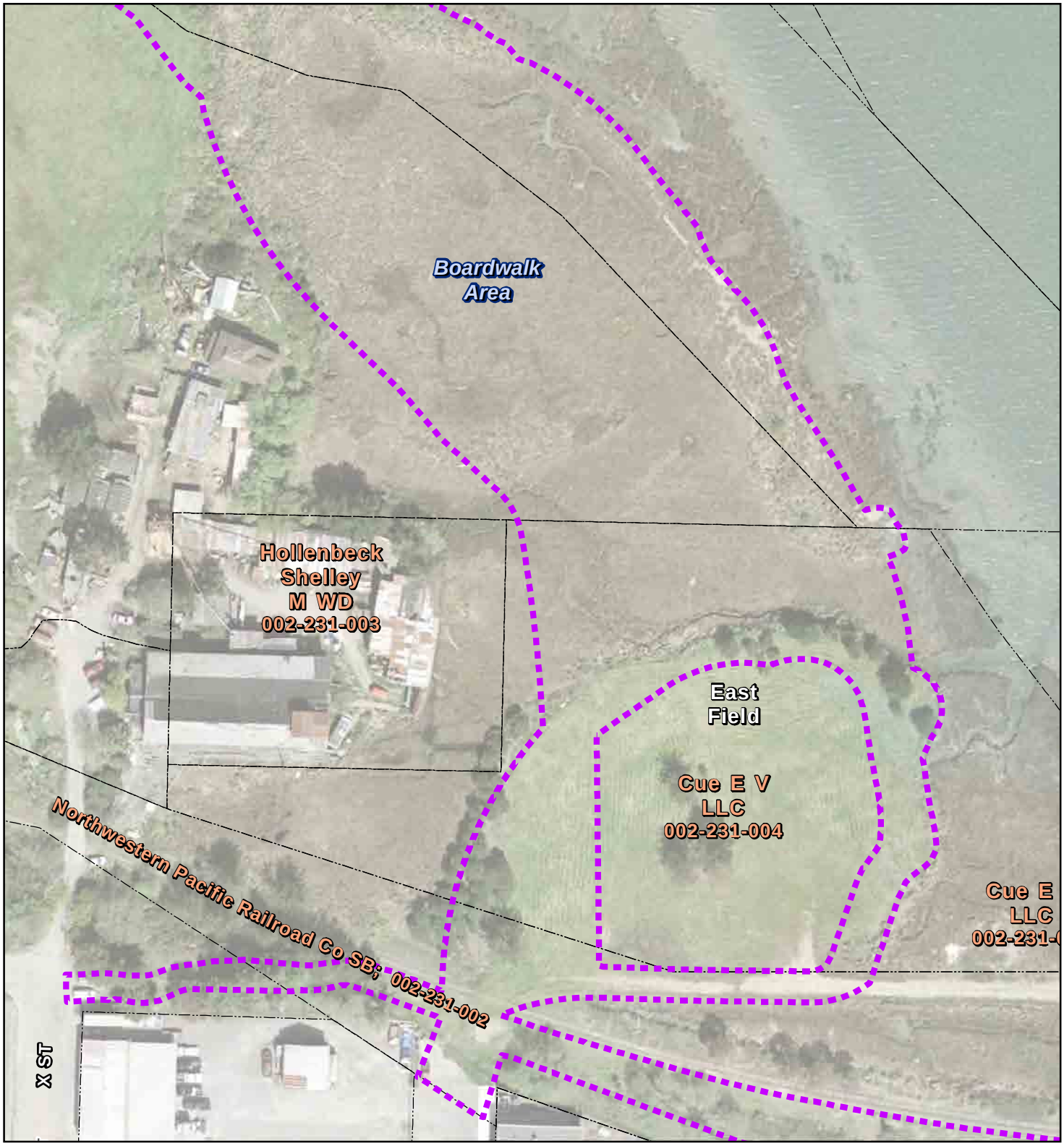
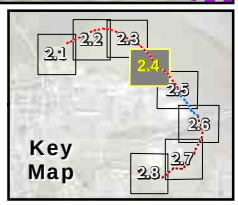


Project Study Boundary

Approximate Parcel Boundary



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Feet

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Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision B
Date 15 Jan 2014

Project Study Area

Figure 2.4

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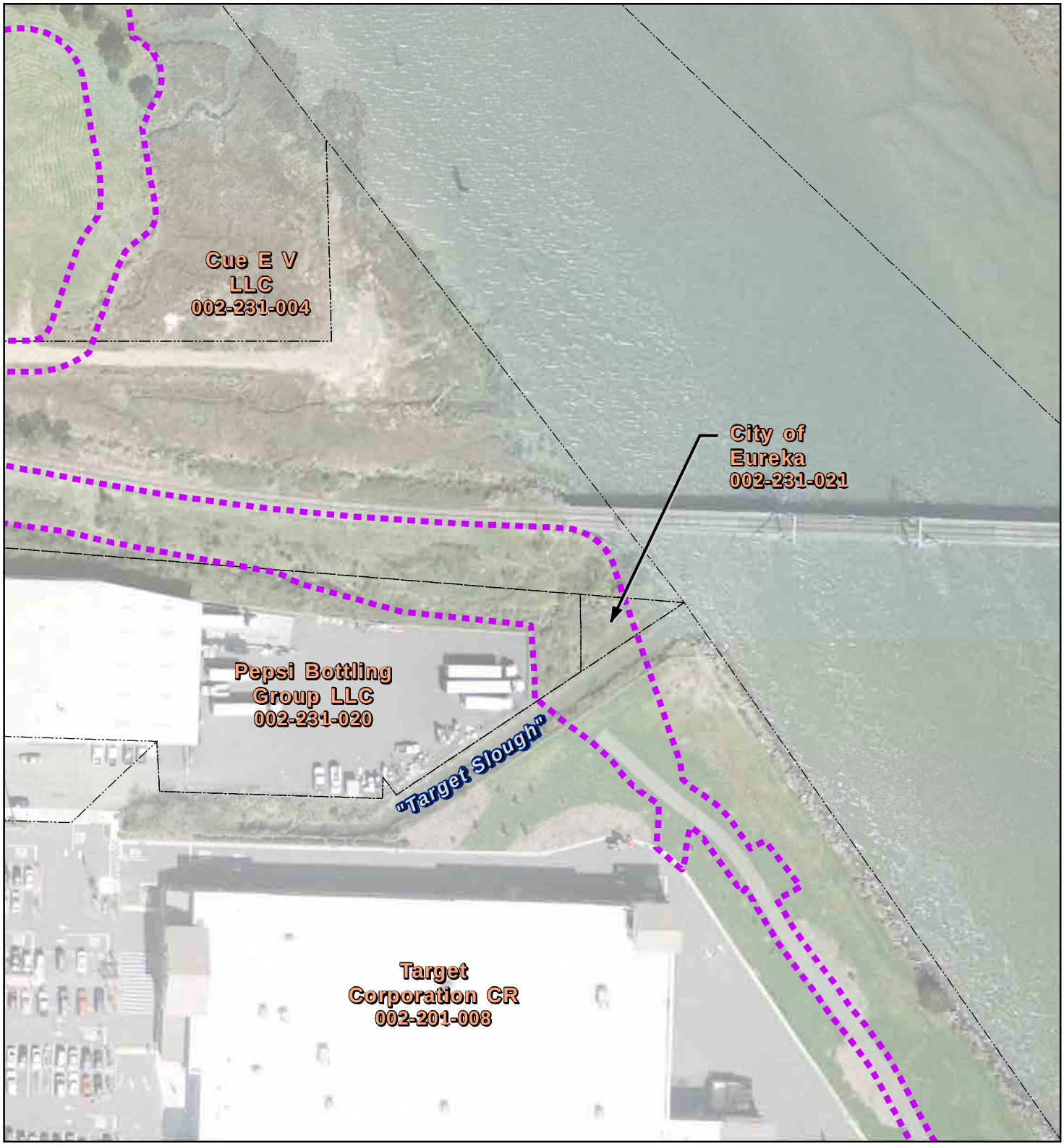
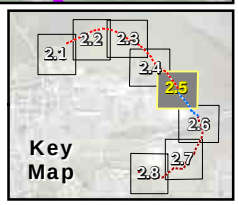


Project Study Boundary

Approximate Parcel Boundary



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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number	8410915
Revision	B
Date	15 Jan 2014

Project Study Area

Figure 2.5

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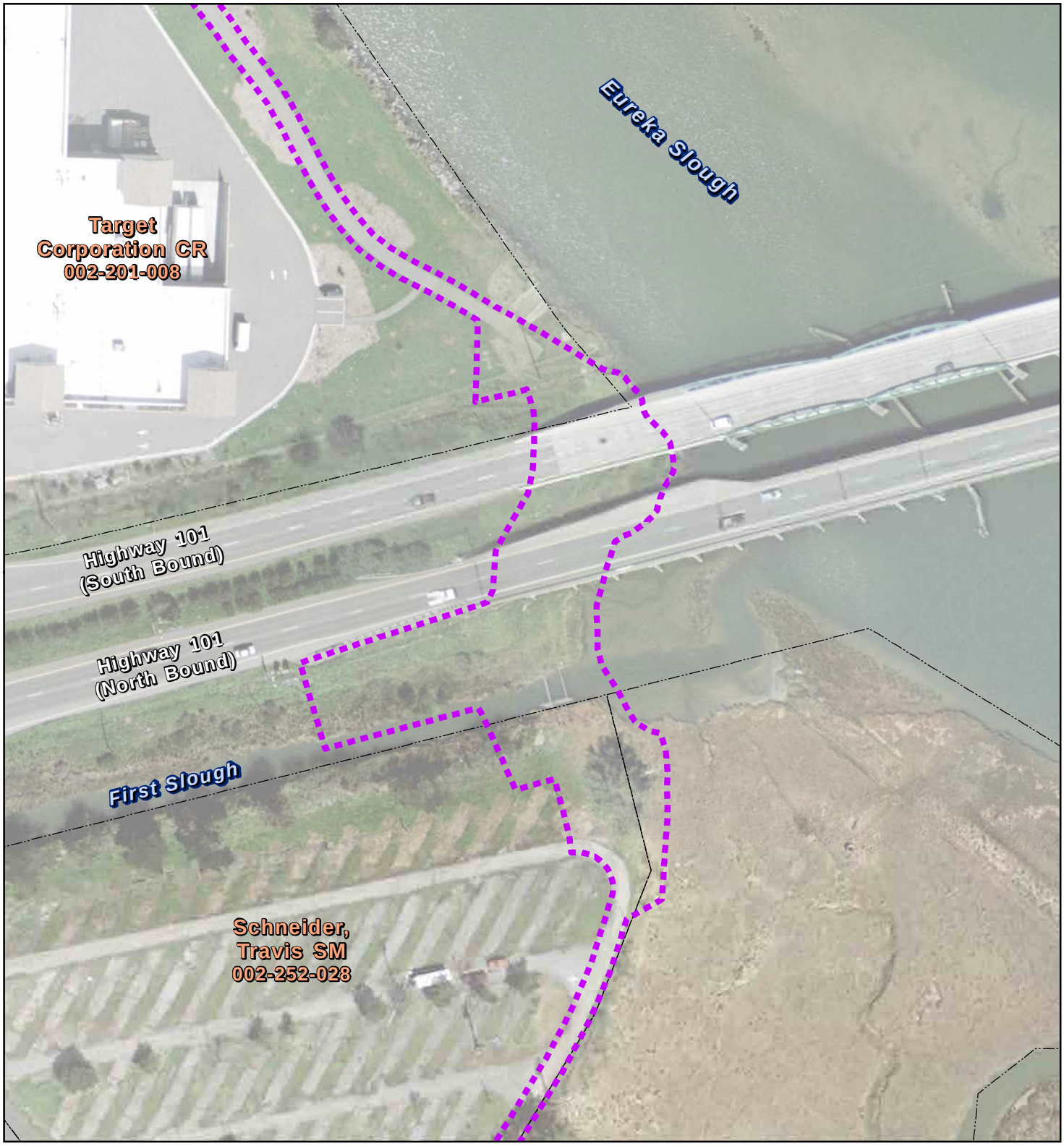
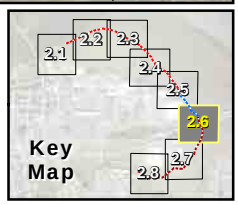


Project Study Boundary

Approximate Parcel Boundary



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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number	8410915
Revision	B
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Project Study Area

Figure 2.6

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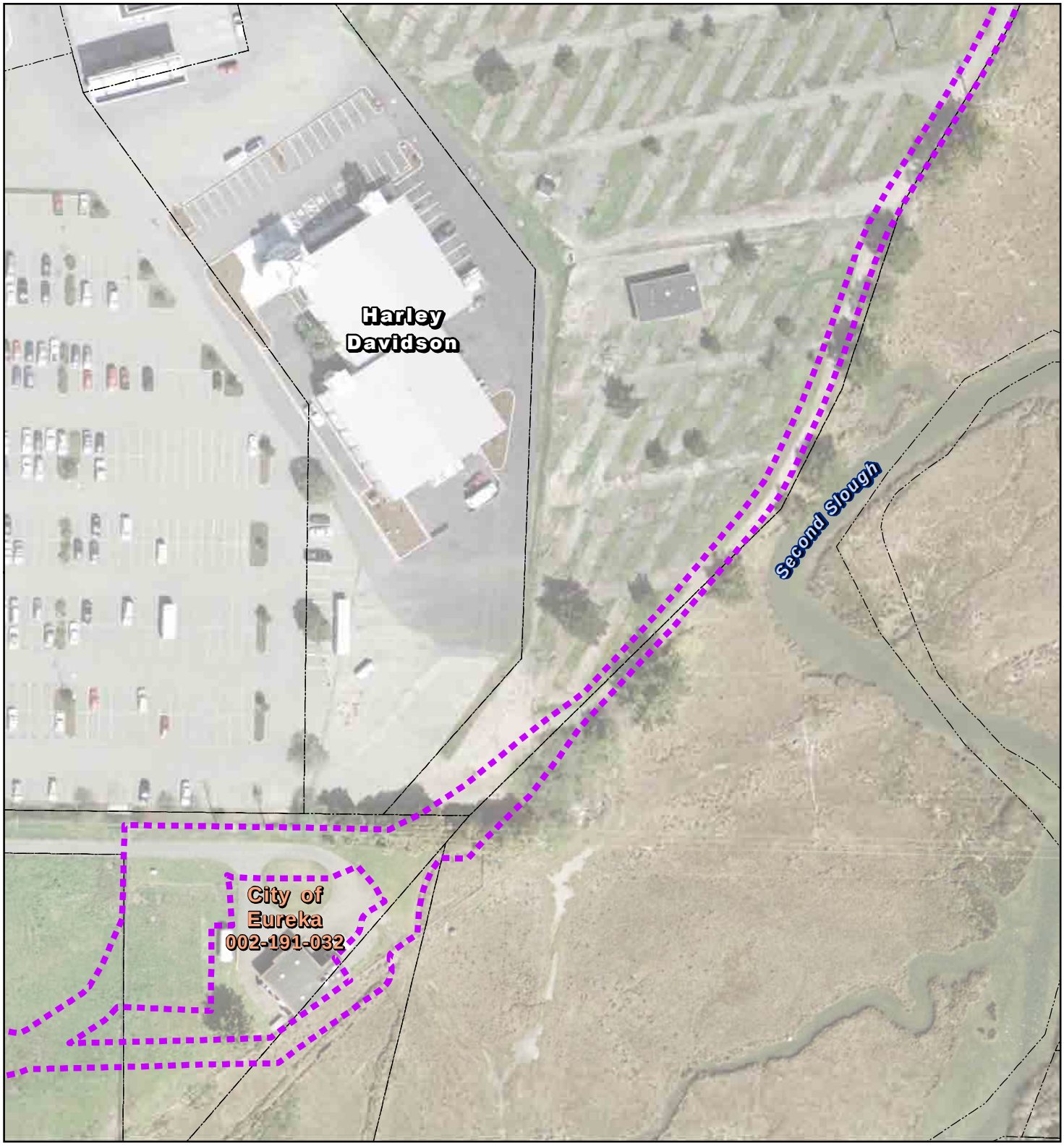
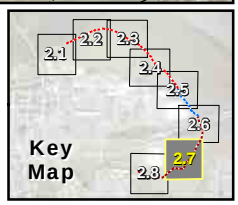


Project Study Boundary

Approximate Parcel Boundary



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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number	8410915
Revision	B
Date	15 Jan 2014

Project Study Area

Figure 2.7

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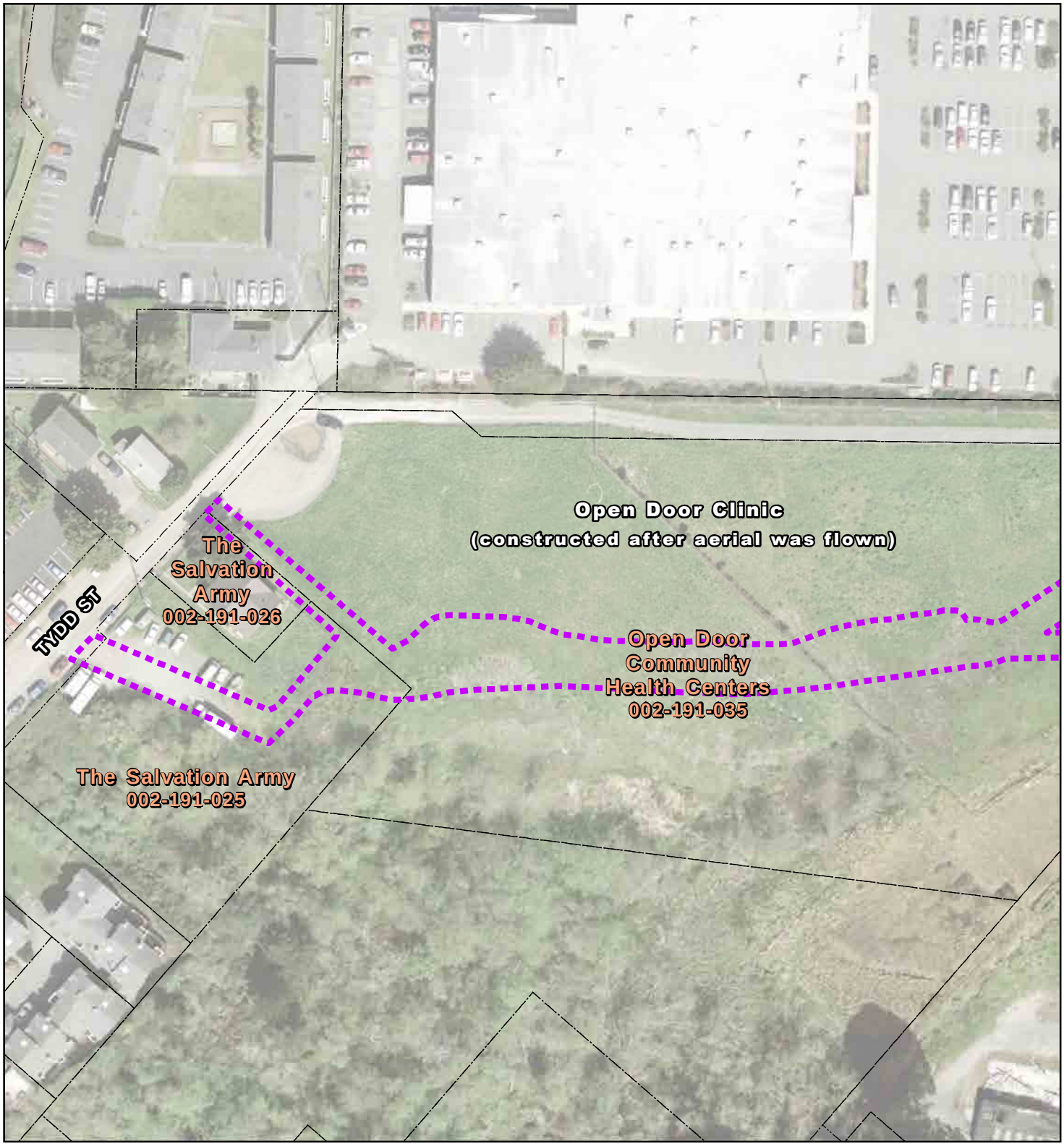
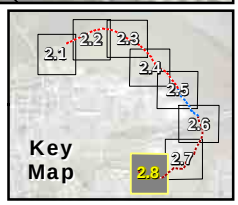


Project Study Boundary

Approximate Parcel Boundary



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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number	8410915
Revision	B
Date	15 Jan 2014

Project Study Area

Figure 2.8

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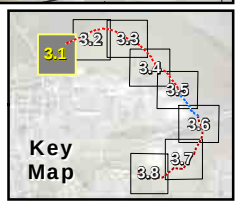
Transect
Upland Test Pit
Staging - Temporary Impacts
Approximate Parcel Boundary
Project Study Boundary
Mean High Tide Line Elev 5.88ft
Mean Higher High Water Elev 6.62ft
2013 High Tide Line Elev 8.51ft

1 Parameter Wetland
Salix hookeriana Shrubland Alliance

3 Parameter Wetland
Freshwater Palustrine Emergent Ditch (PEM1C)
Estuarine Channel (E1UBL)
Estuarine Saltmarsh (E2EM1P)
Estuarine and Marine Deepwater (E1UBL)



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N

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision B
Date 15 Jan 2014

Wetland Delineation

Figure 3.1

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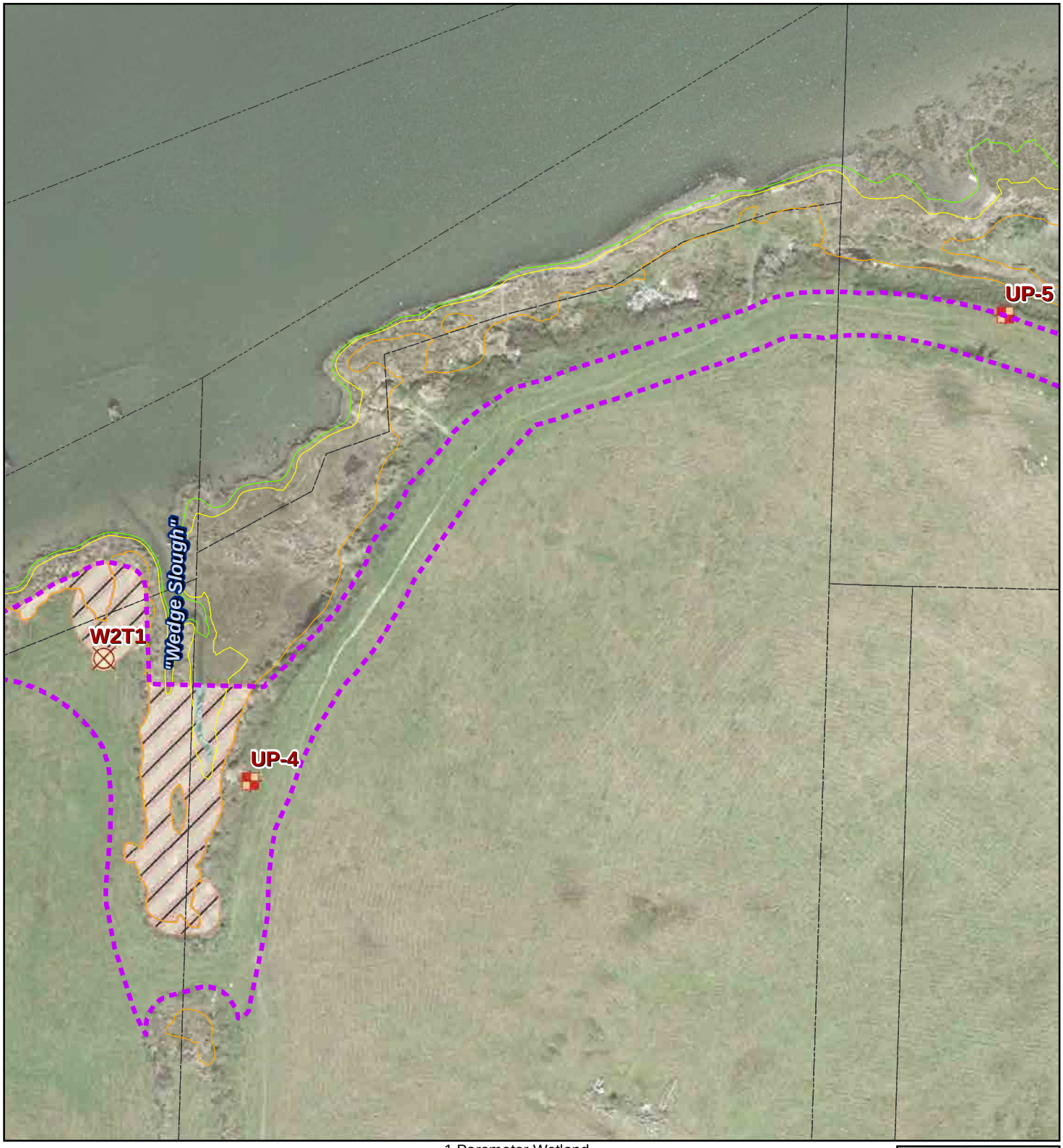

Transect
Upland Test Pit
Staging - Temporary Impacts
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Project Study Boundary
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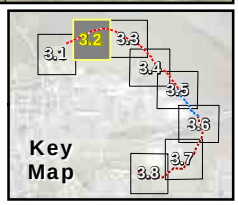

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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision B
Date 15 Jan 2014

Wetland Delineation

Figure 3.2

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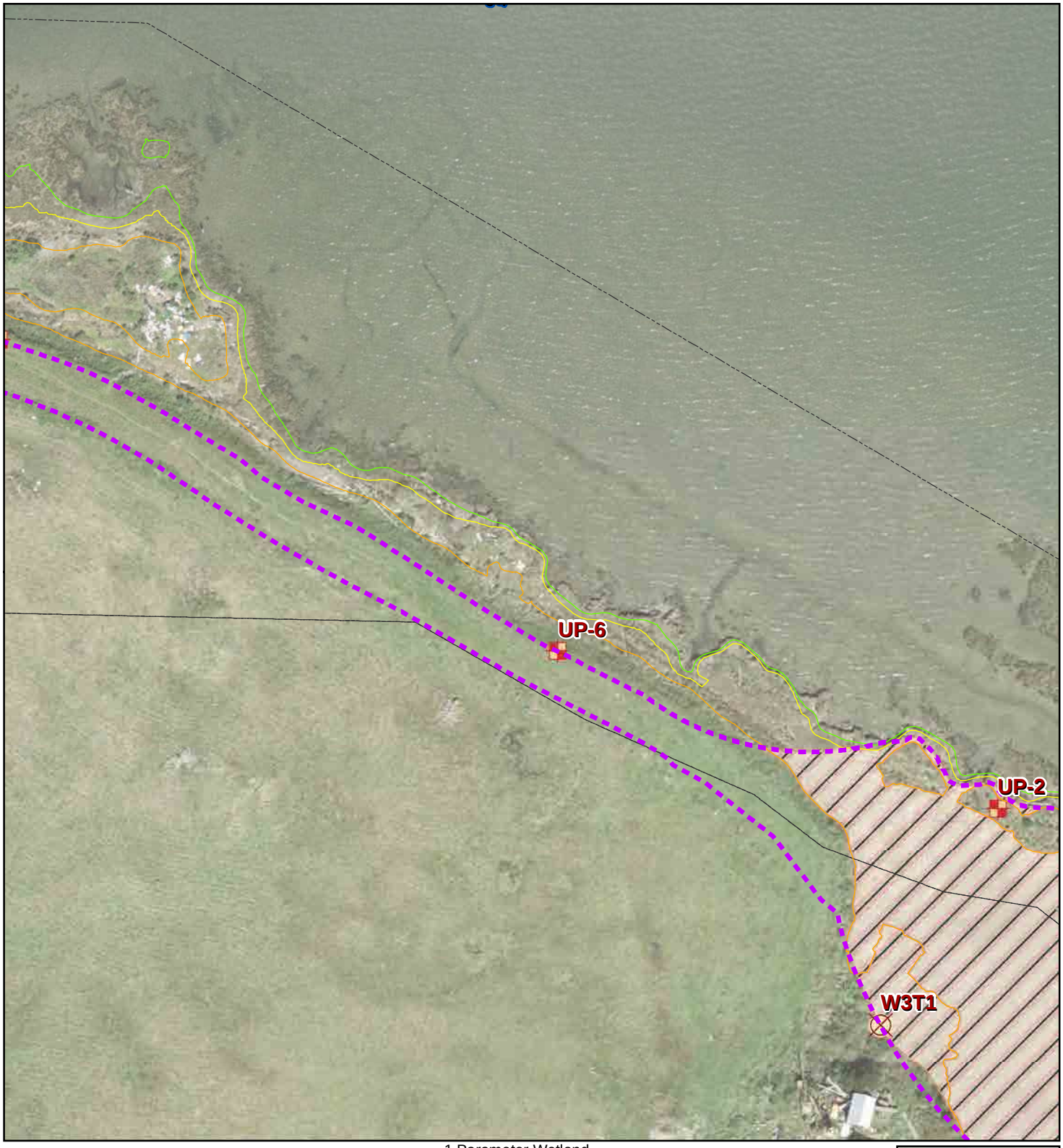

Transect
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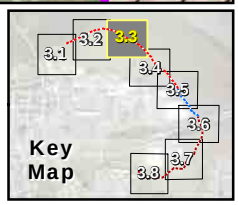

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City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision B
Date 15 Jan 2014

Wetland Delineation

Figure 3.3

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Transect
Upland Test Pit
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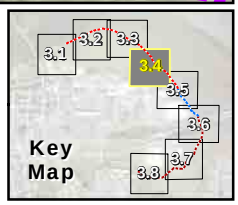

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Feet
Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision B
Date 15 Jan 2014

Wetland Delineation

Figure 3.4

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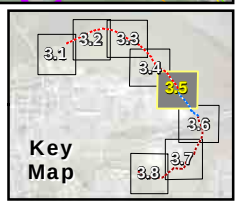
Estuarine Saltmarsh (E2EM1P)
Estuarine and Marine Deepwater (E1UBL)



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City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision B
Date 15 Jan 2014

Wetland Delineation

Figure 3.5

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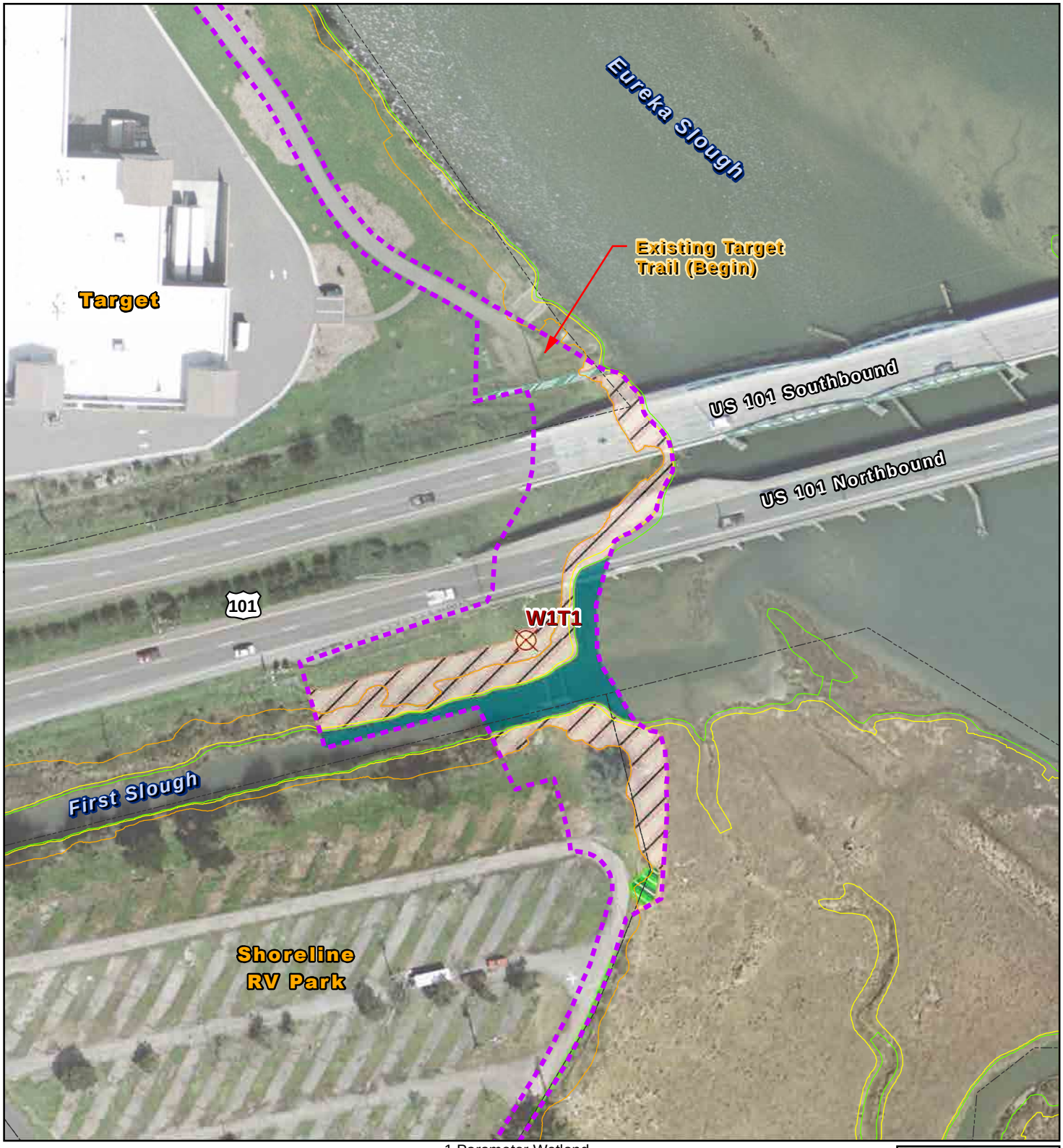
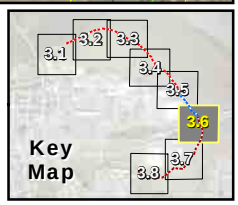
Data source: City of Eureka GIS: parcel layer; CPAD: Humboldt Bay Wildlife Refuge GIS layer. Created by:gldavidson



Transect
Upland Test Pit
Staging - Temporary Impacts
Approximate Parcel Boundary
Project Study Boundary
Mean High Tide Line Elev 5.88ft
Mean Higher High Water Elev 6.62ft
2013 High Tide Line Elev 8.51ft

1 Parameter Wetland
Salix hookeriana Shrubland Alliance

3 Parameter Wetland
Freshwater Palustrine Emergent Ditch (PEM1C)
Estuarine Channel (E1UBL)
Estuarine Saltmarsh (E2EM1P)
Estuarine and Marine Deepwater (E1UBL)



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City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision B
Date 15 Jan 2014

Wetland Delineation

Figure 3.6

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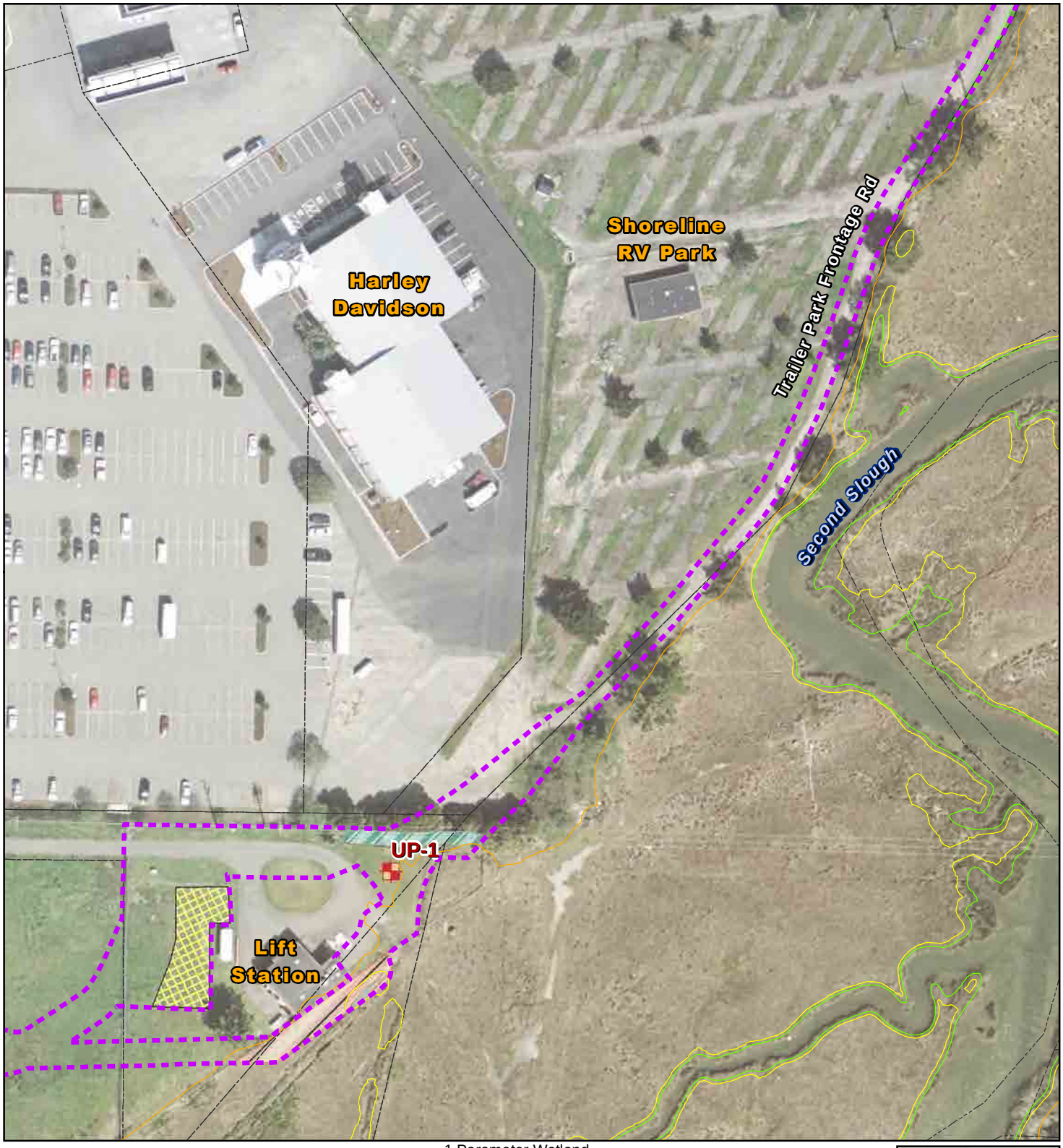

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Upland Test Pit
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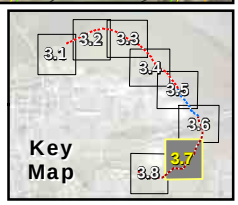

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City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number	8410915
Revision	B
Date	15 Jan 2014

Wetland Delineation

Figure 3.7

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Transect
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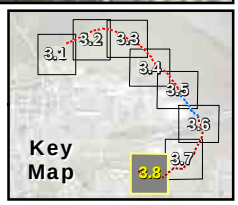

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City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision B
Date 15 Jan 2014

Wetland Delineation

Figure 3.8

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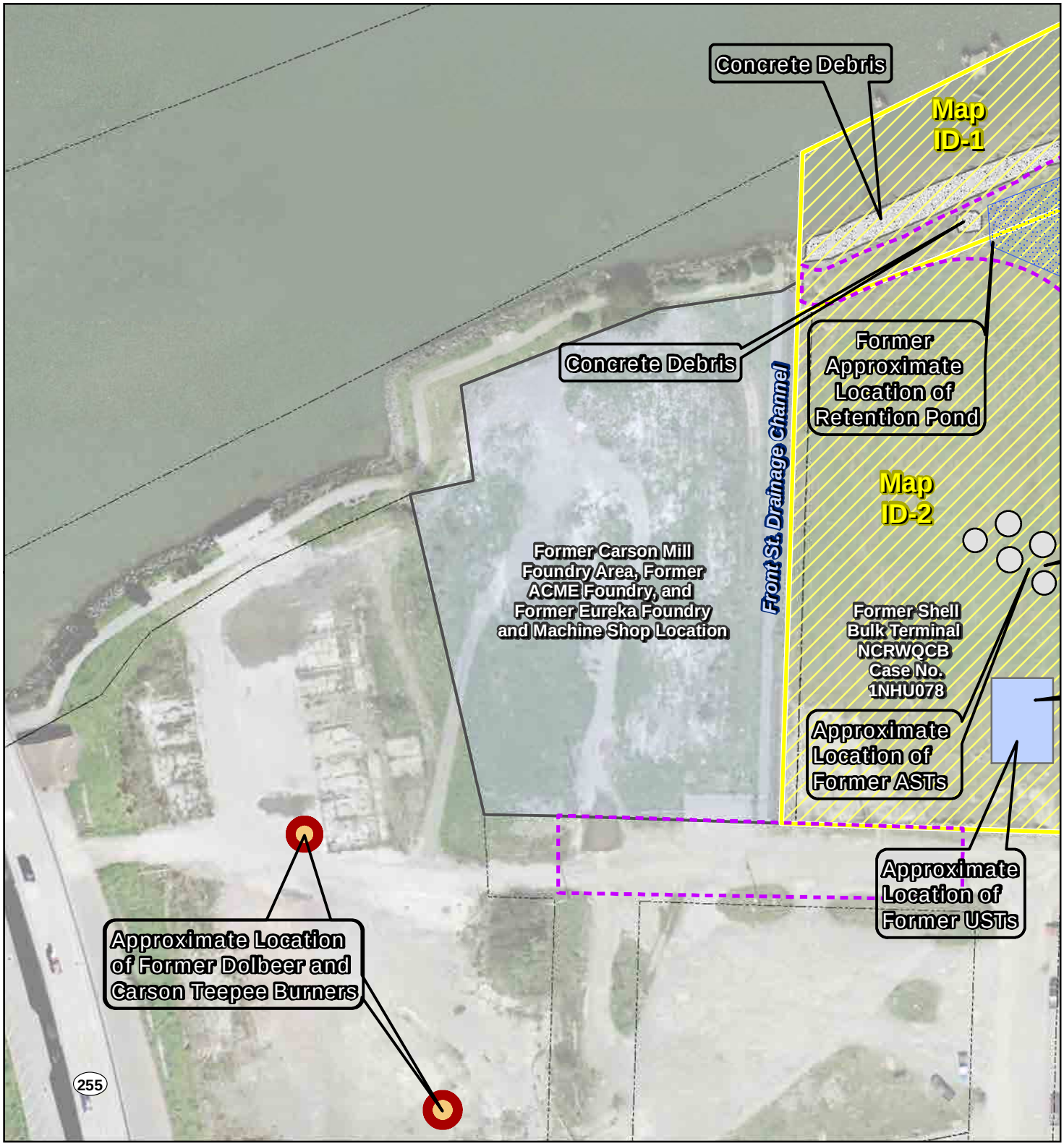
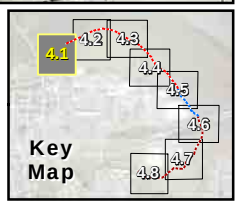


Sites of Interest

- Hazard Rank 2
- Hazard Rank 3
- Hazard Rank 4
- Approximate Parcel Boundary
- Study Area

LOP - Local Oversight Program
SVOC - Semi-Volatile Organic Compounds
HCDEH - Humboldt County Division of Environmental Health
NCRWQCB - North Coast Regional Water Quality Control Board
UST - Underground Storage Tank
AST - Above Ground Storage Tank

Note: Refer to callouts for items not included in legend.



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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision B
Date 15 Jan 2014

Features and Sites of Interest
Phase 1 Corridor Study

Figure 4.1

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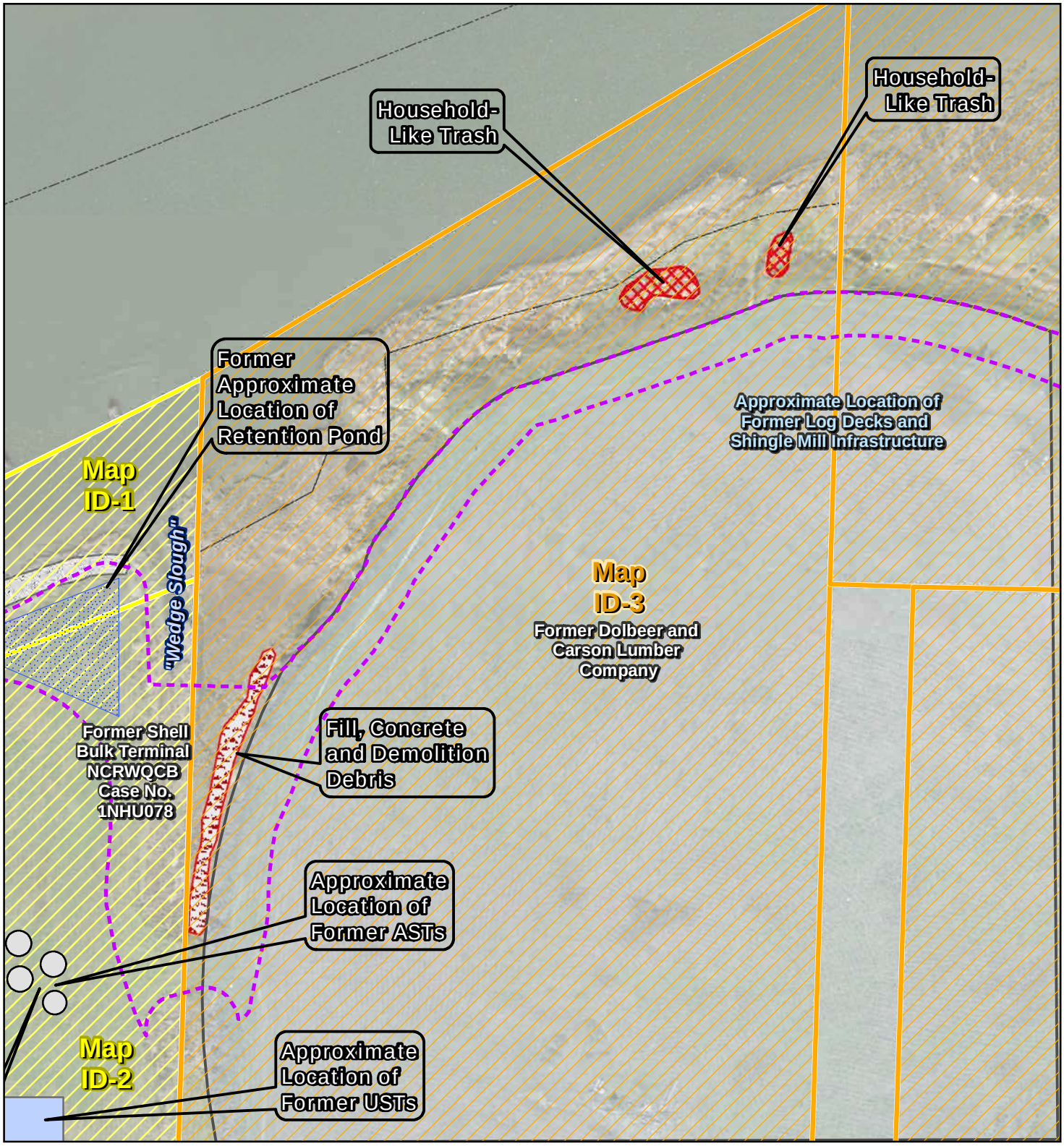

Sites of Interest

- Hazard Rank 2
- Hazard Rank 3
- Hazard Rank 4
- Approximate Parcel Boundary
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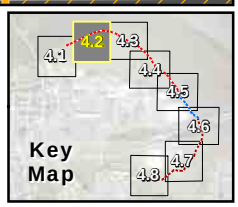

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City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision B
Date 15 Jan 2014

Features and Sites of Interest
Phase 1 Corridor Study

Figure 4.2

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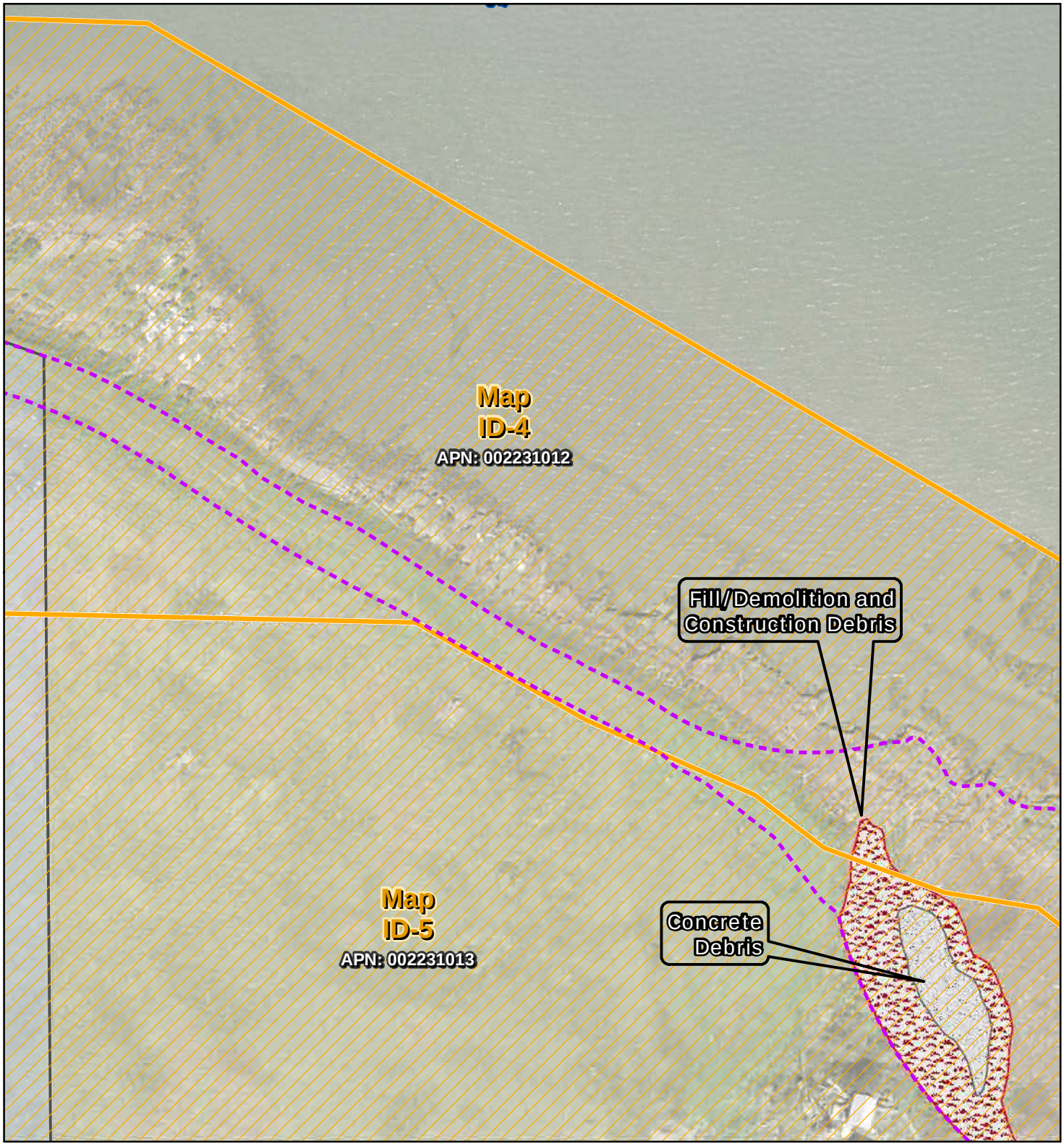

Sites of Interest

- Hazard Rank 2
- Hazard Rank 3
- Hazard Rank 4
- Approximate Parcel Boundary
- Study Area

LOP - Local Oversight Program
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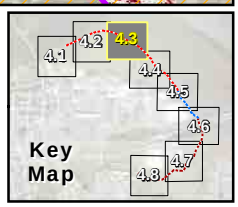

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N

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision B
Date 15 Jan 2014

Features and Sites of Interest
Phase 1 Corridor Study

Figure 4.3

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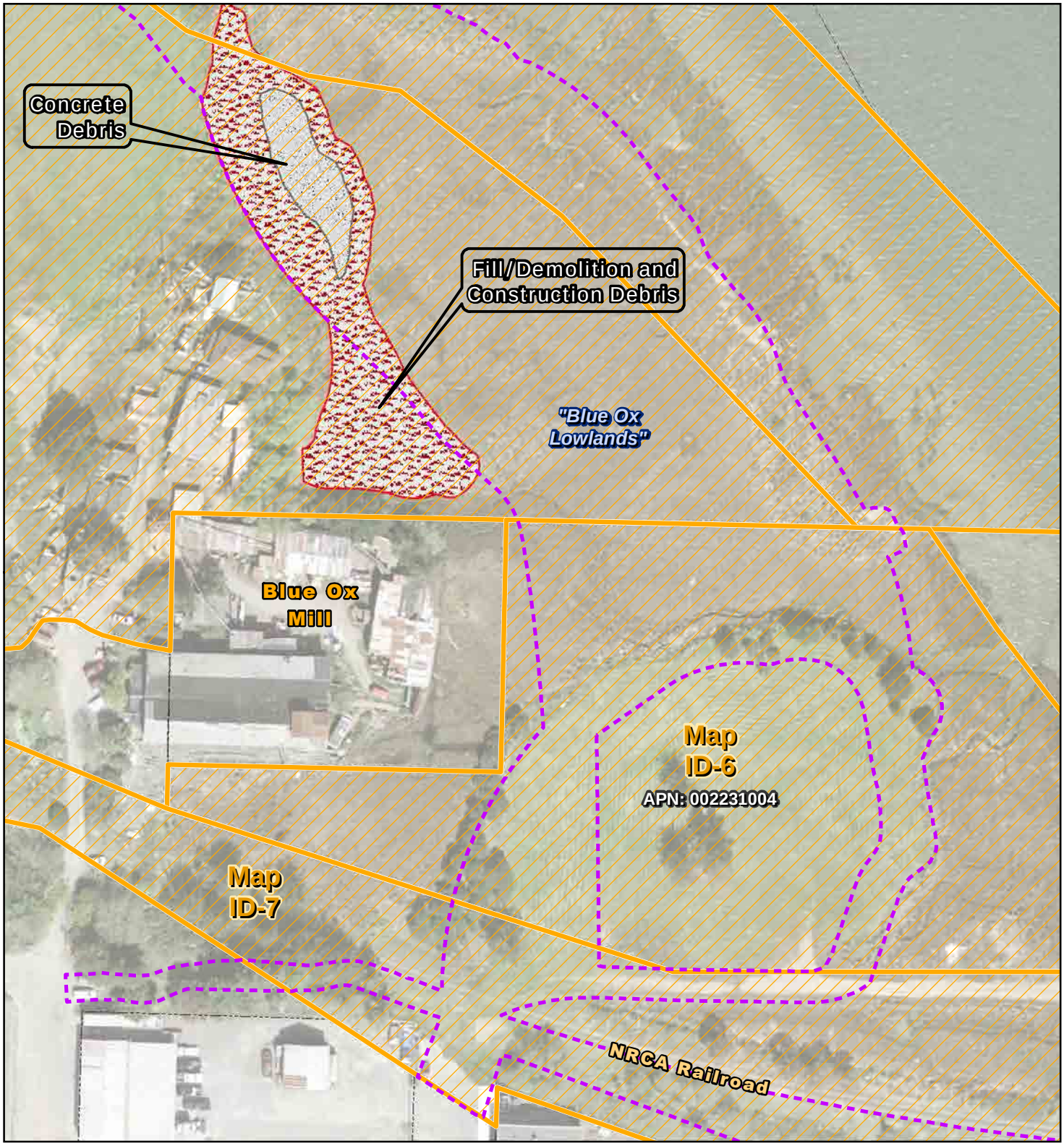

Sites of Interest

- Hazard Rank 2
- Hazard Rank 3
- Hazard Rank 4
- Approximate Parcel Boundary
- Study Area

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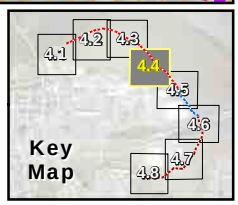

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City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision B
Date 15 Jan 2014

Features and Sites of Interest
Phase 1 Corridor Study

Figure 4.4

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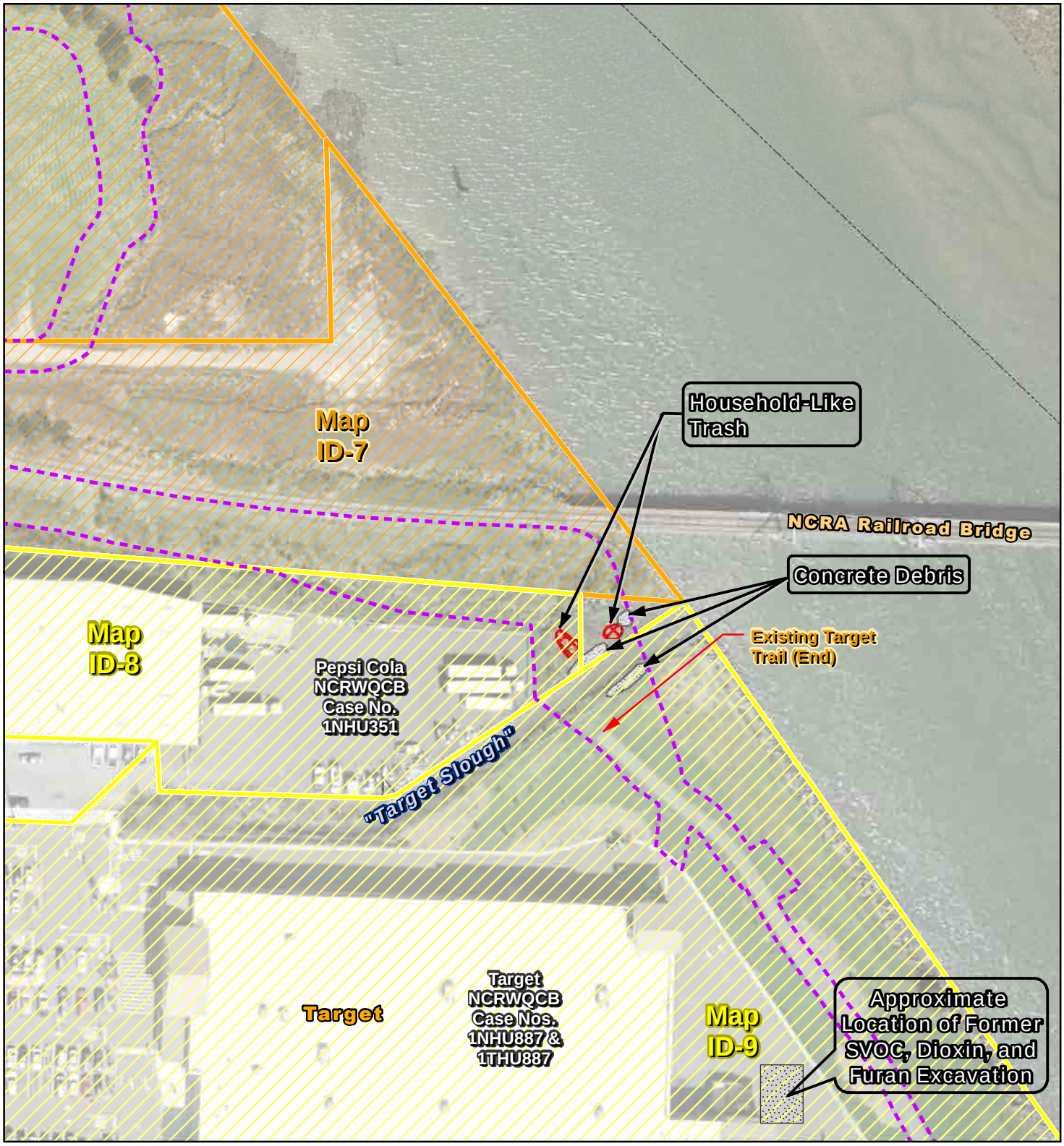

Sites of Interest

- Hazard Rank 2
- Hazard Rank 3
- Hazard Rank 4
- Approximate Parcel Boundary
- Study Area

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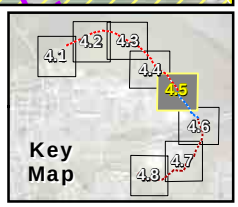

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City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
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Date 15 Jan 2014

Features and Sites of Interest
Phase 1 Corridor Study

Figure 4.5

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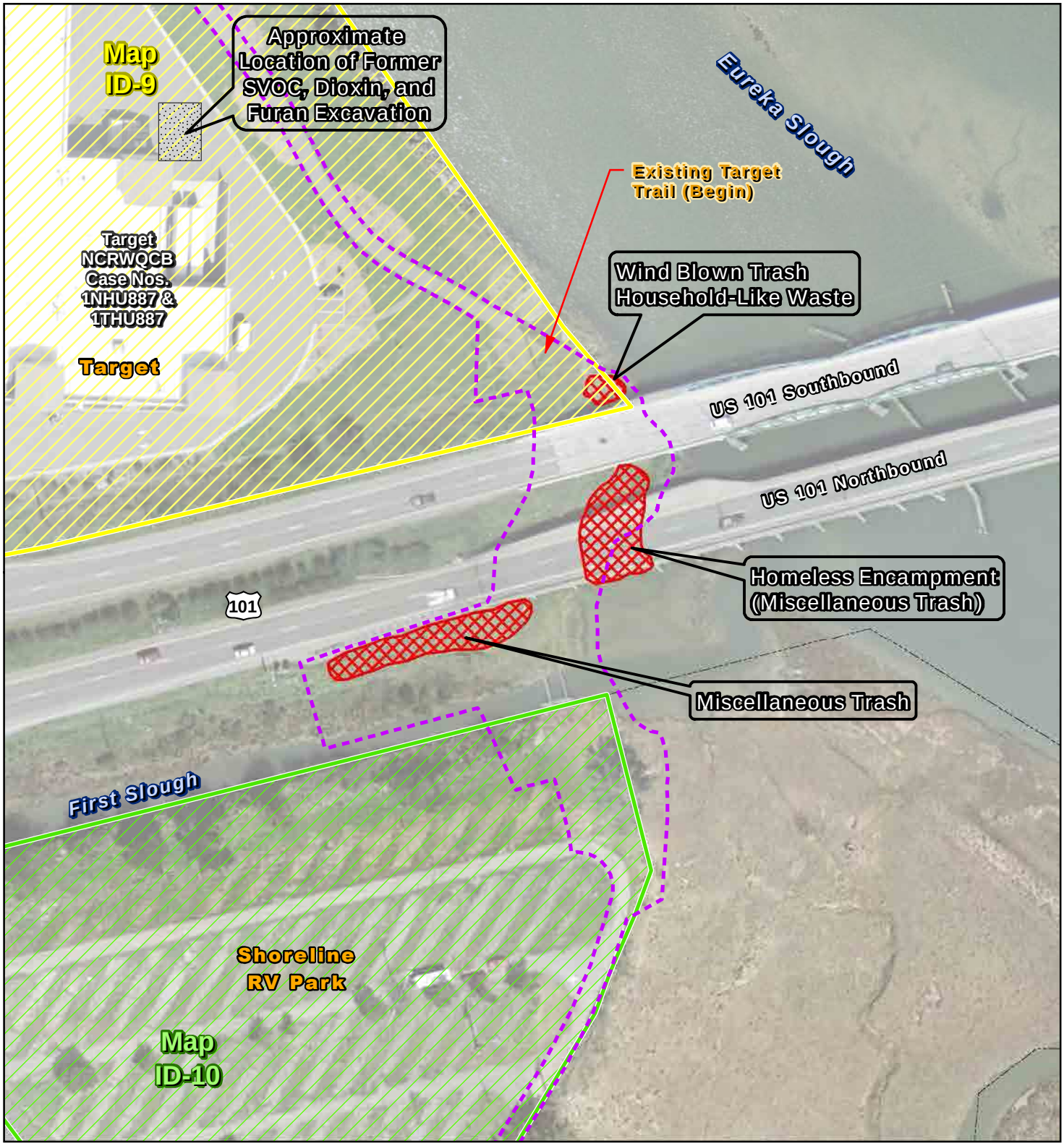

Sites of Interest

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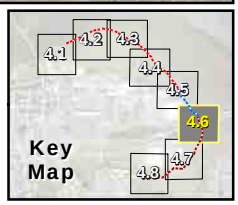

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City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

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Date 15 Jan 2014

Features and Sites of Interest
Phase 1 Corridor Study

Figure 4.6

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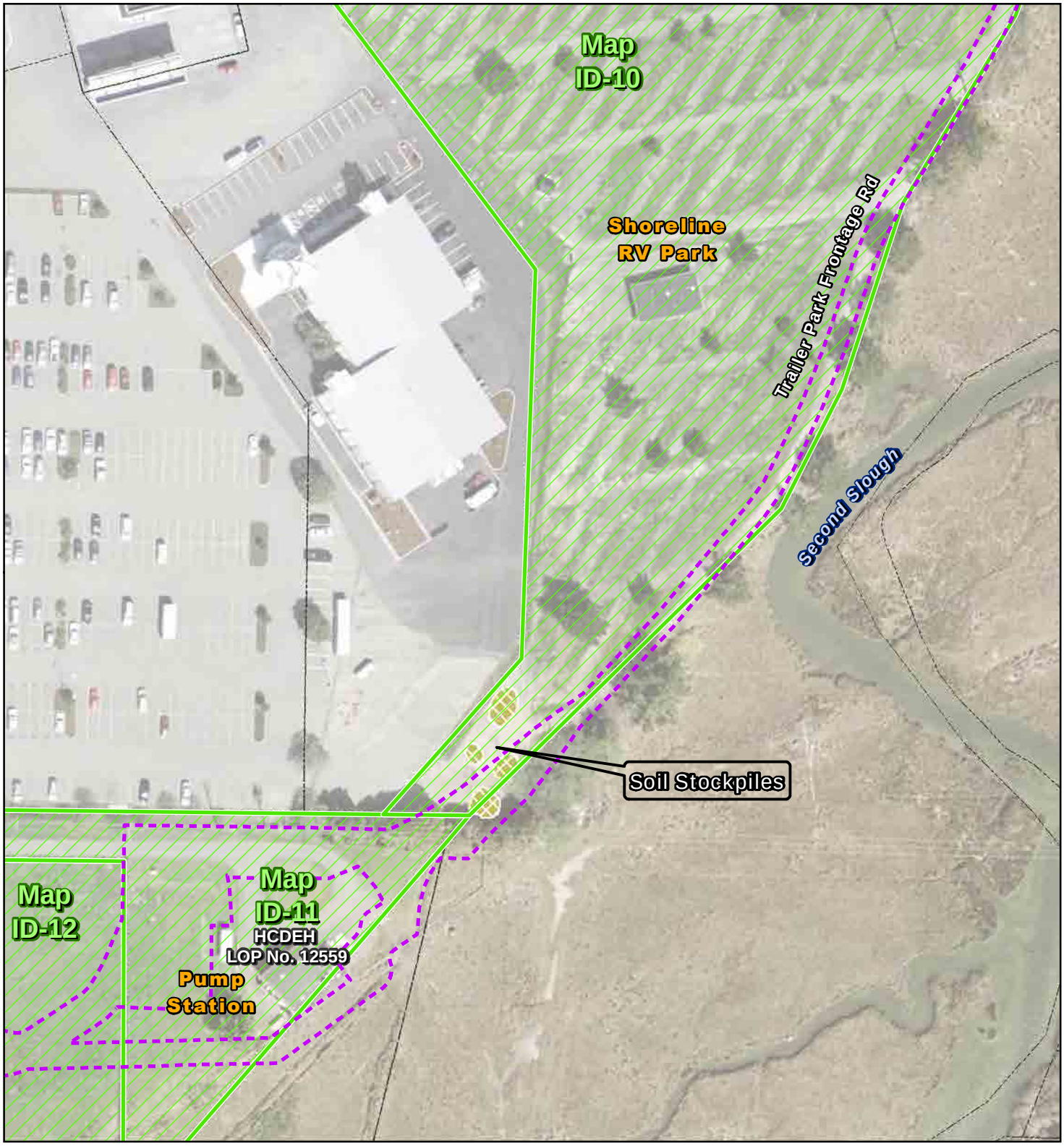

Sites of Interest

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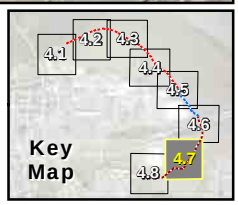

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City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

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Features and Sites of Interest
Phase 1 Corridor Study

Figure 4.7

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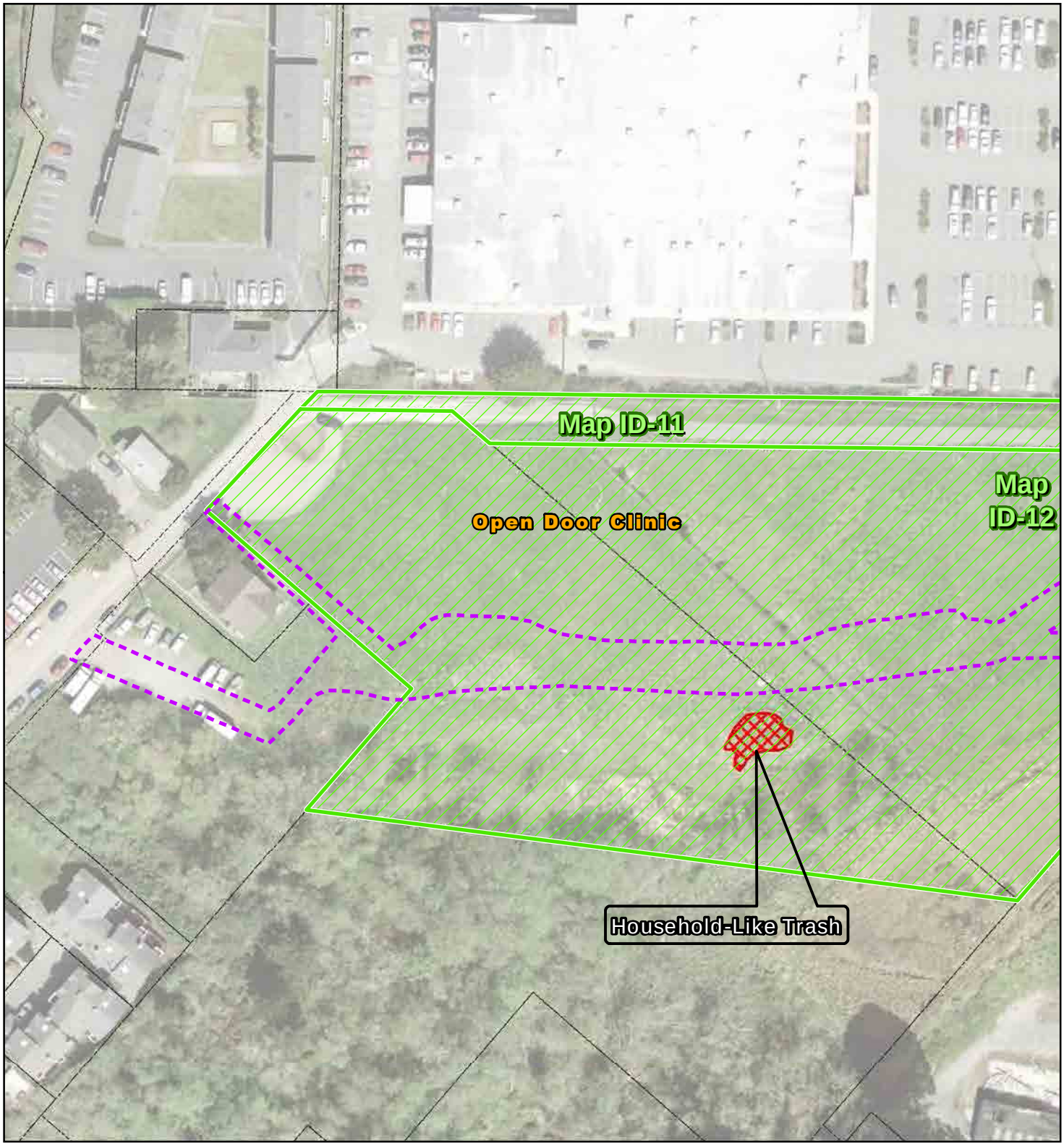

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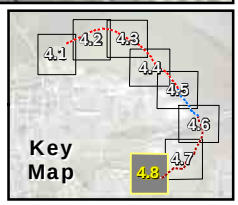

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Feet
Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision B
Date 15 Jan 2014

Features and Sites of Interest
Phase 1 Corridor Study

Figure 4.8

718 Third Street Eureka CA 95501 USA T 707 443 8326 F 707 444 8330 E eureka@ghd.com W www.ghd.com

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Data source: City of Eureka GIS: parcel layer; CPAD: Humboldt Bay Wildlife Refuge GIS layer. Created by:gldavidson

Study Area

Approximate Parcel Boundary

Staging - Temporary Impacts

Proposed Trail Center-Line

Project Footprint
(Permanent Impacts)

Paved Trail

Bridge

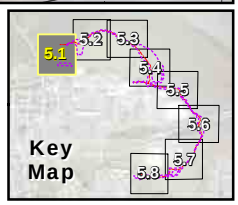
Boardwalk

Shoulder

Proposed Fence

Potential
Trailhead Area

Potential
Interpretive
Sign Location



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Feet

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Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision A
Date 06 Feb 2014

Concept Design

Figure 5.1

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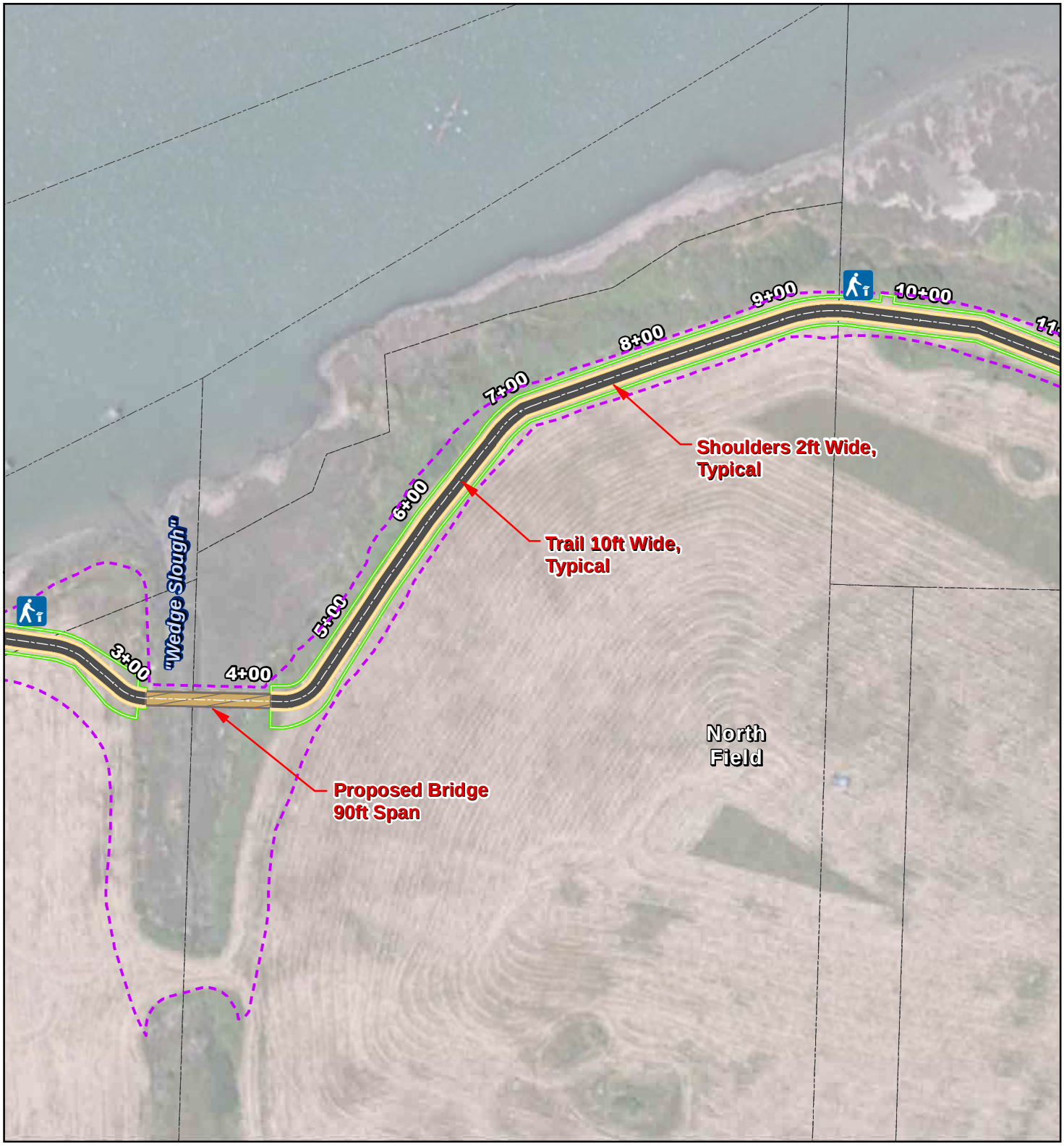
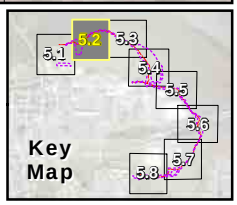


Study Area
Approximate Parcel Boundary
Staging - Temporary Impacts
Proposed Trail Center-Line
Project Footprint (Permanent Impacts)
Paved Trail
Bridge
Boardwalk
Shoulder
Proposed Fence
Potential Trailhead Area
Potential Interpretive Sign Location



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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision A
Date 06 Feb 2014

Concept Design

Figure 5.2

718 Third Street Eureka CA 95501 USA T 707 443 8326 F 707 444 8330 E eureka@ghd.com W www.ghd.com

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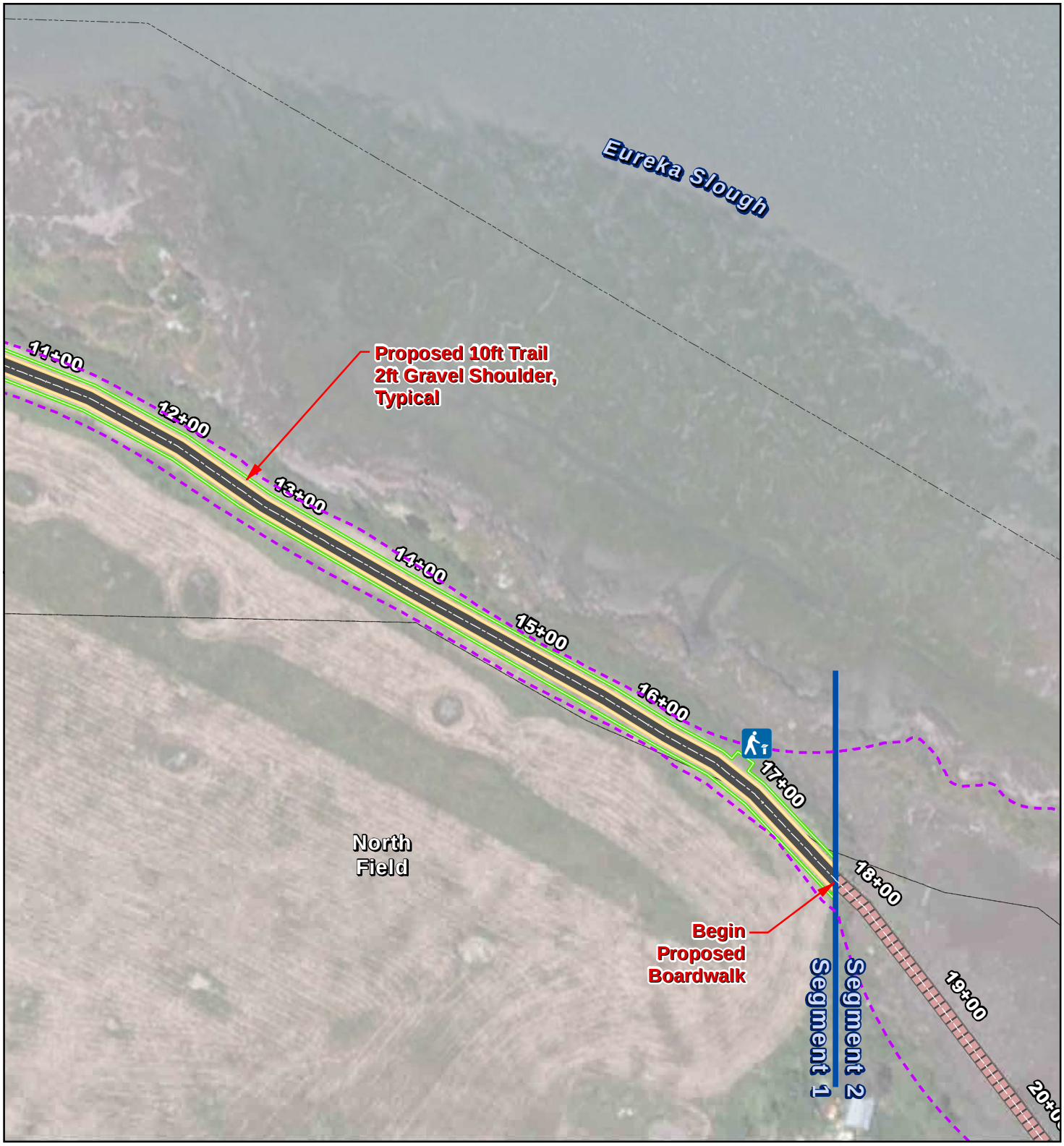
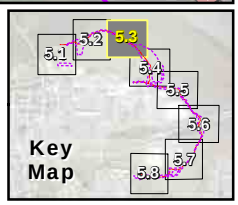


Study Area
Approximate Parcel Boundary
Staging - Temporary Impacts
Proposed Trail Center-Line
Project Footprint (Permanent Impacts)
Paved Trail
Bridge
Boardwalk
Shoulder
Proposed Fence
Potential Trailhead Area
Potential Interpretive Sign Location



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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision A
Date 06 Feb 2014

Concept Design

Figure 5.3

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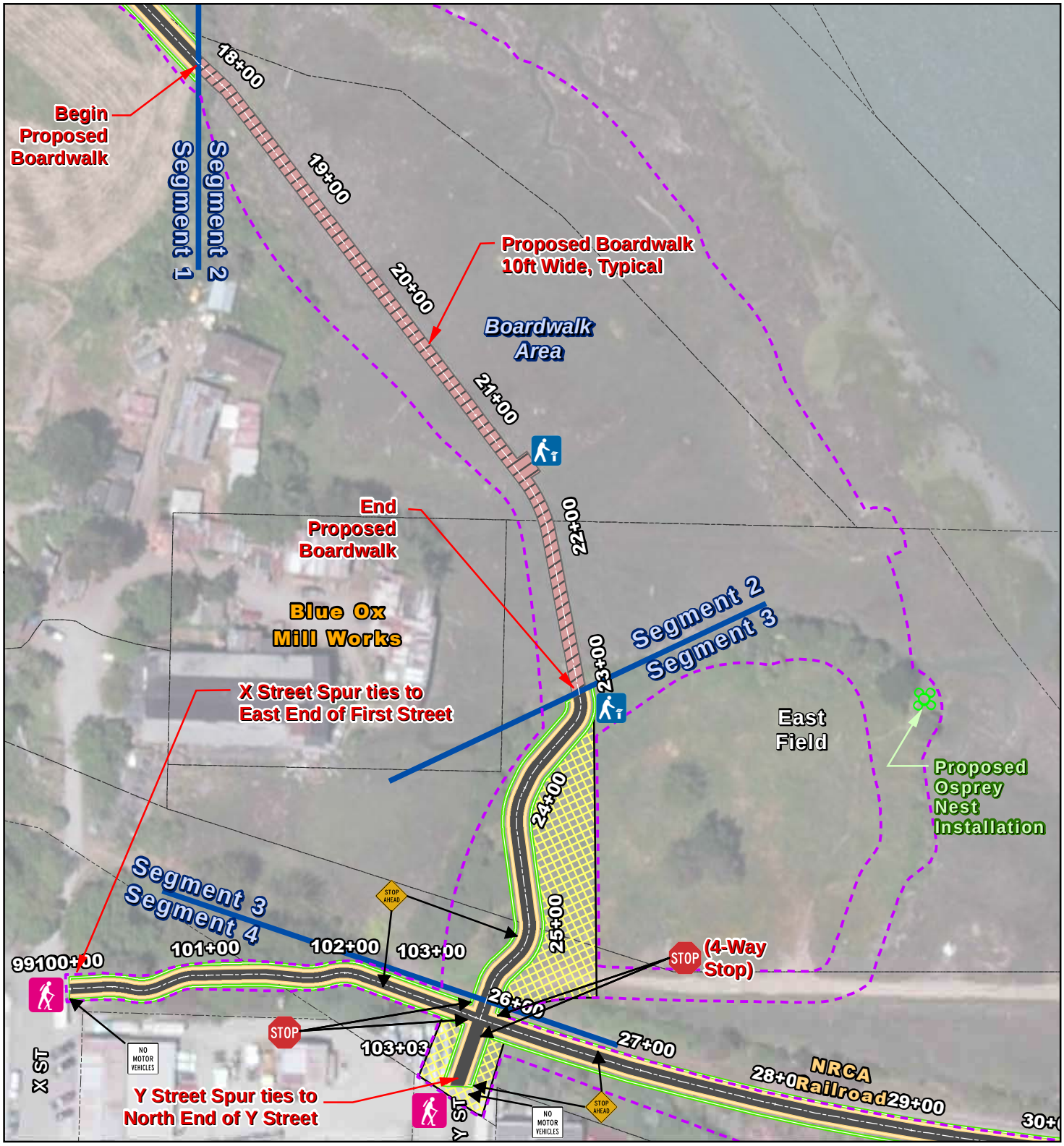
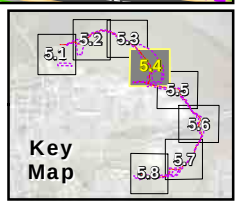


Study Area
Approximate Parcel Boundary
Staging - Temporary Impacts
Proposed Trail Center-Line
Project Footprint (Permanent Impacts)
Paved Trail
Bridge
Boardwalk
Shoulder
Proposed Fence
Potential Trailhead Area
Potential Interpretive Sign Location



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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision A
Date 06 Feb 2014

Concept Design

Figure 5.4

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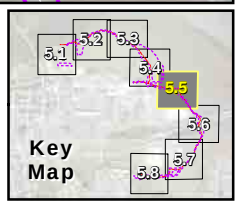
Study Area
Approximate Parcel Boundary
Staging - Temporary Impacts
Proposed Trail Center-Line
Project Footprint (Permanent Impacts)
Paved Trail
Bridge
Boardwalk
Shoulder
Proposed Fence
Potential Trailhead Area
Potential Interpretive Sign Location



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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision A
Date 06 Feb 2014

Concept Design

Figure 5.5

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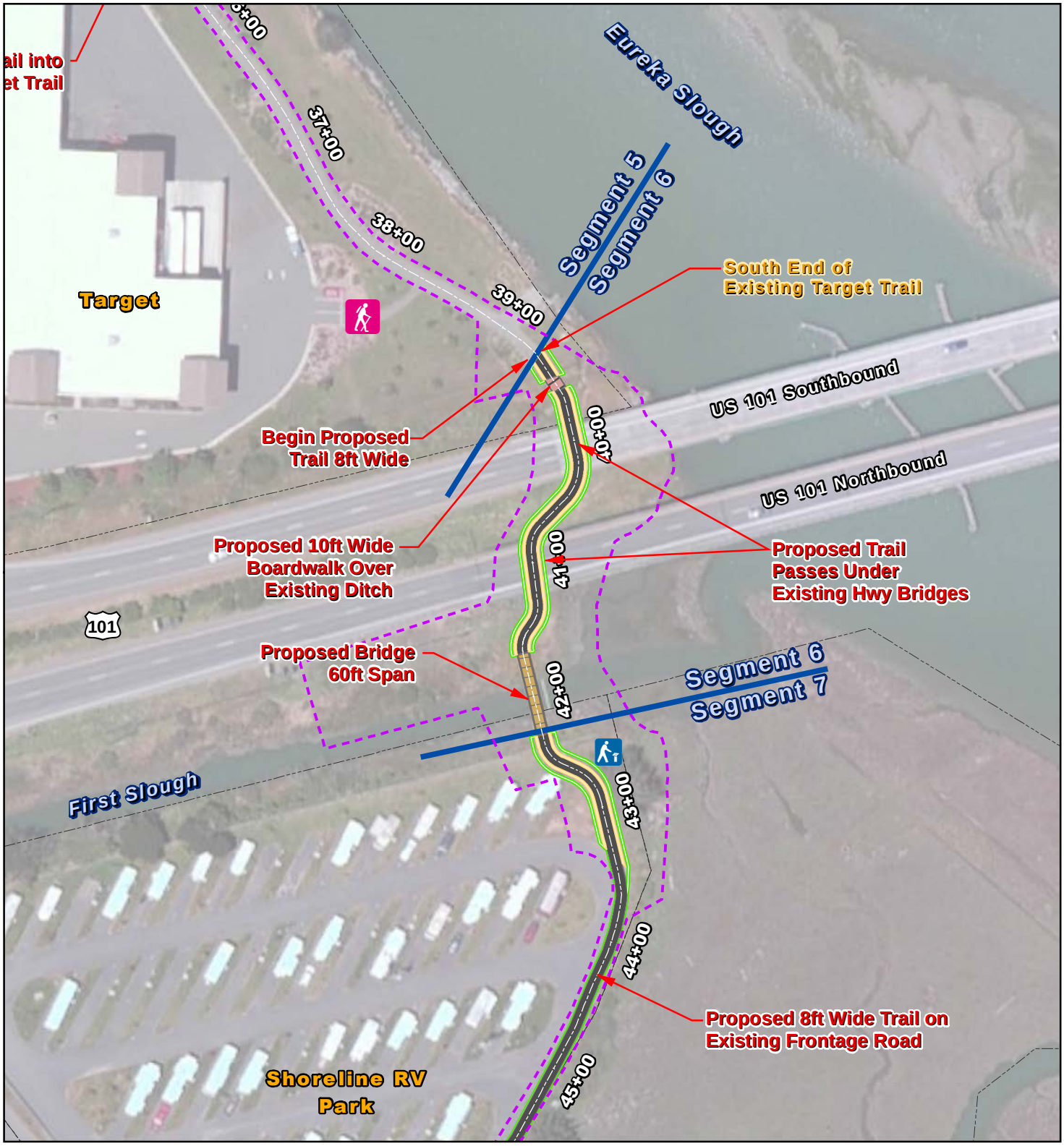


Study Area

Approximate Parcel Boundary

Staging - Temporary Impacts

Proposed Trail Center-Line

Project Footprint (Permanent Impacts)

Paved Trail

Bridge

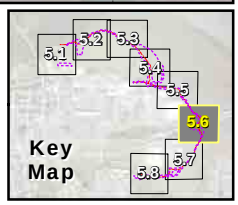
Boardwalk

Shoulder

Proposed Fence

Potential Trailhead Area

Potential Interpretive Sign Location



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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision A
Date 06 Feb 2014

Concept Design

Figure 5.6

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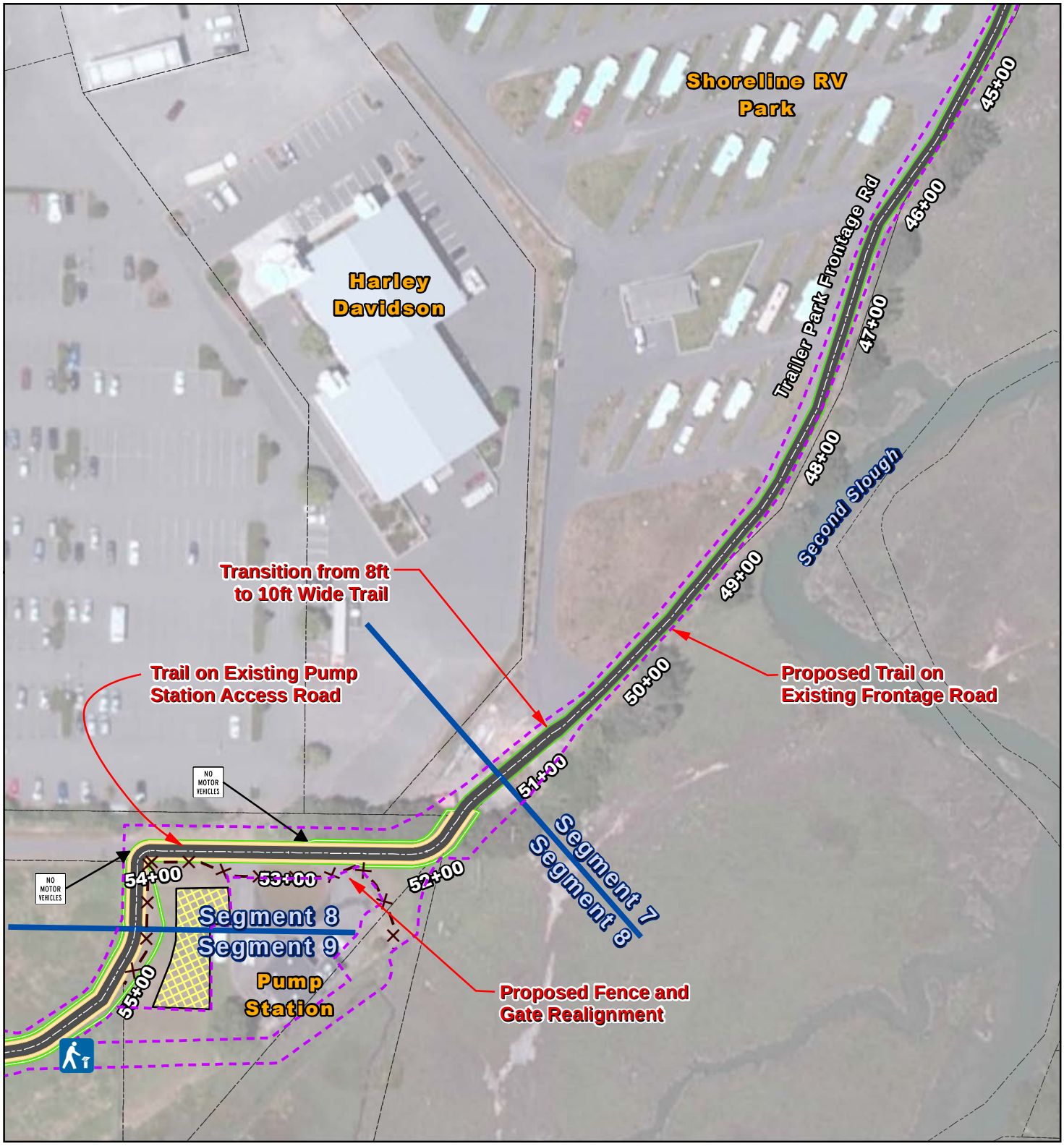
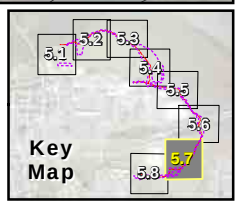


Study Area
Approximate Parcel Boundary
Staging - Temporary Impacts
Proposed Trail Center-Line
Project Footprint (Permanent Impacts)
Paved Trail
Bridge
Boardwalk
Shoulder
Proposed Fence
Potential Trailhead Area
Potential Interpretive Sign Location



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Map Projection: Lambert Conformal Conic
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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision A
Date 06 Feb 2014

Concept Design

Figure 5.7

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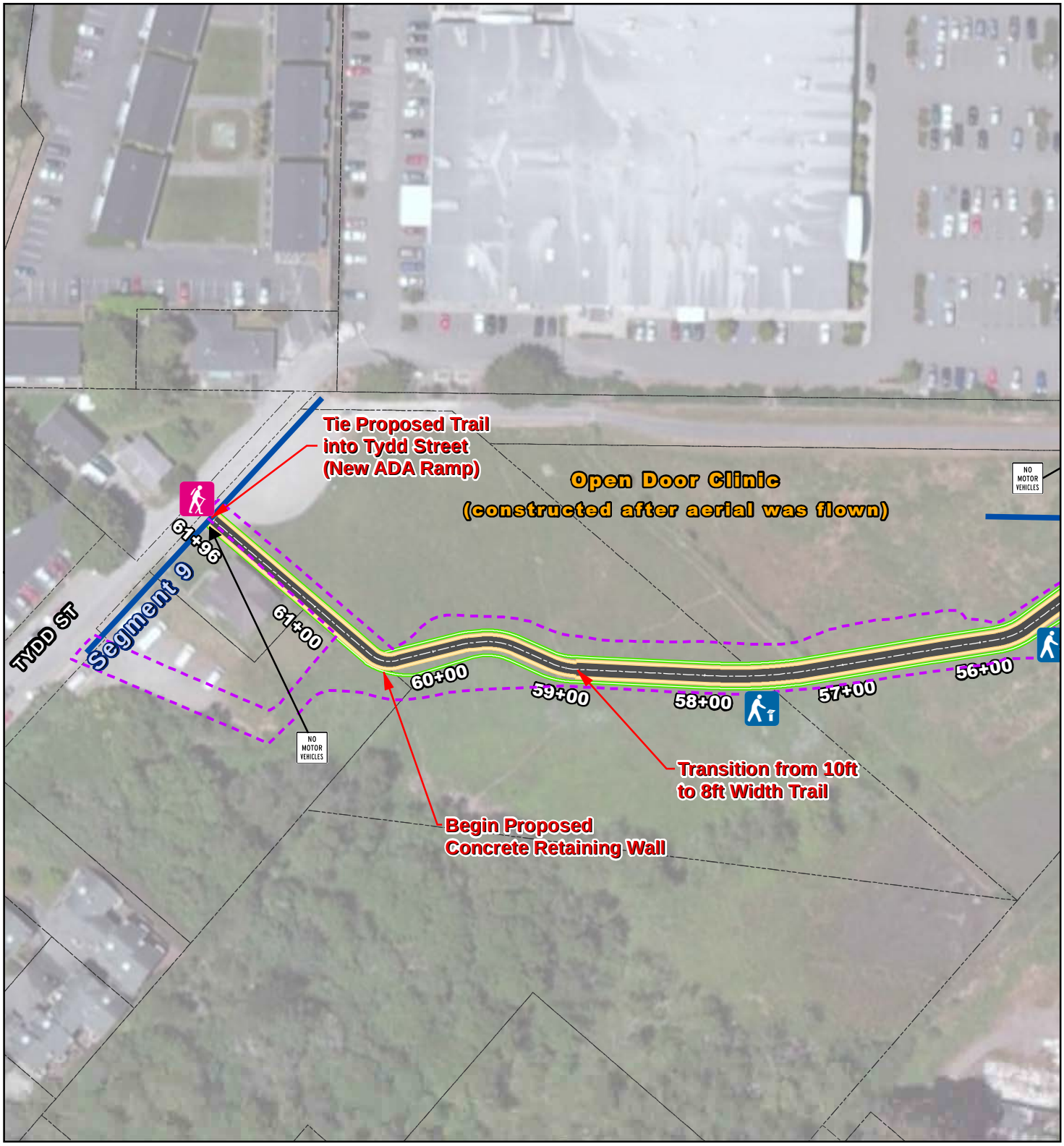


Study Area

Approximate Parcel Boundary

Staging - Temporary Impacts

Proposed Trail Center-Line

Project Footprint (Permanent Impacts)

Paved Trail

Bridge

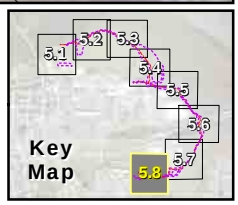
Boardwalk

Shoulder

Proposed Fence

Potential Trailhead Area

Potential Interpretive Sign Location



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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision A
Date 06 Feb 2014

Concept Design

Figure 5.8

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Anticipated Trail Right-of-Way

Approximate Parcel Boundary

Shoulder

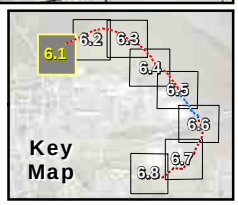
Boardwalk

Bridge

Paved Trail

Proposed Fence

Project Footprint (Permanent Impacts)



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City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision A
Date 15 Jan 2014

Anticipated Trail Right-of-Way

Figure 6.1

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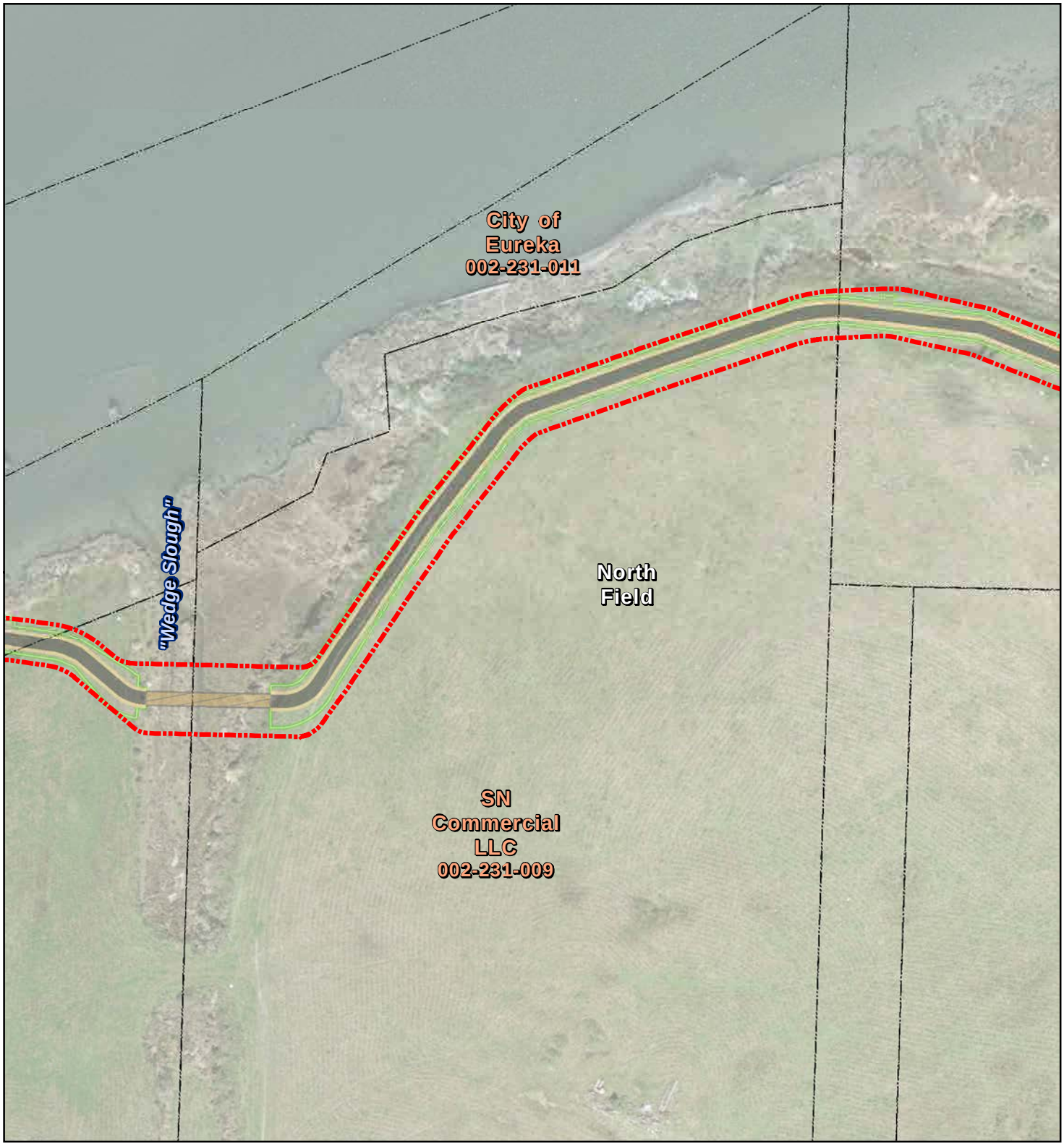


Anticipated Trail Right-of-Way

Approximate Parcel Boundary

Shoulder

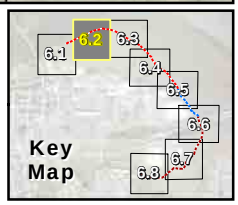
Boardwalk

Bridge

Paved Trail

Proposed Fence

Project Footprint (Permanent Impacts)



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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision A
Date 15 Jan 2014

Anticipated Trail Right-of-Way

Figure 6.2

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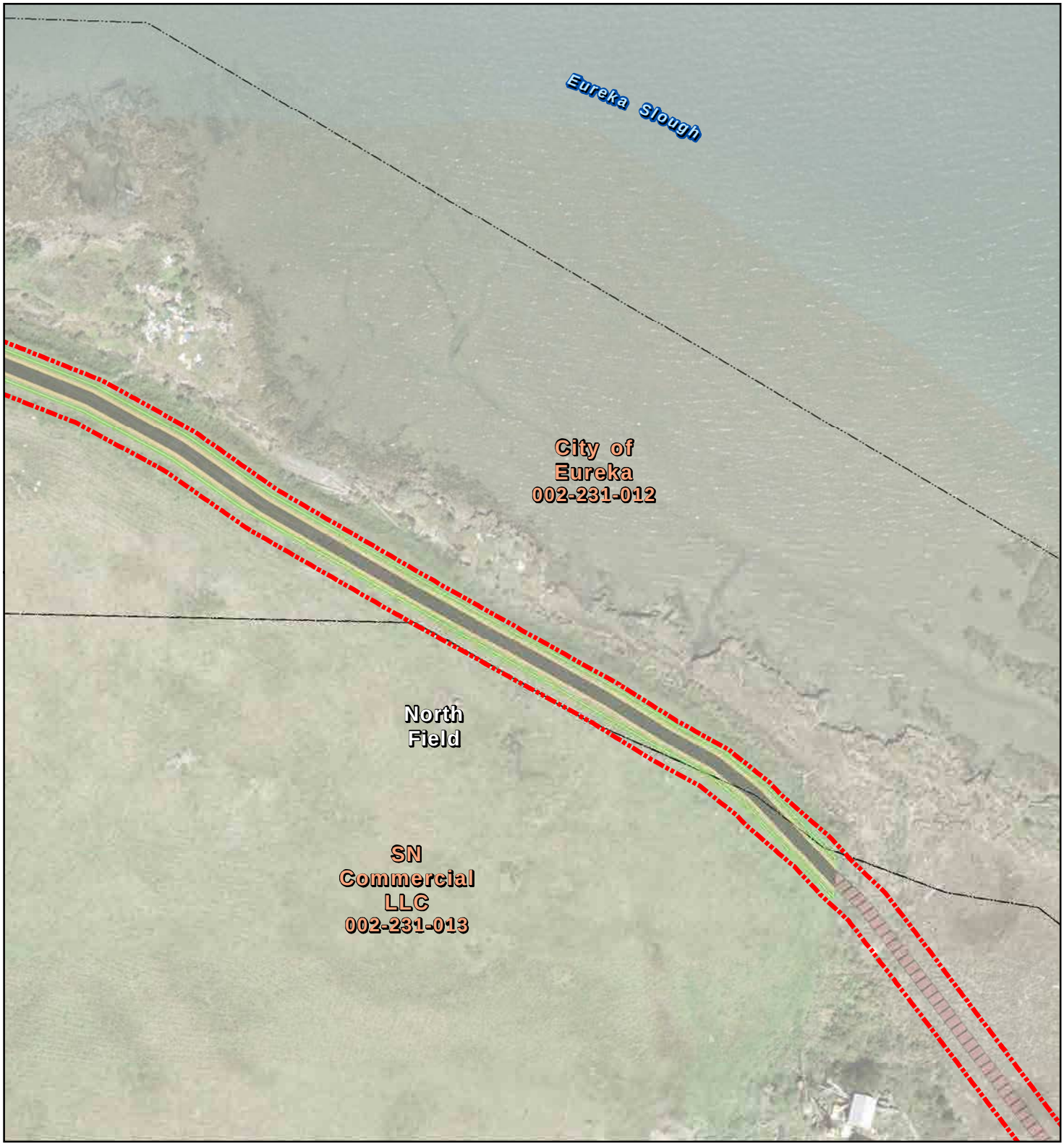


Anticipated Trail Right-of-Way

Approximate Parcel Boundary

Shoulder

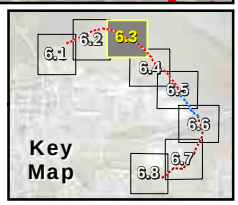
Boardwalk

Bridge

Paved Trail

Proposed Fence

Project Footprint (Permanent Impacts)



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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number	8410915
Revision	A
Date	15 Jan 2014

Anticipated Trail Right-of-Way

Figure 6.3

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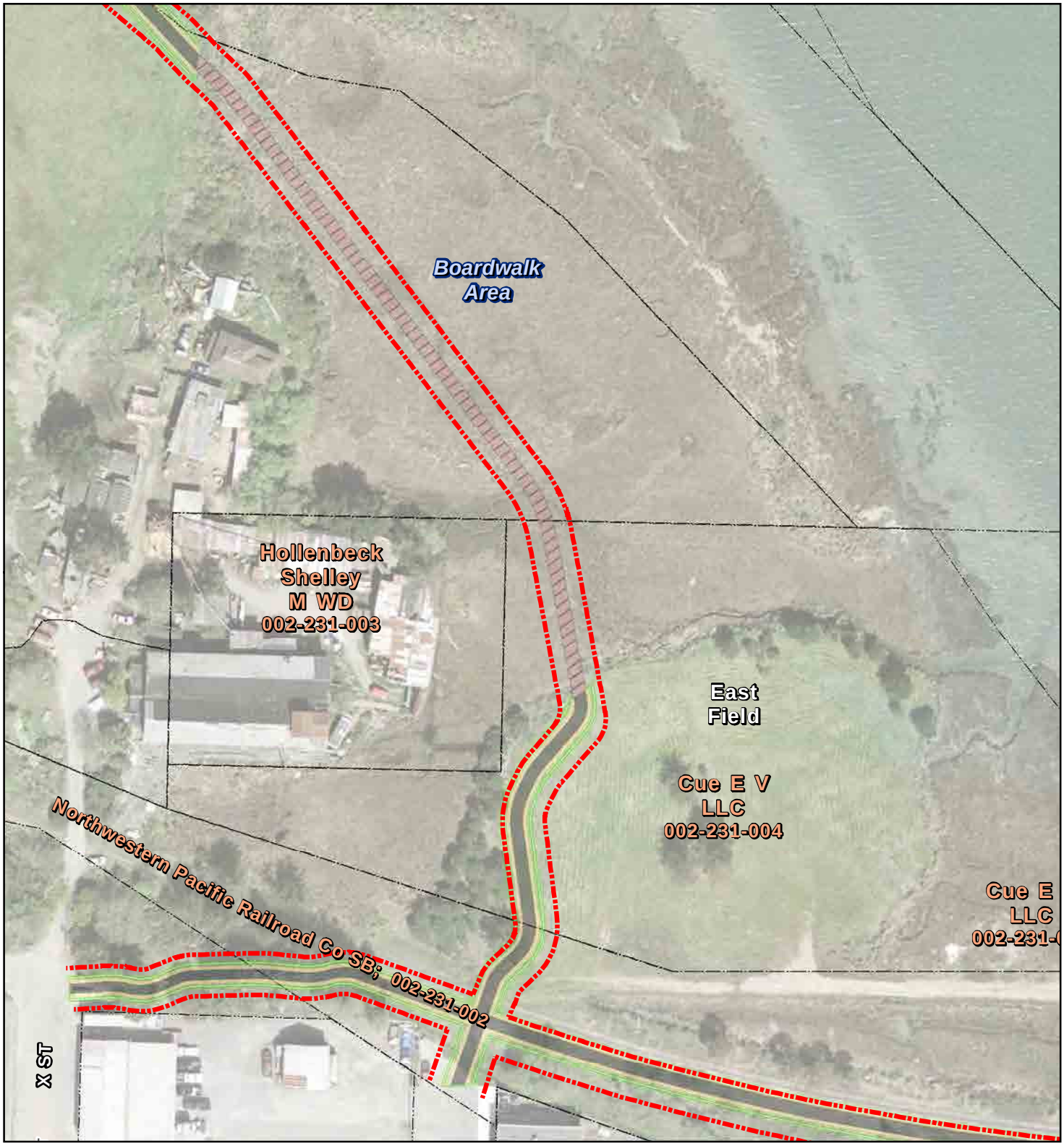
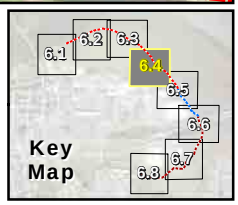


Anticipated Trail Right-of-Way
Approximate Parcel Boundary
Shoulder
Boardwalk
Bridge
Paved Trail
Proposed Fence
Project Footprint (Permanent Impacts)



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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

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision A
Date 15 Jan 2014

Anticipated Trail Right-of-Way

Figure 6.4

718 Third Street Eureka CA 95501 USA T 707 443 8326 F 707 444 8330 E eureka@ghd.com W www.ghd.com

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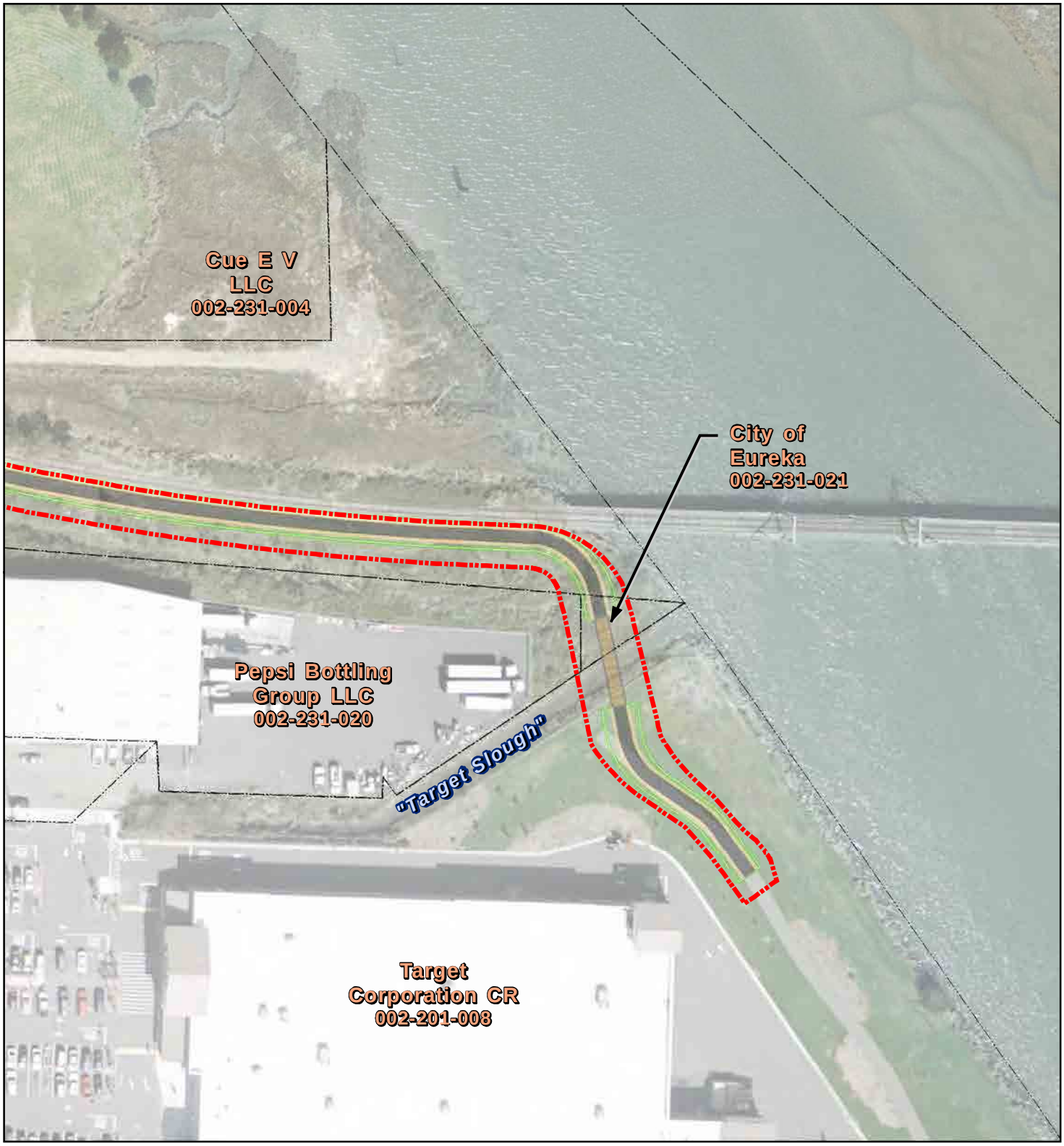


Anticipated Trail Right-of-Way

Approximate Parcel Boundary

Shoulder

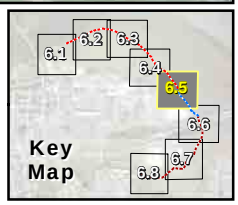
Boardwalk

Bridge

Paved Trail

Proposed Fence

Project Footprint (Permanent Impacts)



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

N

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision A
Date 15 Jan 2014

Anticipated Trail Right-of-Way

Figure 6.5

718 Third Street Eureka CA 95501 USA T 707 443 8326 F 707 444 8330 E eureka@ghd.com W www.ghd.com

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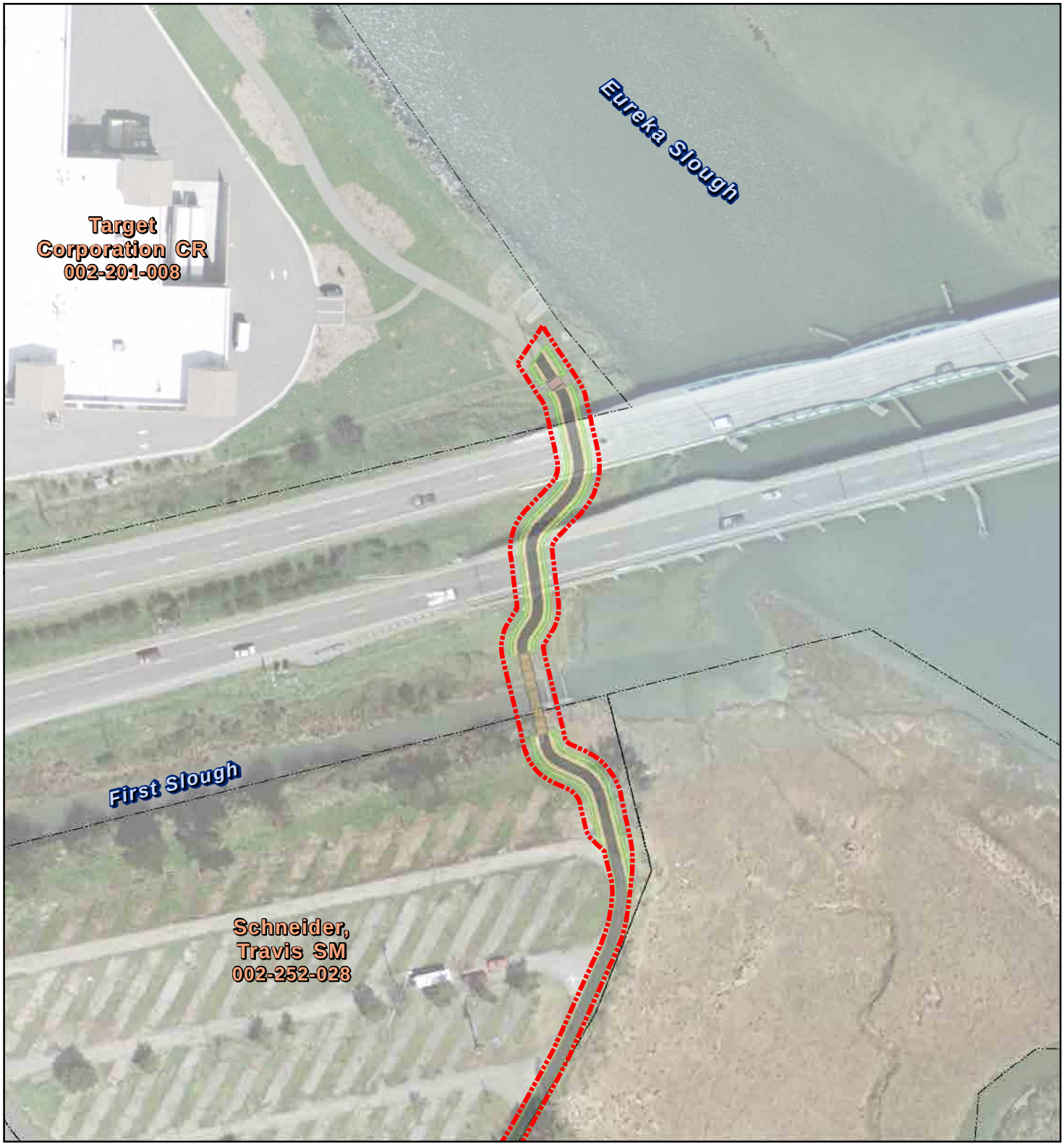


Anticipated Trail Right-of-Way

Approximate Parcel Boundary

Shoulder

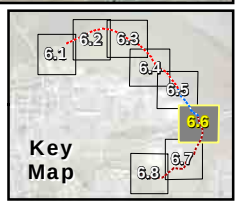
Boardwalk

Bridge

Paved Trail

Proposed Fence

Project Footprint (Permanent Impacts)



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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision A
Date 15 Jan 2014

Anticipated Trail Right-of-Way

Figure 6.6

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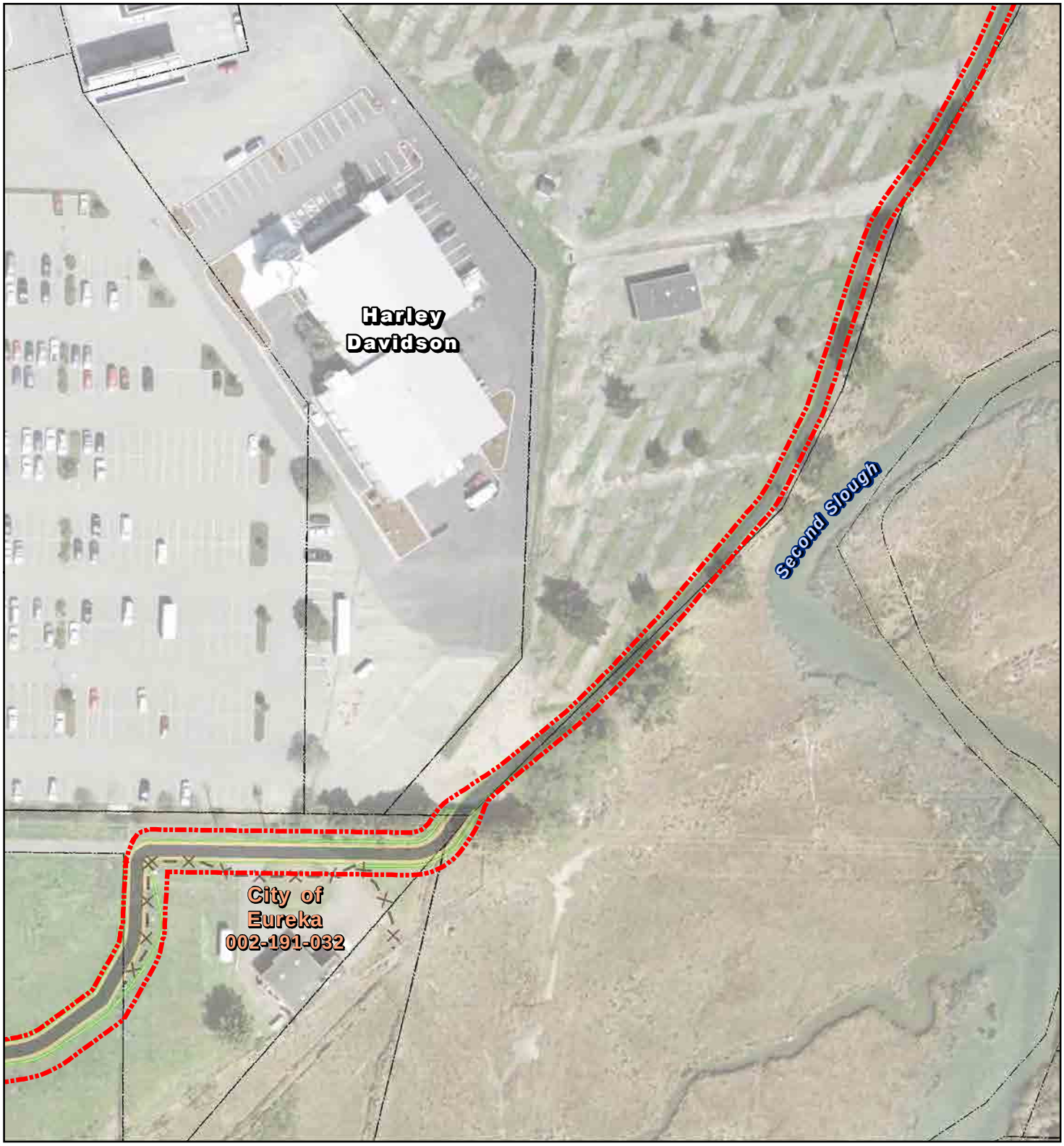


Anticipated Trail Right-of-Way

Approximate Parcel Boundary

Shoulder

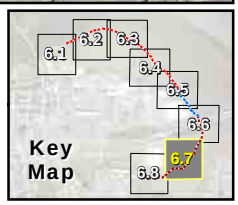
Boardwalk

Bridge

Paved Trail

Proposed Fence

Project Footprint (Permanent Impacts)



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

N

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision A
Date 15 Jan 2014

Anticipated Trail Right-of-Way

Figure 6.7

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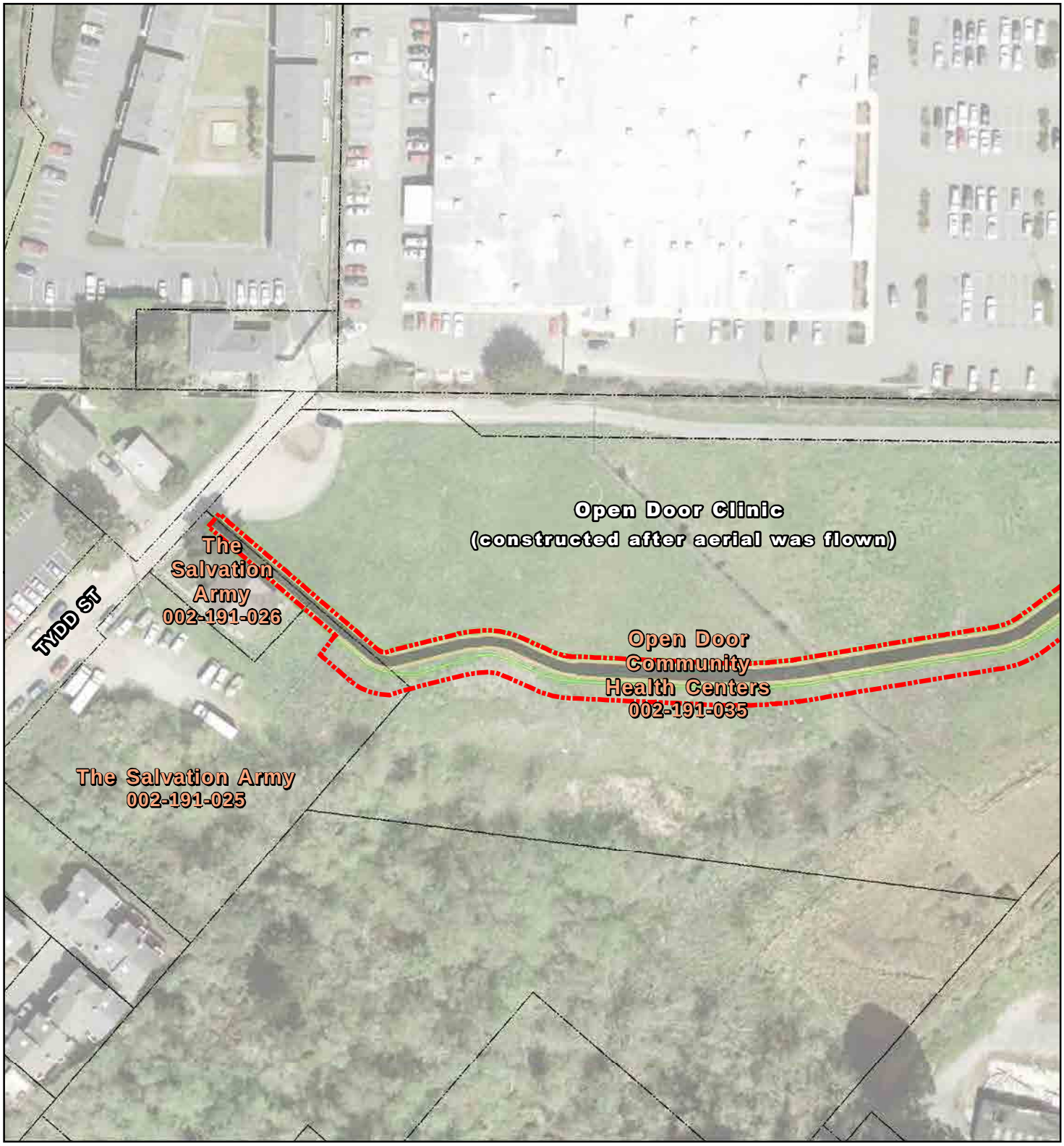


Anticipated Trail Right-of-Way

Approximate Parcel Boundary

Shoulder

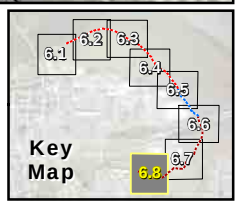
Boardwalk

Bridge

Paved Trail

Proposed Fence

Project Footprint (Permanent Impacts)



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

N

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number	8410915
Revision	A
Date	15 Jan 2014

Anticipated Trail Right-of-Way

Figure 6.8

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Trail Project Footprint (Permanent Impacts)

Boardwalk/Bridge Footprint (Shade Impacts)

Project Study Boundary

Appriximate Parcel Boundary

Mean High Tide Line Elev 5.88ft

Mean Higher High Water Elev 6.62ft

2013 High Tide Line Elev 8.51ft

Trail Footprint Impacts

Freshwater Palustrine Emergent Ditch (4.8 sf)

Estuarine Channel (371.9 sf)

Estuarine Saltmarsh (357.3 sf)

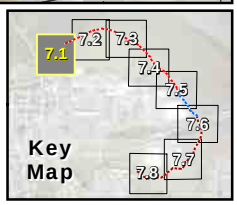
Salix hookeriana Shrubland Alliance (3,367.1 sf)

Trail Shade Impacts

Estuarine Channel (142.4 sf)

Estuarine Saltmarsh (6,258.5 sf)

Estuarine and Marine Deepwater (419.0 sf)



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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

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number	8410915
Revision	B
Date	15 Jan 2014

Assumed Wetland Impacts

Figure 7.1

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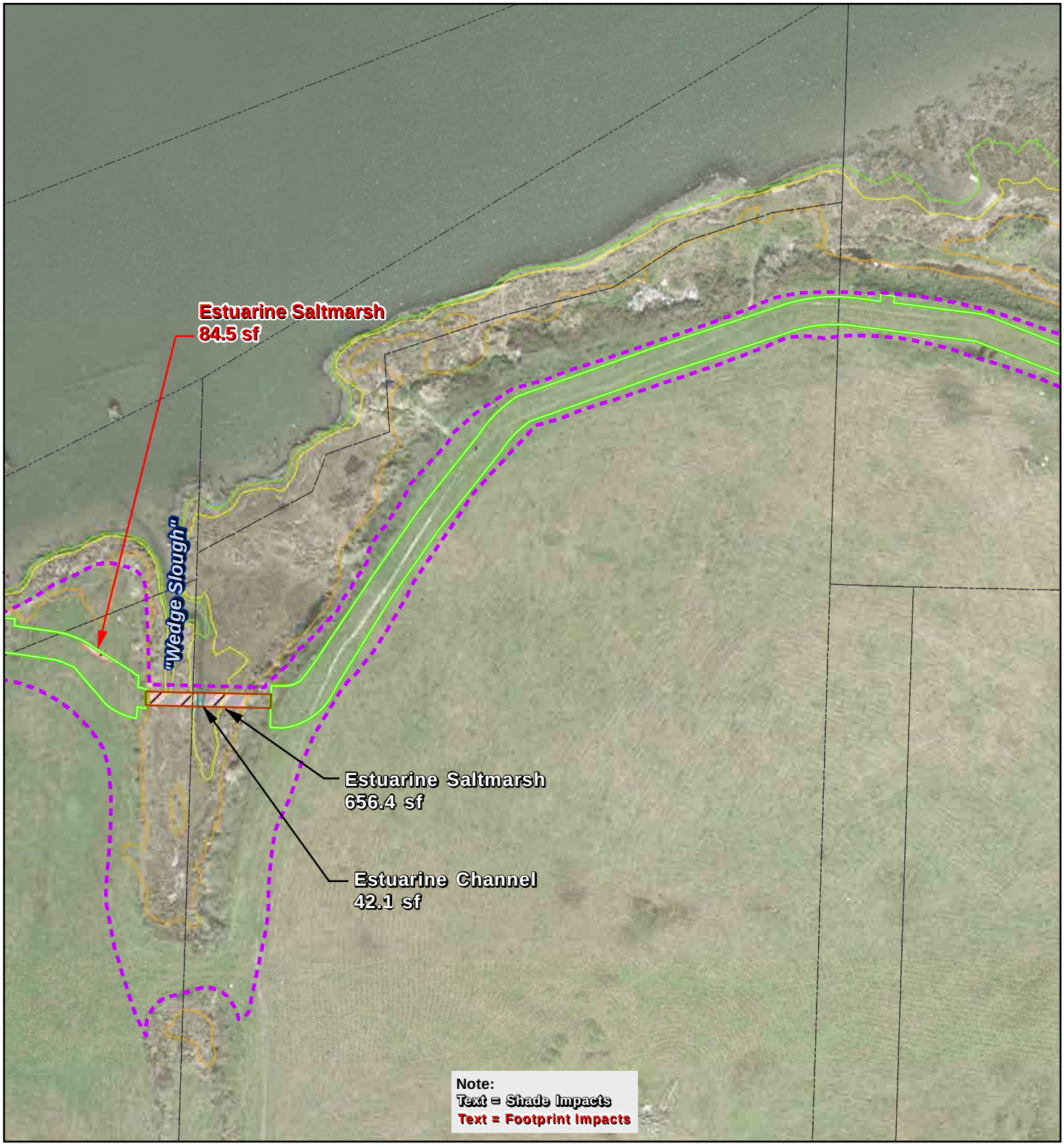


Trail Project Footprint (Permanent Impacts)

Boardwalk/Bridge Footprint (Shade Impacts)

Project Study Boundary

Appriximate Parcel Boundary

Mean High Tide Line Elev 5.88ft

Mean Higher High Water Elev 6.62ft

2013 High Tide Line Elev 8.51ft

Trail Footprint Impacts

Freshwater Palustrine Emergent Ditch (4.8 sf)

Estuarine Channel (371.9 sf)

Estuarine Saltmarsh (357.3 sf)

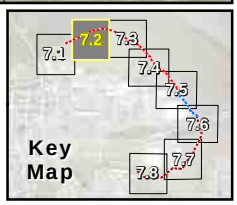
Salix hookeriana Shrubland Alliance (3,367.1 sf)

Trail Shade Impacts

Estuarine Channel (142.4 sf)

Estuarine Saltmarsh (6,258.5 sf)

Estuarine and Marine Deepwater (419.0 sf)



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Feet

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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision B
Date 15 Jan 2014

Assumed Wetland Impacts

Figure 7.2

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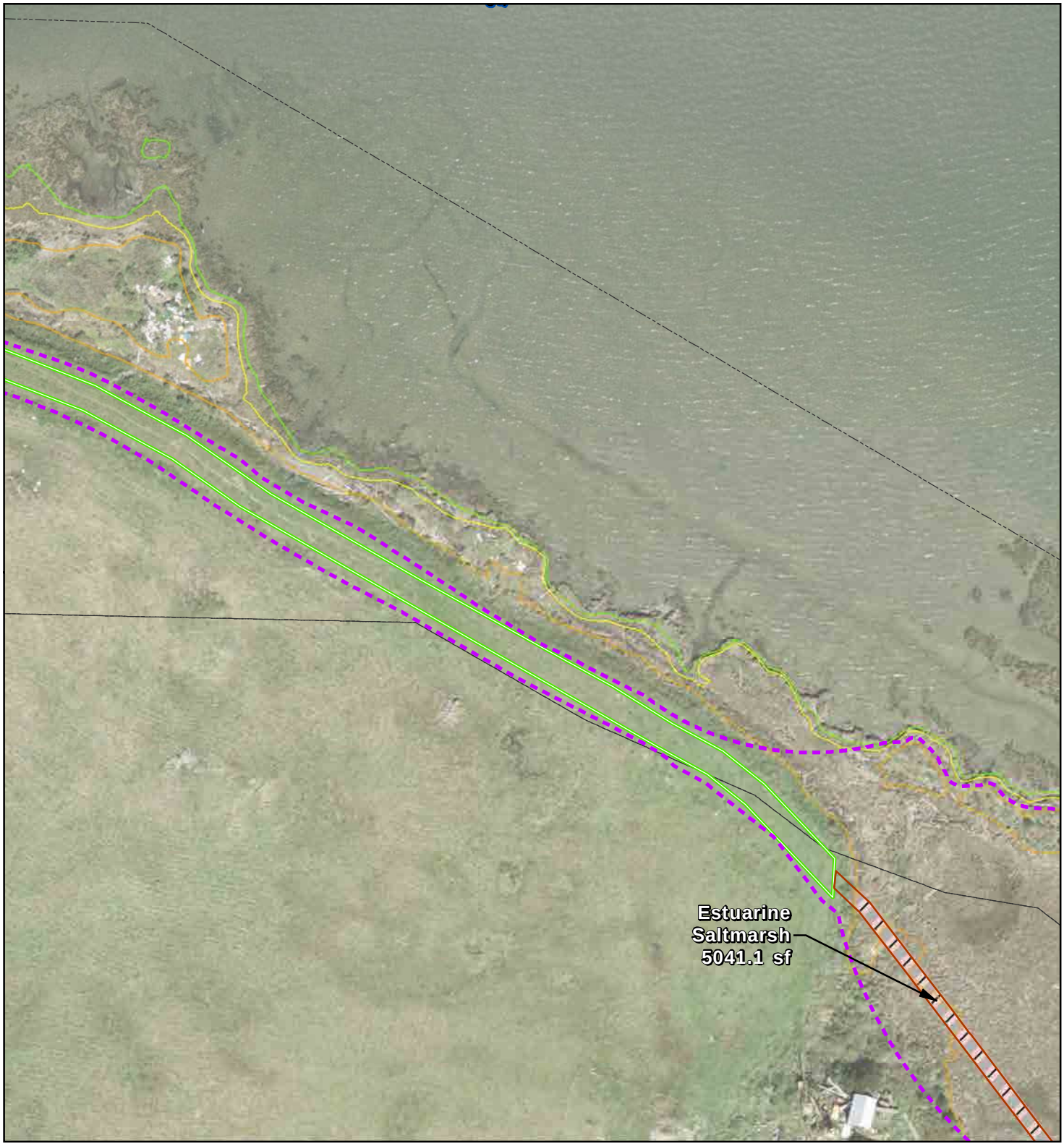


Trail Project Footprint (Permanent Impacts)

Boardwalk/Bridge Footprint (Shade Impacts)

Project Study Boundary

Appriximate Parcel Boundary

Mean High Tide Line Elev 5.88ft

Mean Higher High Water Elev 6.62ft

2013 High Tide Line Elev 8.51ft

Trail Footprint Impacts

Freshwater Palustrine Emergent Ditch (4.8 sf)

Estuarine Channel (371.9 sf)

Estuarine Saltmarsh (357.3 sf)

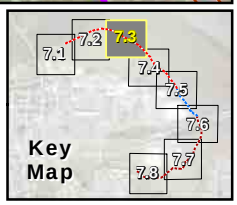
Salix hookeriana Shrubland Alliance (3,367.1 sf)

Trail Shade Impacts

Estuarine Channel (142.4 sf)

Estuarine Saltmarsh (6,258.5 sf)

Estuarine and Marine Deepwater (419.0 sf)



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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision B
Date 15 Jan 2014

Assumed Wetland Impacts

Figure 7.3

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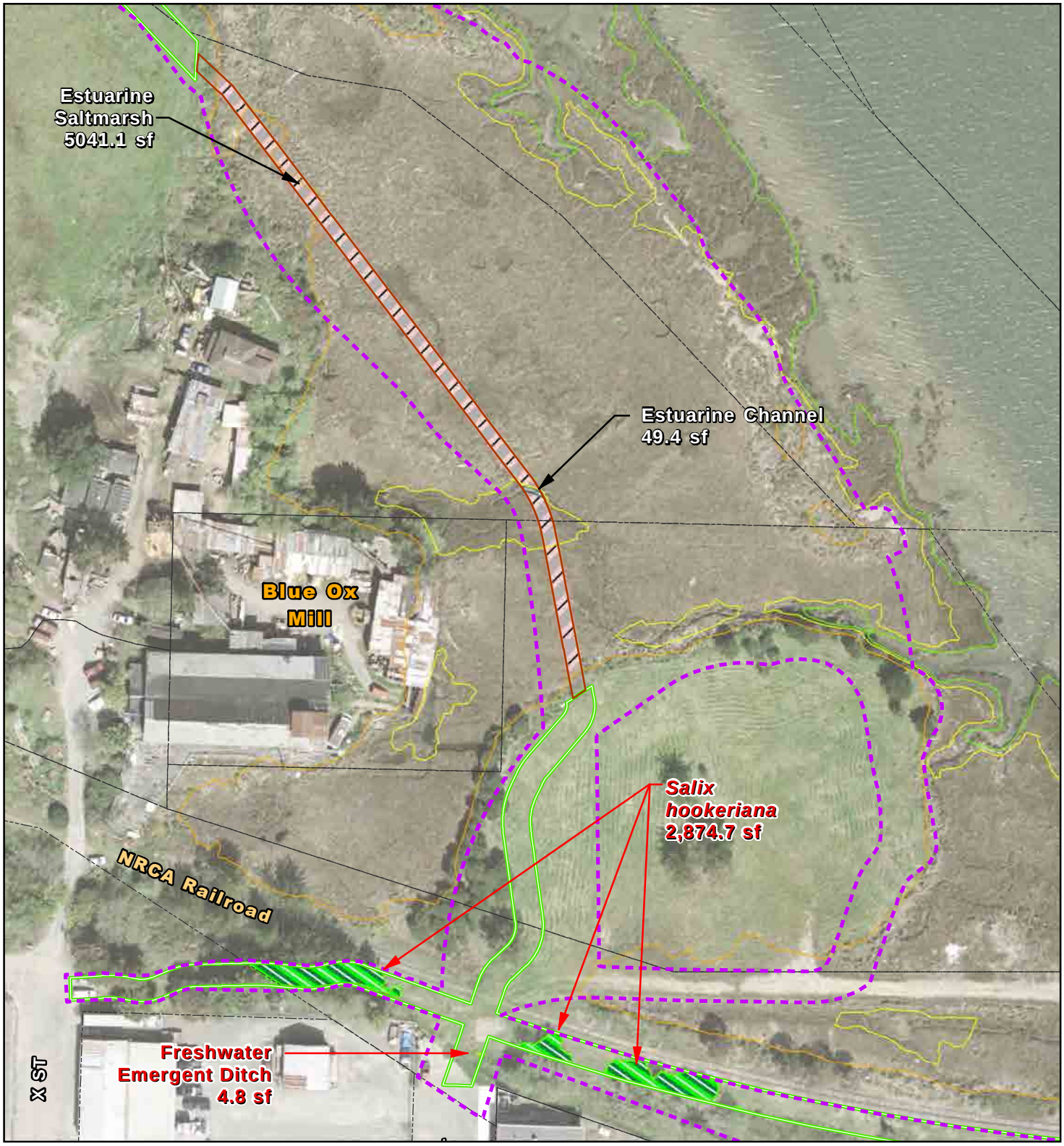
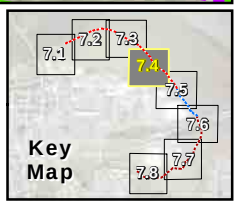


Trail Project Footprint (Permanent Impacts)
Boardwalk/Bridge Footprint (Shade Impacts)
Project Study Boundary
Appriximate Parcel Boundary

Mean High Tide Line Elev 5.88ft
Mean Higher High Water Elev 6.62ft
2013 High Tide Line Elev 8.51ft

Trail Footprint Impacts
Freshwater Palustrine Emergent Ditch (4.8 sf)
Estuarine Channel (371.9 sf)
Estuarine Saltmarsh (357.3 sf)
Salix hookeriana Shrubland Alliance (3,367.1 sf)

Trail Shade Impacts
Estuarine Channel (142.4 sf)
Estuarine Saltmarsh (6,258.5 sf)
Estuarine and Marine Deepwater (419.0 sf)



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Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision B
Date 15 Jan 2014

Assumed Wetland Impacts

Figure 7.4

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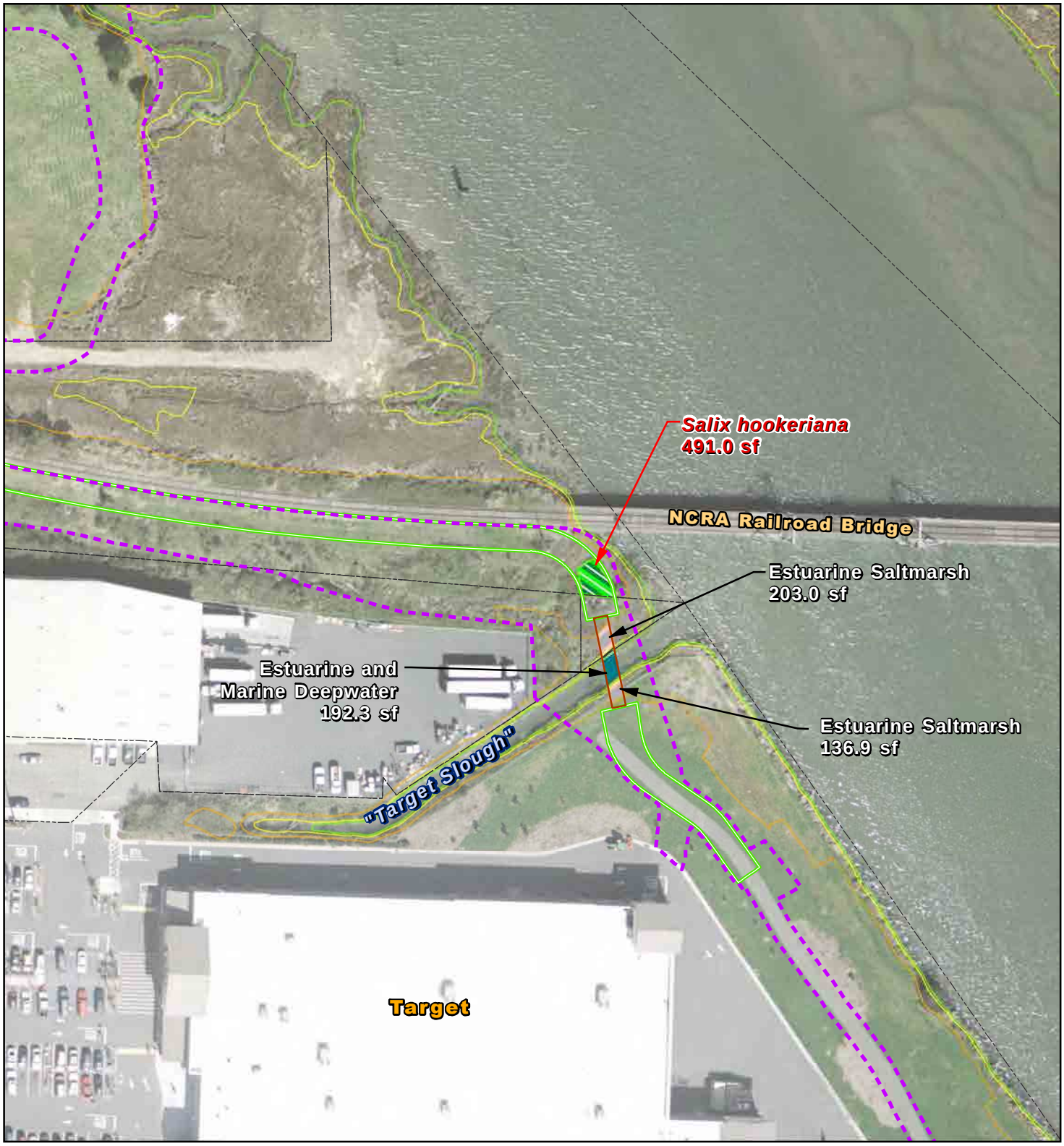

Trail Project Footprint (Permanent Impacts)

Boardwalk/Bridge Footprint (Shade Impacts)

Project Study Boundary

Appriximate Parcel Boundary

Mean High Tide Line Elev 5.88ft

Mean Higher High Water Elev 6.62ft

2013 High Tide Line Elev 8.51ft

Trail Footprint Impacts

Freshwater Palustrine Emergent Ditch (4.8 sf)

Estuarine Channel (371.9 sf)

Estuarine Saltmarsh (357.3 sf)

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Trail Shade Impacts

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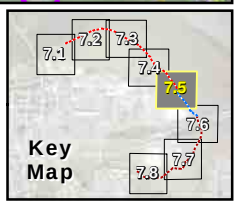
Estuarine and Marine Deepwater (419.0 sf)



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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

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number	8410915
Revision	B
Date	15 Jan 2014

Assumed Wetland Impacts

Figure 7.5

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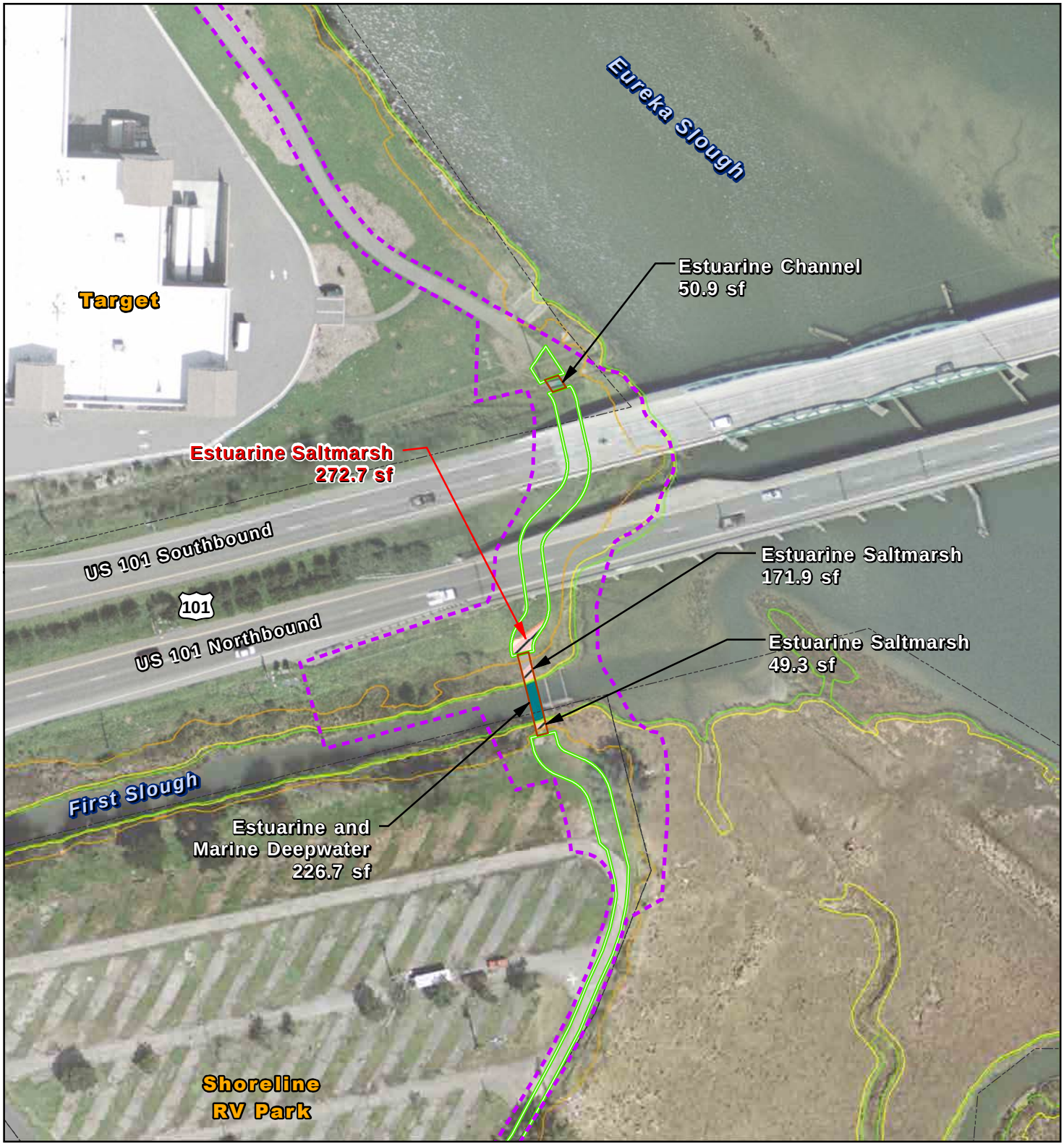

Trail Project Footprint (Permanent Impacts)

Boardwalk/Bridge Footprint (Shade Impacts)

Project Study Boundary

Appriximate Parcel Boundary

Mean High Tide Line Elev 5.88ft

Mean Higher High Water Elev 6.62ft

2013 High Tide Line Elev 8.51ft

Trail Footprint Impacts

Freshwater Palustrine Emergent Ditch (4.8 sf)

Estuarine Channel (371.9 sf)

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Trail Shade Impacts

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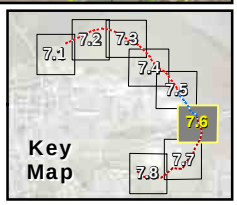
Estuarine and Marine Deepwater (419.0 sf)



Paper Size ANSI A

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Feet

Map Projection: Lambert Conformal Conic
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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number	8410915
Revision	B
Date	15 Jan 2014

Assumed Wetland Impacts

Figure 7.6

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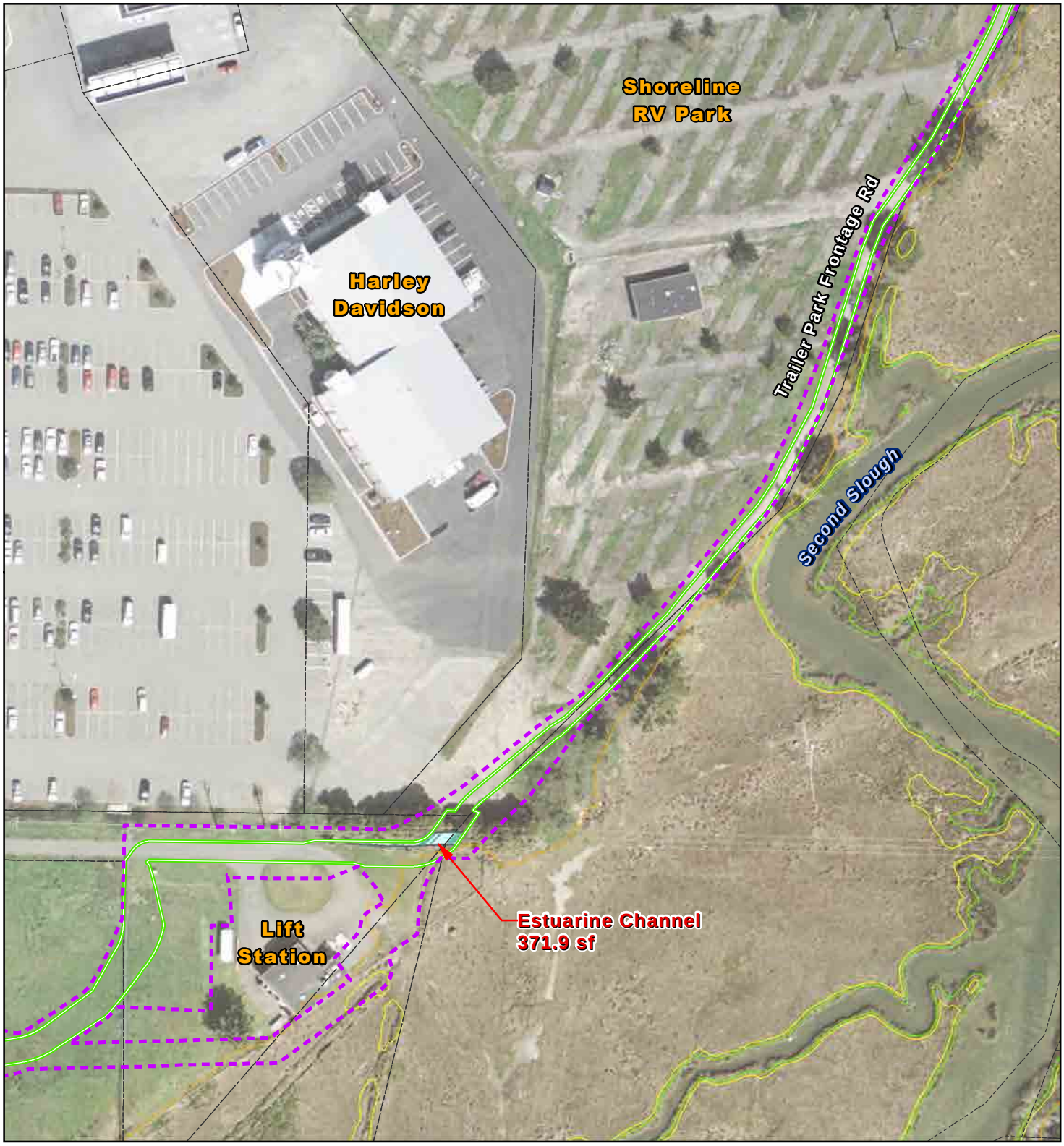

Trail Project Footprint (Permanent Impacts)

Boardwalk/Bridge Footprint (Shade Impacts)

Project Study Boundary

Appriximate Parcel Boundary

Mean High Tide Line Elev 5.88ft

Mean Higher High Water Elev 6.62ft

2013 High Tide Line Elev 8.51ft

Trail Footprint Impacts

Freshwater Palustrine Emergent Ditch (4.8 sf)

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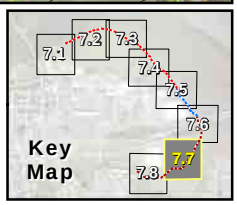

Paper Size ANSI A

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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

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number	8410915
Revision	B
Date	15 Jan 2014

Assumed Wetland Impacts

Figure 7.7

718 Third Street Eureka CA 95501 USA T 707 443 8326 F 707 444 8330 E eureka@ghd.com W www.ghd.com

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Data source: City of Eureka GIS: parcel layer; CPAD: Humboldt Bay Wildlife Refuge GIS layer. Created by:gldavidson

Trail Project Footprint (Permanent Impacts)

Boardwalk/Bridge Footprint (Shade Impacts)

Project Study Boundary

Appriximate Parcel Boundary

Mean High Tide Line Elev 5.88ft

Mean Higher High Water Elev 6.62ft

2013 High Tide Line Elev 8.51ft

Trail Footprint Impacts

Freshwater Palustrine Emergent Ditch (4.8 sf)

Estuarine Channel (371.9 sf)

Estuarine Saltmarsh (357.3 sf)

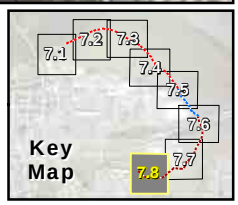
Salix hookeriana Shrubland Alliance (3,367.1 sf)

Trail Shade Impacts

Estuarine Channel (142.4 sf)

Estuarine Saltmarsh (6,258.5 sf)

Estuarine and Marine Deepwater (419.0 sf)



Paper Size ANSI A

0 25 50 75 100

Feet

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

N

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number	8410915
Revision	B
Date	15 Jan 2014

Assumed Wetland Impacts

Figure 7.8

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Data source: City of Eureka GIS: parcel layer; CPAD: Humboldt Bay Wildlife Refuge GIS layer. Created by:gldavidson

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Appendix B
Wetland Delineation

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City of Eureka

Waterfront Trail Phase C
Delineation of Wetlands

February 2014

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1. SUMMARY

On December 3, 5, 10, 11, and 13, 2013, and January 3, 2014, GHD Inc. (GHD) conducted an upland and wetland delineation for the City of Eureka Waterfront Trail, Phase C (EWfTPC). This linear project site is located within City of Eureka city limits, in Humboldt County, California (Figure 1, Appendix A) and consists of approximately 1.1 linear miles of property generally aligned along the Humboldt Bay waterfront.

Considering the extent of wetlands present on the project site due to alignment along waterfront property, the field effort and this report focus on delineation of the uplands boundary and extent of uplands in preparation for an anticipated permitting process. The upland delineation procedure was completed pursuant to the U.S. Army Corps of Engineers (USACE) 1987 Manual, *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coastal Regions (Version 2.0)* (USACE 2010), and California Coastal Commission (CCC) guidance for delineations. Methods used for upland delineations pursuant to the CCC are described below. The upland delineation by default additionally mapped the extent of wetland-type vegetation, hydric soils, and wetland hydrology present (both USACE and CCC wetlands). Additionally, vegetation alliances that did not occur in conjunction with hydric soils and/or wetland hydrology indicators were mapped if they are habitats that could potentially be considered Environmentally Sensitive Habitat Areas (ESHA) by the California Coastal Commission based on dominant species (i.e., Salix Series).

2. INTRODUCTION

This delineation report includes a discussion of site conditions, sampling methodology, sampling results, and conclusions as well as a map delineating proposed upland and wetland boundaries within the project study boundary (PSB). The area of investigation consists of evaluation of land (including optional alignments and staging area) that is being considered for development of the trail. The linear PSB spans approximately 1.1 miles from Tydd Street north to Front Street Drainage Channel near the Samoa bridge, within City of Eureka, Humboldt County, California (Figure 1, Appendix A). The area of investigation is within the City of Eureka limits as well as the Coastal Zone.

Land practices in the vicinity of the project area include historical industrial and commercial uses including lumber milling and storage, foundry and petroleum storage. Most portions of the project area are noted to be potential problematic areas (USACE 1987) due to the historically altered nature of the site. The area is further complicated due to seasonal nature of surface and/or groundwater and unusual absence of hydrology within 12 inches of the soil surface in the winter months.

A jurisdictional determination from the USACE and CCC is requested to seek concurrence with results reported herein and presented on the attached figures (Appendix A). The upland areas are predominantly ruderal non-native vegetation with areas of *Baccharis pilularis* Shrubland Alliance. Wetlands consist of a matrix of estuarine saltmarsh (NWI code E2EM1P), estuarine ditches (NWI code E1UBL), estuarine mudflats (NWI code E2US3N), and freshwater emergent ditches (NWI code PEM1C) (Cowardin 1979, National Wetlands Inventory 1987).

2.1 Project Study Boundary (PSB)

The Project Study Boundary (PSB) [presented on Figure Set 2, Appendix A] was developed to identify the likely limits of a potential trail alignment and alternate alignments options for planning purposes within which supporting studies would be conducted such as topographic survey, cultural/historic resources, areas of potential hazardous contamination (Phase I ESA), sensitive habitats, botanical surveys, and wetlands/uplands/Other Waters of the U.S./State delineation. The PSB was defined during the alignment selection phase of the project to include areas where it was anticipated the trail could feasibly be designed and constructed and where property owner access/concurrence was possible for field work purposes. For much of the potential trail corridor, the likely footprint and feasible optional footprints were established early in the study area selection process, but several parallel alignment options were available through several segments of the project alignment. For instance, in some areas, the trail could be placed in multiple alignment options for crossings of sloughs and drainages, boardwalks within known saltmarsh habitat, areas below the high tide line, and optional/supplemental connectivity locations to city streets and neighborhoods (i.e., supplemental as these areas are still under consideration, yet not guaranteed to be part of proposed project depending on multiple factors). Therefore, the PSB was established to cover the extents of known alignment options as well as adjacent lands that could be temporarily utilized during installation (for access, staging, equipment and material storage, etc.), and possible fill areas to bring the trail up to grade. Therefore, in some locations the study area is wide or branched because various viable options were thought feasible, while in other locations the study area is relatively narrow because a very limited set of practical options exist. Where possible, the PSB was selected to allow for flexibility in final design of the project footprint. Since the PSB varies in width throughout its length, it is not further described herein and the figure series should be referred to for the various widths of the PSB through the linear study area.

It should be noted that the PSB was expanded in some cases during the field data collection phase to capture the edge of adjacent wetlands/habitats if feasible and if it appeared that data in specific areas had potential implications for setbacks for the project. However, in most cases data collection was confined to the predefined PSB which had been with the intent of capturing presumed areas of anticipated potential impacts. In all cases, the presumed footprint of the trail, primary impact zone, and the areas of temporary impacts are contained within the project study area.

3. METHODOLOGY

The delineation of uplands and wetlands were conducted by GHD field teams of various combinations of two concurrent field staff, consisting of soil scientist (Lia Webb), ecologist (Stephanie Klein), botanist (Cara Scott), or environmental scientist (Anna Gower). The upland delineation and habitat mapping was conducted on December 3, 5, 10, 11, and 13, 2013 and January 3, 2014. The wetlands delineation followed the USACE criteria three-parameter approach from the most current USACE wetland delineation manual for the area, *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coastal Regions (Version 2.0)* (USACE 2010), and per California Coastal Commission wetland definition which relies on a one parameter approach. Wetland determination data sheets from the most current version of the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast* were used to document existing conditions for the field effort (USACE 2010).

Vegetation, soil, and hydrology data were collected at test pits/plots to typify areas with similar conditions of topography and vegetation communities in order to delineate the wetland/upland boundary and document existing representative conditions. The defined upland/wetland boundaries are presented in figures attached in Appendix A. Paired plots were located in transects perpendicular to the anticipated upland/wetland boundary and are identified on data sheets as W#T#-U (upland), or W#T#-W (wetland) to document conditions within the upland and corresponding wetland, respectively, as well as to narrow precision of upland/wetland boundary mapping. Boundary point that corresponds with upland/wetland transect plots are labelled similarly to corresponding plot data sheets, for example W#T#. Multiple individual upland test pits were installed adjacent to the High Tide Line (HTL) in the PSB to document the upland conditions and to verify that wetland conditions do not extend above the HTL. Upland confirmation points are provided as UP# and naming convention. Upland test pits in the staging areas were installing to verify the presence of upland conditions and use naming convention of S#.

Test pit/plots were evaluated at representative topographic positions to allow identification of upland areas and map corresponding boundaries to adjacent wetlands. The surfaces of the uplands were traversed by foot to ensure changes in wetland/upland conditions did not exist. Shifts in topography, soil, and/or vegetation were used to locate the wetland/upland boundary. In some places, a complex mosaic of wetlands and uplands were encountered and topographic elevation was utilized for definition of upland/wetland boundary. Considering a large part of the PSB borders wetlands, it was decided prior to conducting field work to use an approach of focusing on mapping upland features to delineate the boundary between wetland and upland habitats.

3.1 Botanical Methodology

Botanical/vegetation data collection consisted of listing the dominant species at each plot in each stratum layer. Species observed within a radius of five feet were listed in either the tree, shrub or herb stratum. The percent of absolute cover for each species was recorded along with their indicator status. Indicator status relied on using the standard reference for plant wetlands indicators, *Western Mountains, Valleys and Coasts Region- National Wetland Plant List Final Draft Ratings* (USACE 2012). This document classifies plants based on the probability of occurring within a wetland. Plants are given classifications ranging from Obligate (OBL--almost always in wetlands), Facultative/Wet (FACW--67% to 99% in wetlands), Facultative (FAC--34% to 66% in wetlands), Facultative/Up (FACU--1% to 33% in wetlands) to Uplands (UP--less than 1% in wetlands) (USFWS 1988; Lichvar 2013.). Plants listed as Non-indicators (NI) are not assigned a rating of wetland condition and are also included in the Uplands category. If greater than 50% of the dominant plant species at each plot are classified Obligate (OBL), Facultative/Wet (FACW), or Facultative (FAC), the vegetation is determined to be hydrophytic (wetland plants) so long as the plants are growing as hydrophytes.

3.2 Soils Methodology

The definition of a hydric soil is “a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part”. The USACE 1987 Manual procedures were combined with the Natural Resources Conservation Service’s (NRCS) definition of hydric soils presented in *Changes in Hydric Soils of the United States* and *Field Indicators of Hydric Soils in the United States* (U.S.D.A., 1995 and 2006, respectively), as well as most recent wetland guidance document *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region* (USACE 2010). The

regional supplement provides detailed descriptions of primary and secondary factors that help determine if wetland hydrology is present at a site. Soil data was recorded on data sheets from USACE manual and are provided in Appendix B (USACE 2010).

To evaluate the soil matrix and qualitatively describe the presence or absence of redoximorphic features, reductions and concentrations, soil pits were dug to an approximate depth of 14-18 inches. Data on soil color, texture and redoximorphic features was collected. Care was taken to observe mottling (iron concentrations), distinguish between chromas of 1 and 2, and determine the percentage of redoximorphic features in the soil. Redoximorphic features 2% and 5% are important thresholds for identification of hydric soils for both USACE and CCC delineation purposes.

Colors were described for the entire depth of the test pit. Colors were determined on moist ped surfaces which had not been crushed. To determine the soil matrix colors, mottle colors and mottle abundance, the *Munsell Color Chart* (Munsell Color 2000) was used. Soils with low chromas were verified as being hydric or upland using indicators for depleted matrix (F3) and redox dark surface (F6) for fine grained soils (USACE 2010).

3.3 Hydrology Methodology

One primary indicator or two secondary indicators are required to identify the presence of wetland hydrology. Direct evidence of ground water (soil saturation, standing water, etc.) was not present in wetland soil pits that delineate the upland boundary due to low rainfall conditions and implementation of field work to meet project required schedule. Therefore, other primary wetland hydrology indicators were relied upon to delineate the wetland boundary including Surface Water (A1), Algal Mat or Crust (B4), Sediment Deposits (B2), Drift Deposits (B3), and Oxidized Rhizospheres along Living Roots (C3). There were no secondary indicators of wetland hydrology recorded to determine wetland hydrology. Secondary indicators typically used to delineate wetland boundary in absence of primary indicators include: FAC-neutral test (D5), drainage pattern (B10), and water-stained leaves (B9).

Areas dominated by riparian species such as *Salix hookeriana*, yet which lacked wetland soils and hydrology, were mapped according to vegetation series, *Salix hookeriana* Shrubland Alliance (Sawyer 2009) While these areas do not meet definition of a wetland, and the vegetation is not growing as hydrophytes corroborated by absence of hydric soils and wetland hydrology indicators, these areas may be considered ESHA by the CCC.

3.4 Wetland Determination

The wetland boundary was evaluated using the USACE (three-parameter) and/or Coastal Commission (one-parameter) methodologies. The wetland determination was made with an emphasis on redoximorphic soil features and presence of hydrophytic vegetation. Due to the site being within the Coastal Zone, areas were identified where the existence of at a minimum of one wetland indicator was present. Within the Coastal Zone, an area was determined to be uplands based on absence of all three wetland indicators (vegetation/soil/hydrology). An attempt was also made to concurrently satisfy the USACE three-parameter definition in mapping of the wetland/upland boundary to eliminate confusion in mapping and permitting that might result with multiple wetland boundary lines. Wetland plots exhibited a predominance of facultative (FAC) or wetter vegetation and all upland plots exhibited predominance of facultative-up (FACU) or drier vegetation within the Coastal Zone.

Once wetland and upland characteristics were determined for each transect and test pit, the horizontal location of the upland/wetland boundary were recorded, or where not paired, the location of test pit was recorded using a handheld Trimble GPS unit with sub-meter accuracy. Flags were not placed in most areas with active land-use. The delineated boundaries can be relocated with the handheld Trimble GPS; therefore, flagging of the boundaries was not conducted.

Additionally, riparian type vegetation species that were not mapped as wetlands (i.e. lacked wetland soils and hydrology) was recorded at the average drip line. In the Coastal Zone, the riparian areas could be considered jurisdictional by the Commission as either ESHA and/or possibly even one-parameter coastal wetlands (despite the fact the plants are not growing as hydrophytes due to absence of wetland soils and hydrology). These areas are described as transitional habitat on the upland edge of wetland areas and are categorized as coastal dune willow thickets (*Salix hookeriana* Shrubland Alliance) (Sawyer 2009).

Other Waters of the U.S. (Tidal)

The project alignment crosses three slough channels (First Slough, Target Slough and Wedge Slough), parallels an additional slough (Second Slough) and borders Eureka Slough which is a tributary to Humboldt Bay. These channels are tidally influenced due to proximity to Humboldt Bay with portions of these within limits of PSB.

The use of the mean higher high water (MHHW) line (calculated) and predicted 2013 High Tide Line (HTL) were used as estimates of boundary between tidal wetlands and upland areas prior to conducting field work. Under Section 10 of the Rivers and Harbors Act of 1899 for activities in navigable waters, the limits of USACE jurisdiction is defined at Mean High Water (MHW).This measurement is documented by NOAA as 2.029 meters MLLW datum (6.66 feet MLLW) at the Eureka Slough benchmark (Station ID 9418801) [= 5.88 feet NAVD88 with 0.235 m / 0.77 feet conversion factor reported by NOAA for this Station]. Under Section 404 of the Clean Water Act, the limits of USACE jurisdiction is defined at the High Tide Line (HTL), which is a site-specific elevation related to the observed level of high tide, indicators such as drift deposit, bench, change in vegetation, absence of vegetation, and/or presence of saltmarsh/estuarine wetlands. The HTL can be estimated at the Mean Higher High Water (MHHW) elevation which is the average high tide elevation calculated from historical Station records and should give a general idea of where the HTL should generally expected to be minus king tides and storm surges (pers. com., April 14, 2010, Mr. Kelley Reid USACE). Other information from the USACE regulatory website provided in chart and figure format infers the HTL 404 jurisdictional limit at to be indicated as the “highest annual tide”. For 2013, the highest annual predicted tide is reported to be 8.51 feet NAVD88 according to NOAA 2013 tide charts. The USACE website excludes king tides and storm surges from being definitive limits of jurisdiction, unless observed in conjunction with other indicators such as benching or saltmarsh vegetation as described above (USACE 2013).

For many project sites, the average annual high tide (MHHW) is relatively consistent with site conditions depending on site bathymetry/topography. For other sites, the MHHW being an average high tide elevation by definition and may not entirely encompass the limits of USACE jurisdiction. In these cases, the HTL may be determined in the field to extend higher than the MHHW based on observations such as extent of saltmarsh vegetation, benching, and frequent debris deposit.

Within the HTL, “Other Waters of the U.S.” (Tidal) includes limits of unvegetated mud flats, open water, and tidal portions of creeks/sloughs that do not need to be specifically differentiated unless project needs require such differentiation (pers. com., April 14, 2010, Mr. Kelley Reid USACE).

Special habitat areas within the HTL such as vegetated saltmarsh and eel grass beds should be designated and are not included within definition of “Other Waters” (pers. com., Mr. Kelley Reid).

With relevancy to the currently proposed project, previous USACE 404 permit applications for the nearby Woodley Island Marina (by Pacific Affiliates) designates for permitting purposes, the limits of USACE jurisdiction to be approximately at the MHHW of 6.5 feet (MLLW datum). For the current phase of the EWfTPC, data from the NOAA Eureka Slough tidal datum station was used to determine MHHW to be approximately 6.62 feet NAVD88 as follows with conversions provided in Table 1. Additionally, for permitting purposes and efficiency prior to conducting field work, the HTL was also estimated per language on USACE charts and figures on regulatory page at the “highest annual tide” and results of which indicates possible limits of jurisdiction as high as 8.51 feet NAVD88 (per NOAA tide chart predictions for 2013).

Therefore, for the purposes of this study, the limits of USACE jurisdiction prior to field work was estimated at the predicted 2013 highest annual tide of 8.51 feet NAVD88, but could vary above or below this line depending on site-specific conditions. Field efforts were conducted to either validate this assumption and/or map variation to this assumption and included limits of adjacent palustrine and estuarine wetlands that extend above the estimated HTL.

Table 1: Tidal Data and Conversion at Eureka Slough NOAA Station ID 9418802

	MLLW datum	MLLW datum	NAVD88 datum	NAVD88 datum
	Meters (m.)	Feet (ft.)	Meters (m.)	Feet (ft.)
MHW	2.03	6.66	1.79	5.88
MHHW	2.25	7.39	2.02	6.62
HTL				8.51
MHW is limits of USACE Section 10 jurisdiction HTL is limits of USACE Section 404 jurisdiction				

4. RESULTS

Much of the vegetation has been altered through long-term urban and industrial land uses practices and consists of predominantly non-native and disturbance-oriented species. Most of the project area consists of human-altered soils from dredge spoils, railroad development, berm/dike installation and manipulation, urban and industrial development, and wastewater treatment infrastructure. Few natural soil conditions were noted. The natural hydrology is assumed to have also been altered in some areas from historical dike construction and conversion of land to commercial and urban uses.

The upland/wetland delineation field results are presented on Figure Set 3 (Appendix A).

4.1 Vegetation

Throughout the PSB, dominant species along the upland edges consist of coyote bush (*Baccharis pilularis* ssp. *consanguinea*, NL), California blackberry (*Rubus ursinus*, FACU), Himalayan blackberry (*Rubus armeniacus*, FACU) and twinberry (*Lonicera involucrata* var. *ledebourii*, FAC). In addition, most upland sample points include dominant herbaceous species such as velvet grass (*Holcus lanatus*, FAC), bird’s-foot trefoil (*Lotus corniculatus,* FAC), fennel (*Foeniculum vulgare*, NL), black medick (*Medicago lupulina*, FACU) and sweet vernal grass (*Anthoxanthum odoratum*, FACU).

In the estuarine saltmarsh areas, dominant species include non-native cordgrass (*Spartina densiflora*, NL) and fat-hen (*Atriplex prostrata*, FAC) as well as natives including pickleweed (*Sarcocornia pacifica*, OBL) and tufted hairgrass (*Deschampsia caespitosa*, FACW).

4.2 Soil

Soils within the saltmarsh areas met soil hydric parameter for depleted matrix (F3), with matrix colors consisting of 2.5Y 4/2 with redoximorphic features meeting depth and thickness requirements for Depleted Matrix (F3) consisting of 7.5YR 4/6, Soil textures ranged from silt loam to sandy loam and sand. Other wetland areas met criteria for Redox Dark Surface (F6) with matrix colors 10YR4/1 and redoximorphic features of 7.5YR 3/3 beginning within 12 inches of the surface and meeting thickness requirements. In general, upland soils associated with transects had too high of chroma to meet wetland indicators. Where lower chromas were present, they did not have redoximorphic features present, or redoximorphic layer did not meet depth and/or thickness requirements to qualify for wetland indicator.

4.3 Hydrology

The field work was conducted in the fall to early winter during a dry winter prior to onset of normal wet season conditions. Primary indicators that were utilized as indicators of seasonal wetland hydrology during a normal year consisted of Surface Water (A1), Water Marks (B1) and Drift Deposits (B3). Other site specific conditions/observations such as pedestalled plants, proximity to sloughs and presence of established saltmarsh vegetation, coupled with areas of strong redoximorphic soil features that meet hydric soil indicators and indicate the site would likely be saturated for a portion of the wet season in a normal year. Two secondary wetland hydrology indicators, FAC neutral test (D5) and Geomorphic Position (D2), were observed.

4.4 Wetland Habitats

4.4.1 Estuarine Saltmarsh

Present at the margins of Humboldt Bay, Wedge Slough, Second Slough, First Slough, and Target Slough, areas with estuarine saltmarsh are subject to tidal inundation with some fresh water influence when located within tidal parts of creek mouths/estuaries. These areas are exposed at low tides and some high tides depending on elevation. This wetland type contains herbaceous, salt-tolerant hydrophytes forming moderate to dense cover. The hydric soils are subject to regular tidal inundation by salt water for at least part of each year. These areas are classified as Estuarine Saltmarsh (E2EM1P) per standard wetland classification system (Cowardin 1979). The majority of these wetlands are encompassed within the HTL elevation of 8.51 ft. with the exception of the following:

(1) Wetland 1 is located south of Highway 101 overpass and adjacent to intersection of First Slough with Eureka Slough where estuarine vegetation, hydric soils, and secondary wetland hydrology indicators extends above the HTL onto a gentle bench and creeps up to the toe of slope along the base of highway footprint (Figure 3.6, Appendix A). This area is small and representative upland/wetland conditions are documented by W1T1-U and W1T1-W, respectively. Numerous intermediate plots were conducted to allow for extrapolating.

(2) Wetland 2 is located within a small area to the west of Wedge Slough and extends above the HTL connects to expansive saltmarsh system referred to for the purposes of this study as the "Blue Ox Lowlands" (Figure 3.2, Appendix A). This area is typified by representative plots W2T1-U and W2T2-W associated with upland delineation of UP-4.

(3) Wetland 3 is situated north of the Blue Ox Mill and adjacent to the Blue Ox Lowlands and extends above the HTL (Figure 3.4, Appendix A). Estuarine vegetation was dominant by halophytes and soil composition is typical of estuarine conditions. Test pits, W3T1-U and W3T1-W document the upland and wetland plots, respectively.

4.4.2 Estuarine Ditch

Estuarine ditches observed in the PSB are isolated from direct tidal influence. Some portions of the estuarine ditch receive subsurface saltwater infiltration, have remnant saline conditions, or receive only occasional saltwater input during high-tide storm events. Infrequently, areas of the ditch are classified as Estuarine Emergent wetland based on vegetation, but are considered marginal/non-habitat for the CNPS-listed saltmarsh plant species and have been designated as a separate wetland habitat type. Although, according to USFWS designation, this area is classified as Estuarine Emergent (same as saltmarsh designation) (Cowardin, 1979). Vegetation within the ditch supports some brackish species but has limited diversity.

4.4.3 Freshwater Emergent Ditch

These areas consist of stormwater conveyance man-made ditches that in some cases are established with palustrine emergent vegetation. These areas are unlikely to be considered USACE jurisdictional nor possibly CCC based on the man-made nature of the ditches and absence of permanent or seasonal wetland hydrology. The ditches were observed to have ephemeral water that was directly related to storm events.

4.5 Uplands

Within the delineated upland areas, an additional eight upland plots (UP1 through UP8) were evaluated (besides the upland plots associated with transects) within the PSB. Several distinct upland areas were identified and mapped and are described below (as represented by plots UP1 through UP3). Upland 1 is associated with the Pump Station. Uplands 2 and 3 are small micro topographic high areas surrounded by saltmarsh in the Blue Ox lowlands, and are dominated by upland coastal scrub in conjunction with upland soils (these areas are also just above the designated HTL for the PSB based on the topographic map for the PSB). Representative upland test pits (UP4 through UP-8) were evaluated to document upland conditions above the HTL (and confirm wetland characteristics did not extend above the HTL) within representative portions of the site. Distinct upland areas are further described below.

4.5.1 Upland 1

This upland area (UP 1) near the pump station above the HTL was identified as having non-native vegetation, loam/sandy loam soils with matrix 10 YR 2/2 with absence of redoximorphic features in upper profile and a lack of hydric soil indicators or hydrologic indicators (Figure 3.7, Appendix A). Dominant vegetation within the herb stratum consisted of rose clover (*Trifolium hirtum*) and spurrey (*Spergularia arvensis*); both plant species that are not listed on the *Western Mountains, Valleys, and Coast 2013 Regional Wetland Plant List*; thus considered upland as well as dock (*Rumex conglomeratus*) which is listed as FACW. The upland area did not meet indicators due to high

chroma and variation was a thick enough layer to be even considered a redox feature. This area is typified by representative plot, up-1.

4.5.2 Upland 2

An area (UP 2) consisting of upland coastal scrub was identified to the north of the "Blue Ox Lowlands" (Figure 3.3, Appendix A). This area has vegetation consistent with the *Baccharis pilularis* Shrubland Alliance with dominant species such as tufted hair grass (*Deschampsia caespitosa*, FACW), California blackberry (*Rubus ursinus*, FACU), and twinberry (*Lonicera involucrata* var. *ledebourii*, FAC). *Baccharis pilularis ssp. consanguinea* is not listed on the *Western Mountains, Valleys, and Coast 2013 Regional Wetland Plant List*; thus given an upland classification. This feature contains loam/silt loam textured soils with 0-1 inches 10YR 2/2, 2-5 inches 5Y4/2 and 5-18 5Y4/2. Redox features had 2.5Y 4/4 color in 5% of the soil matrix. Further, no wetland hydrology indicators were observed.

4.5.3 Upland 3

The third upland area (UP 3) located during survey efforts was located on the coastal terrace of the Shoreline parcel (Figure 3.1, Appendix A). Dominant plant species in the shrub and herb stratum consist of salt rush (*Juncus breweri*, FACW), Himalayan blackberry (*Rubus armeniacus*, FACU) and sweet vernal grass (*Anthoxanthum odoratum*, FACU), velvet grass (*Holculs lanatus*, FAC) and lastly, cranesbill (*Geranium dissectum*, NL). Only one of the three dominant species, salt rush (*Juncus breweri*, FACW), is listed as OBL, FACW or FAC. Soil profile consisted of sandy loam/sand with color matrix of 2.5Y 3/2 and no redox. No wetland hydrology indicators were observed.

4.5.4 Uplands Above HTL

The remainder of the upland areas as documented by plots UP4 through UP8 are primarily dominated by disturbance oriented non-native vegetation with well drained soils or compacted engineered historic fill from former developments, existing roads, etc. GHD determined these areas to not be wetlands based on the presence of upland vegetation, imported soils that did not meet wetland indicators, and lack of wetland hydrology indicators. Soil characteristics did not meet wetland indicators because they either had high chroma, did not meet F3 indicator because layer with redoximorphic features did not meet thickness criteria, and/or did not meet F6 indicator because soil values were too low to qualify for this indicator. The datasheets and results of these test pits are attached (Appendix B).

5. CONCLUSIONS

The wetland delineation was performed during December 2013 and January 2014 on property proposed for trail alignment within the city limits of Eureka, California. The wetland delineation determined the extent of wetland-types based on the extent of wetland-type vegetation, hydric soils, and wetland hydrology in support of the Coastal Commission and USACE wetland definitions as the PSB is within the Coastal Zone and the City of Eureka. The PSB was determined to consist of a total of three jurisdictional wetland areas: estuarine saltmarsh, estuarine emergent ditch, and freshwater emergent ditch. Additionally, three (3) “Other Waters of the U.S./State (Tidal)” are present within the PSB and subject to primary jurisdiction. All of the delineated wetlands are USACE jurisdictional three-parameter wetlands and are within the Coastal Zone.(one-parameter riparian in the Coastal Zone was mapped as separate habitat type to meet Commissions requirements).

Table 2 Summary of Wetland Results

	Army Corp (USACE)/ Coastal Commission (CC) Jurisdiction within the PSB	
Type	**Square Feet**	**Acres**
Estuarine Saltmarsh	162,303	3.73
Estuarine Ditch	4581	0.11
Freshwater Emergent Ditch	5157	0.12
TOTAL	**172,041.0**	**3.96**

6. SPECIAL TERMS AND CONDITIONS

To achieve the delineation objectives stated in this report, conclusions are based on the information available during the period of the investigation, December 3, 5, 10, 11, and 13, 2013, and January 3, 2014, and subsequent data supplied by the USACE. This report does not authorize individuals to develop, fill or alter the wetlands delineated. Verification of the delineation by jurisdictional agencies, including the USACE, CCC, and Humboldt County, is necessary prior to the use of this report for site development purposes. Permits to affect wetlands must be obtained from the involved government agencies. If permits are obtained to develop the delineated wetlands after agency review, and with written verification, the delineation is given a 5-year expiration period. If filling is used under permitted authority, care should be given to maintain and sufficient quantity of fill to prevent a reestablishment of wetlands. Land use practices and regulations can change thereby affecting current conditions and delineation results.

This report was prepared for the exclusive use of City of Eureka. GHD is not liable for any action arising out of the reliance of any third party on the information contained within this report.

7. REFERENCES

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Appendices

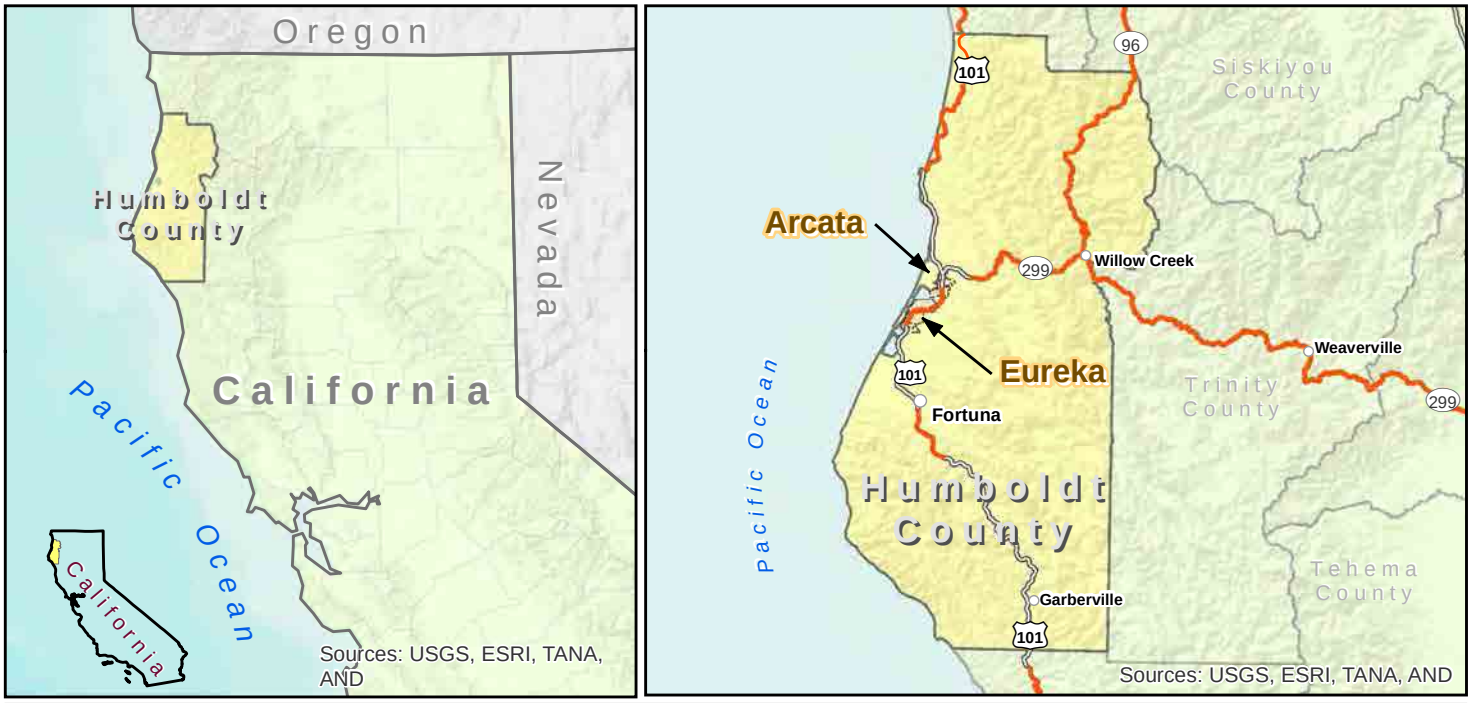
Appendix A - Figures

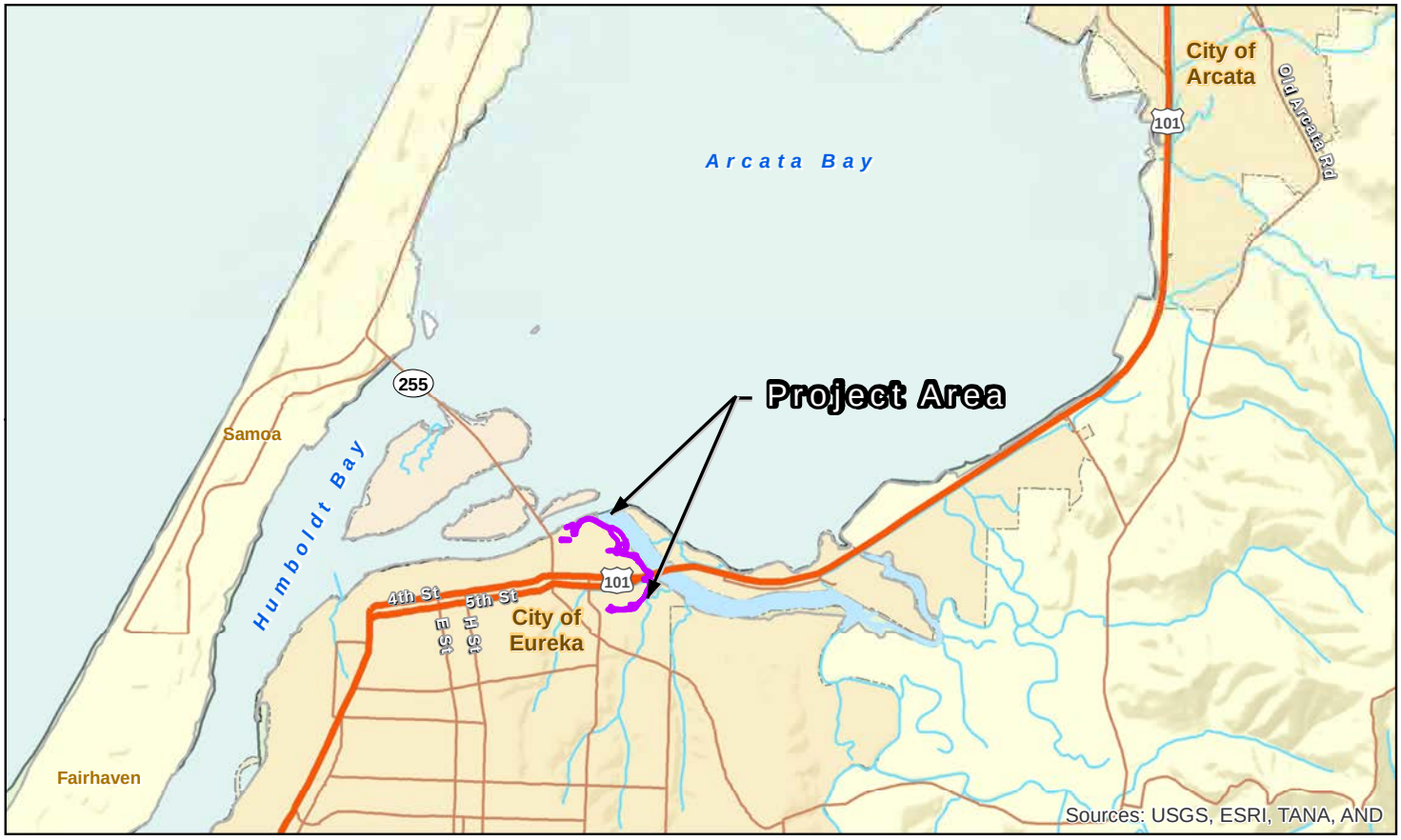
Figure 1 – Vicinity and Location

Figure Set 2 – Project Study Area

Figure Set 3 – Wetland Delineation

Figure 4 – USGS Topographic Map





Freeway
Highway
Major Road
Streams
City Limits
Humboldt County
Counties
Project Study Boundary

1: 72,000 @ 8.5' X 11' (ANSI A)
0 2,000 4,000 6,000 8,000
Feet
Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision B
Date 15 Jan 2014

Vicinity and Location

Figure 1

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718 Third Street Eureka, CA 95501 T 707 443 8326 F 707 444 8330 E eureka@ghd.com W www.ghd.com

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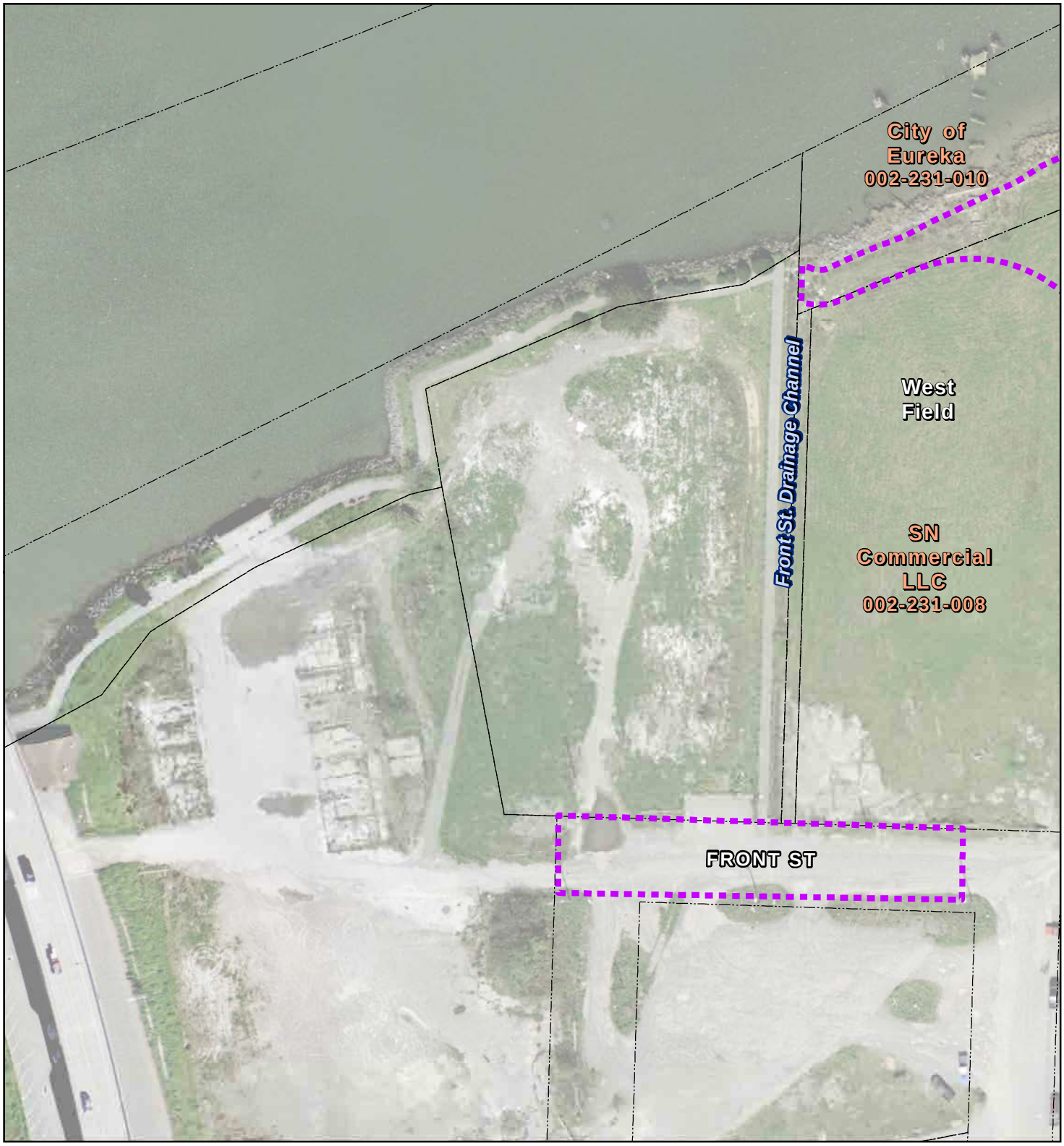
Data source: ESRI: Street Map USA. Created by:gldavidson



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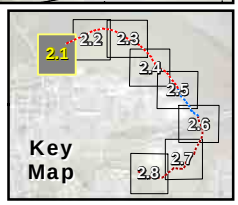

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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

City of Eureka
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Date	15 Jan 2014

Project Study Area

Figure 2.1

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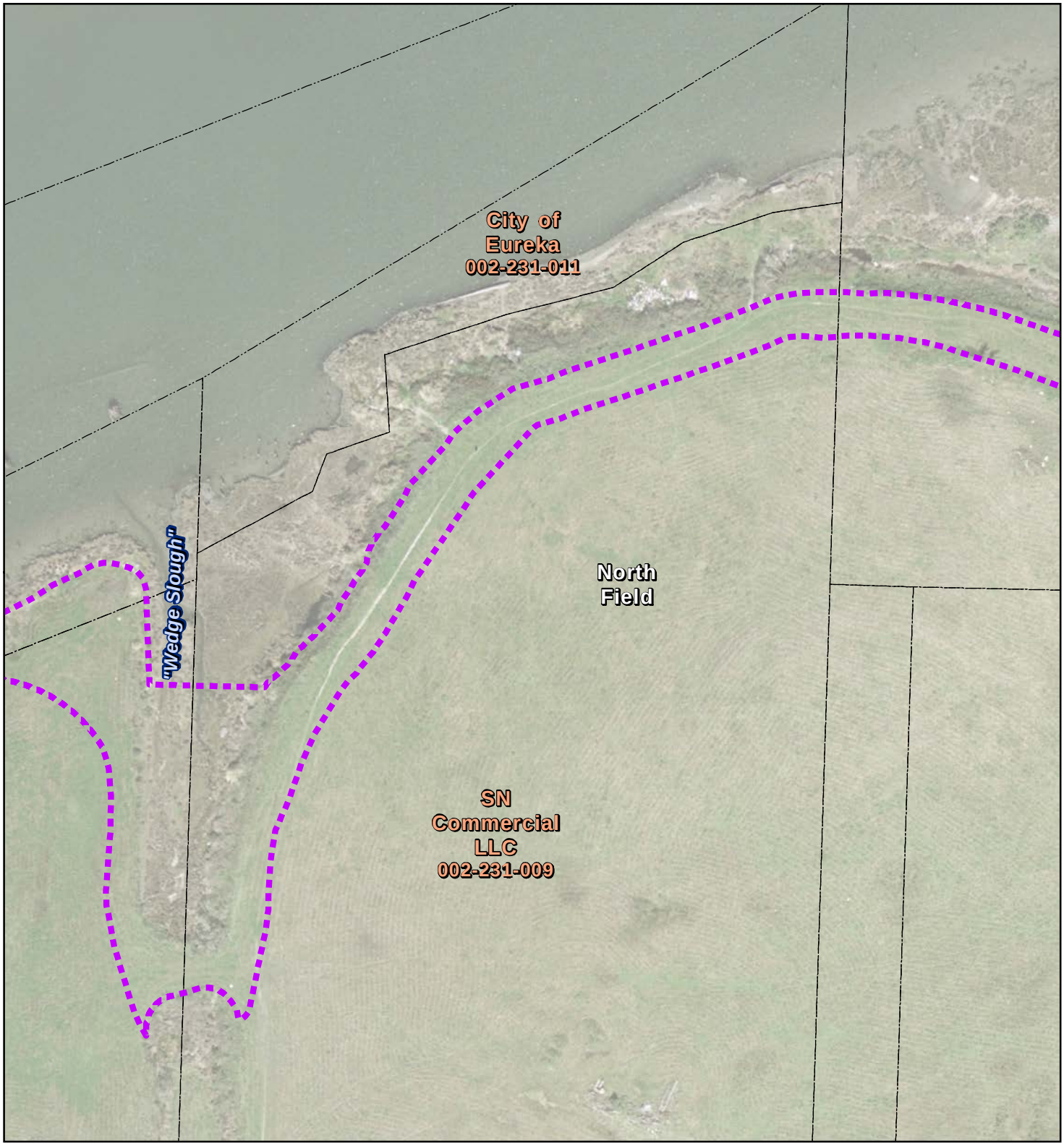

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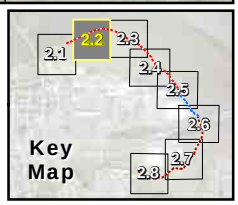

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City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

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Figure 2.2

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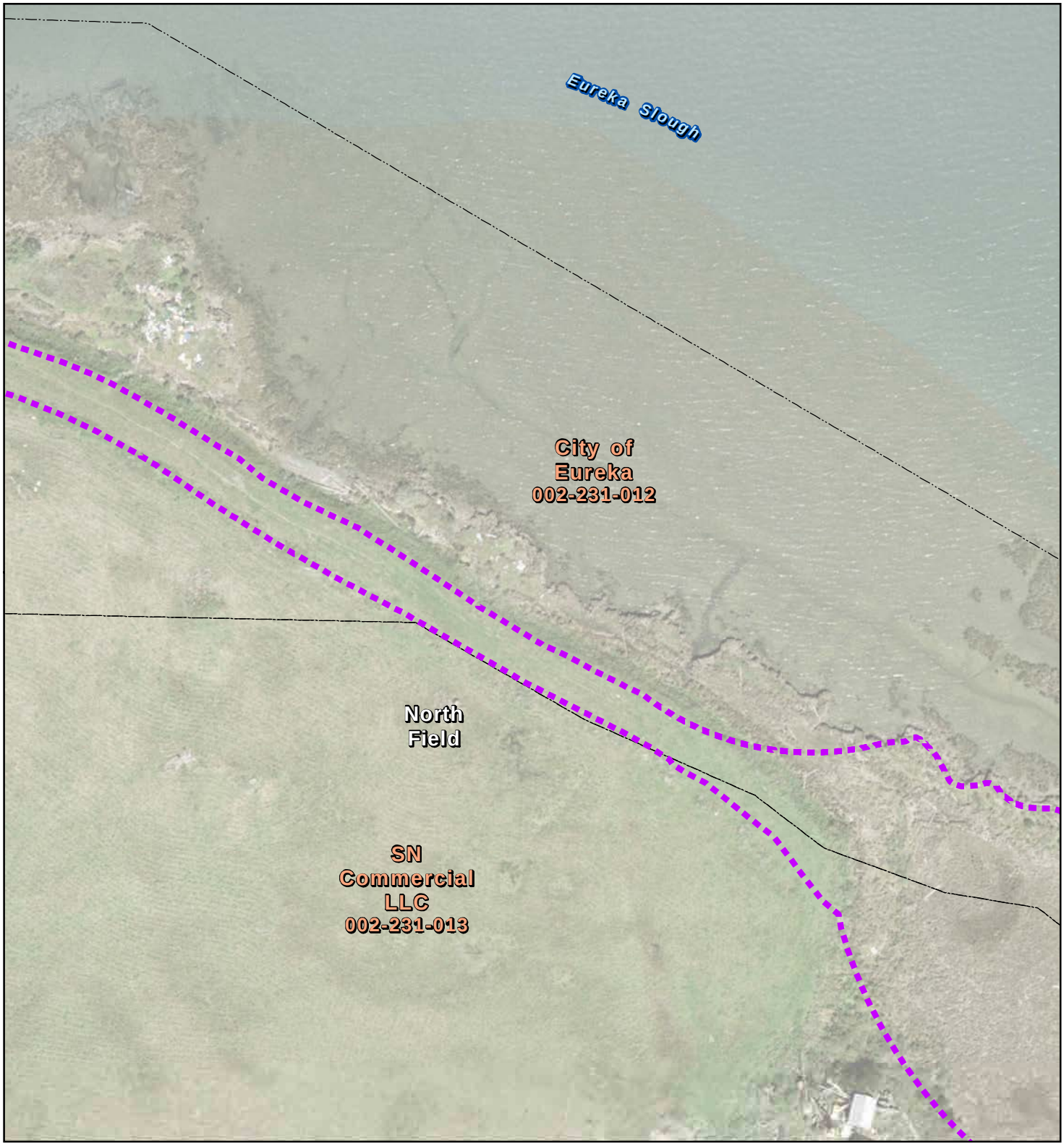

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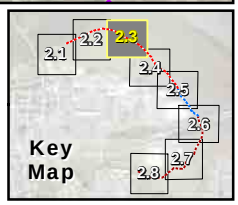

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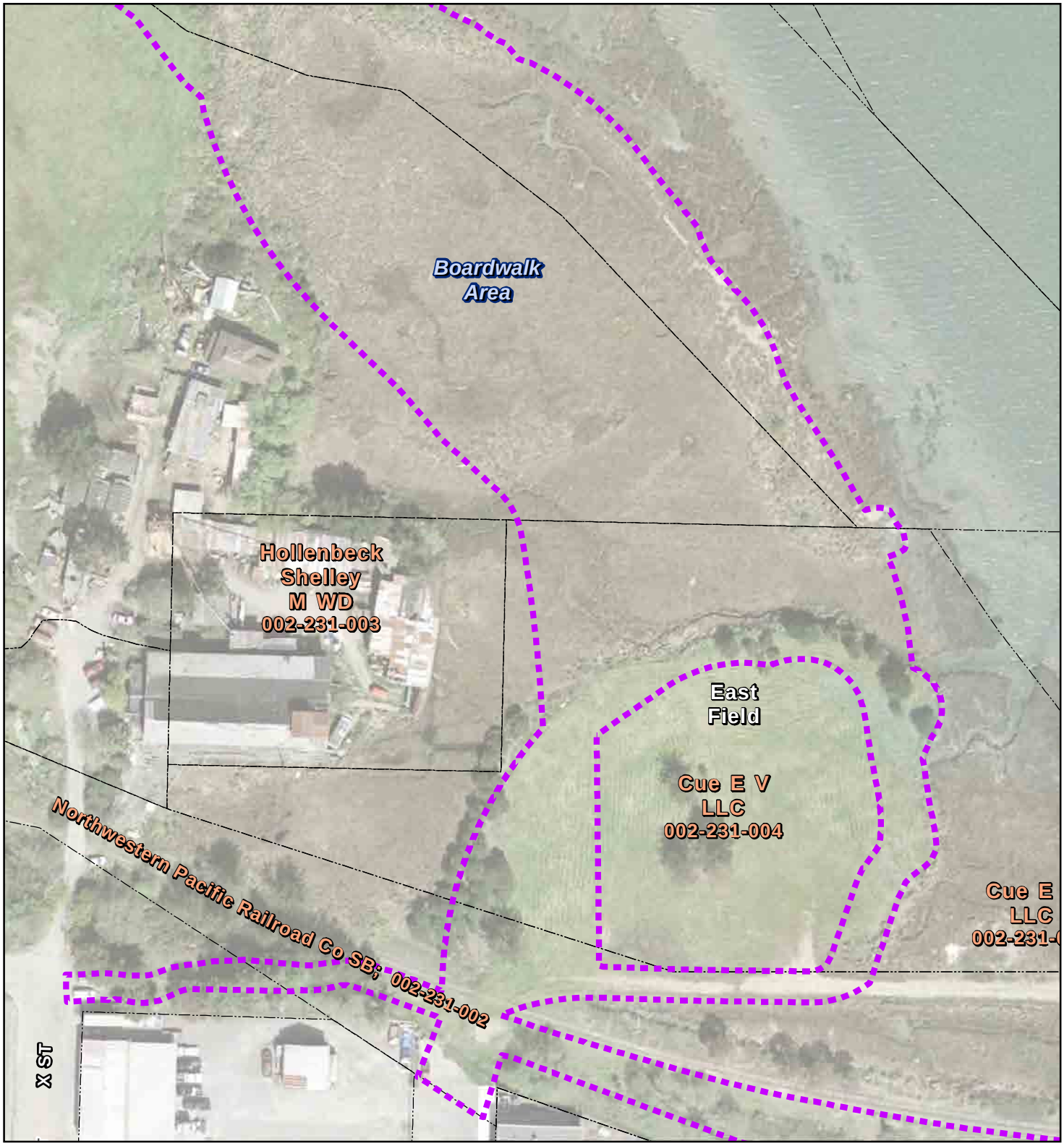

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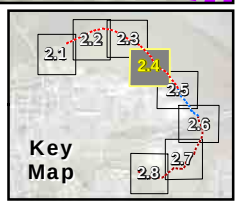

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Figure 2.4

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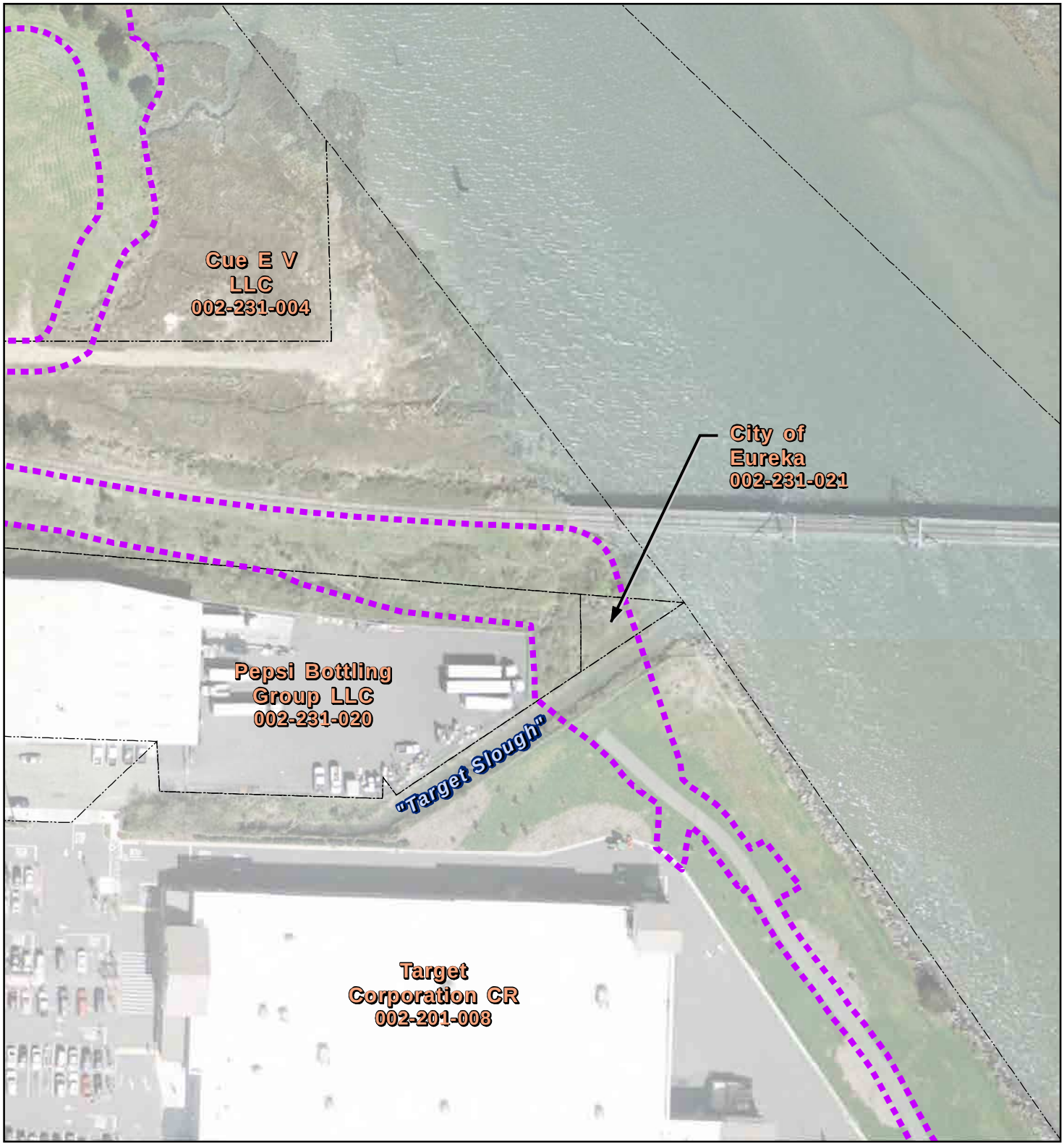

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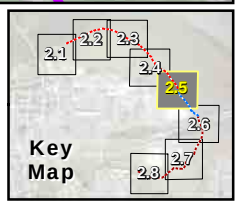

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Figure 2.5

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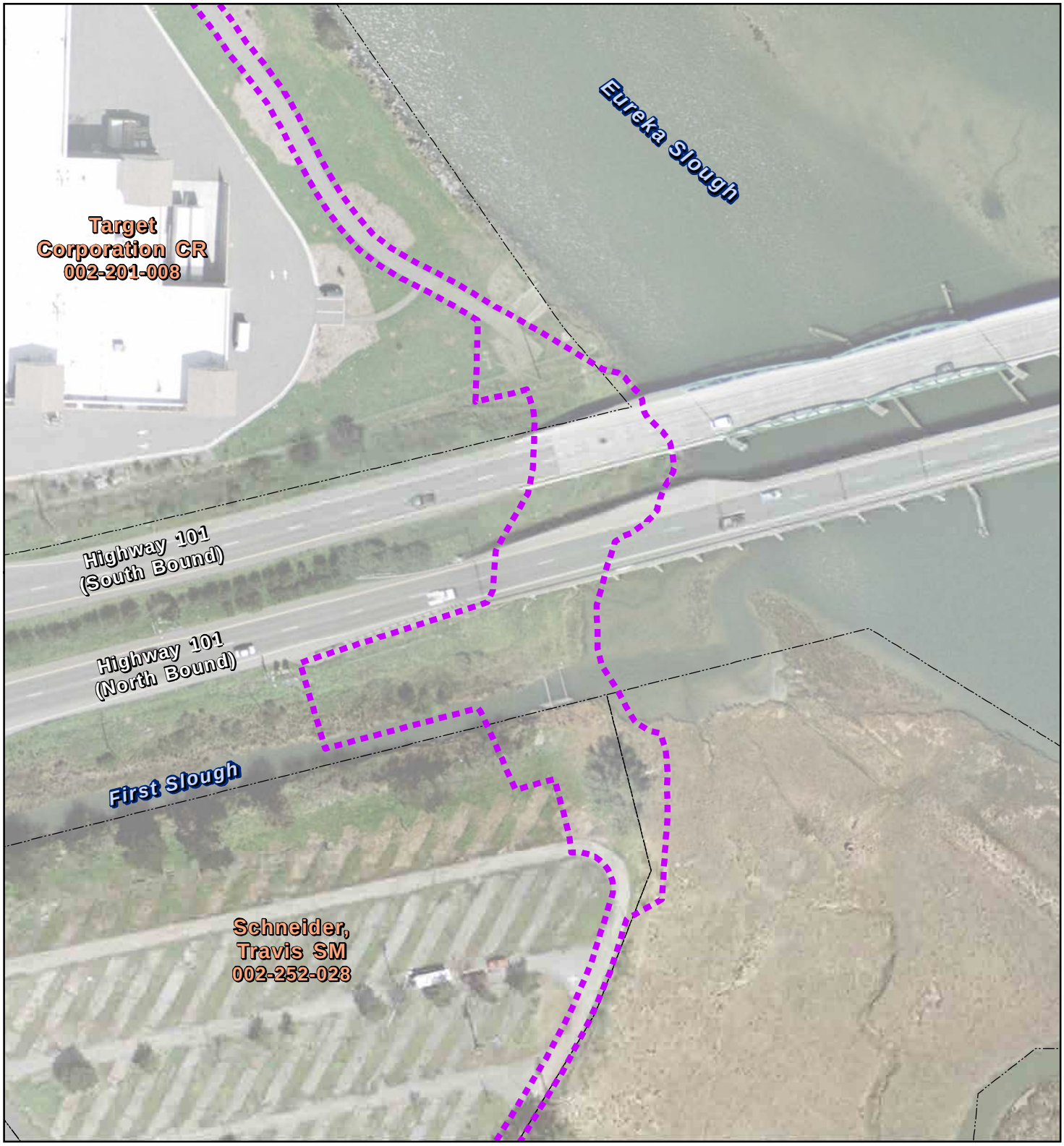

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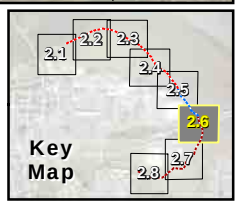

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Figure 2.6

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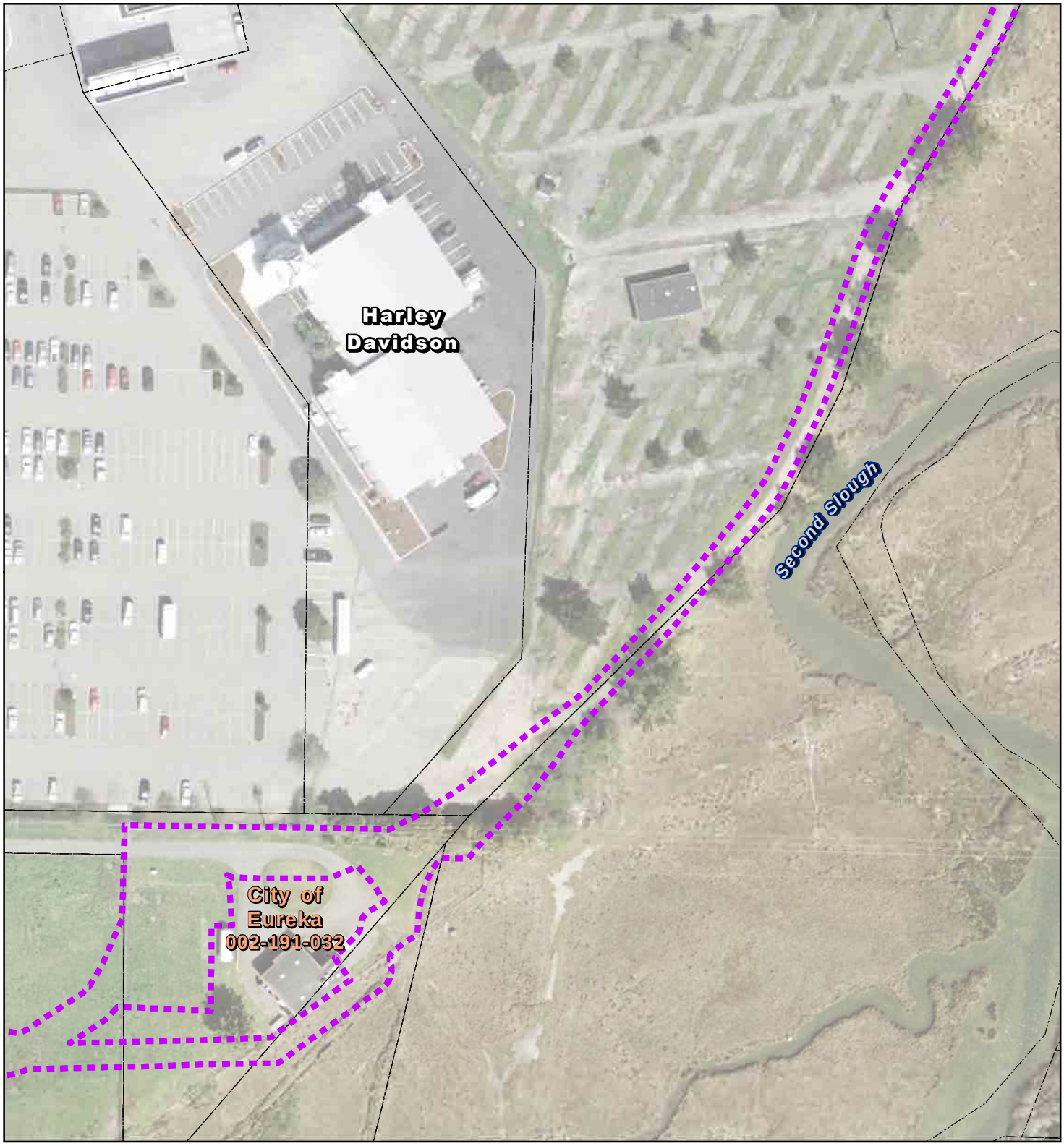

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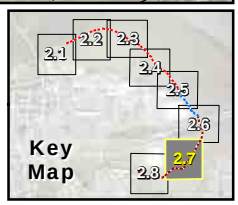

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City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number	8410915
Revision	B
Date	15 Jan 2014

Project Study Area

Figure 2.7

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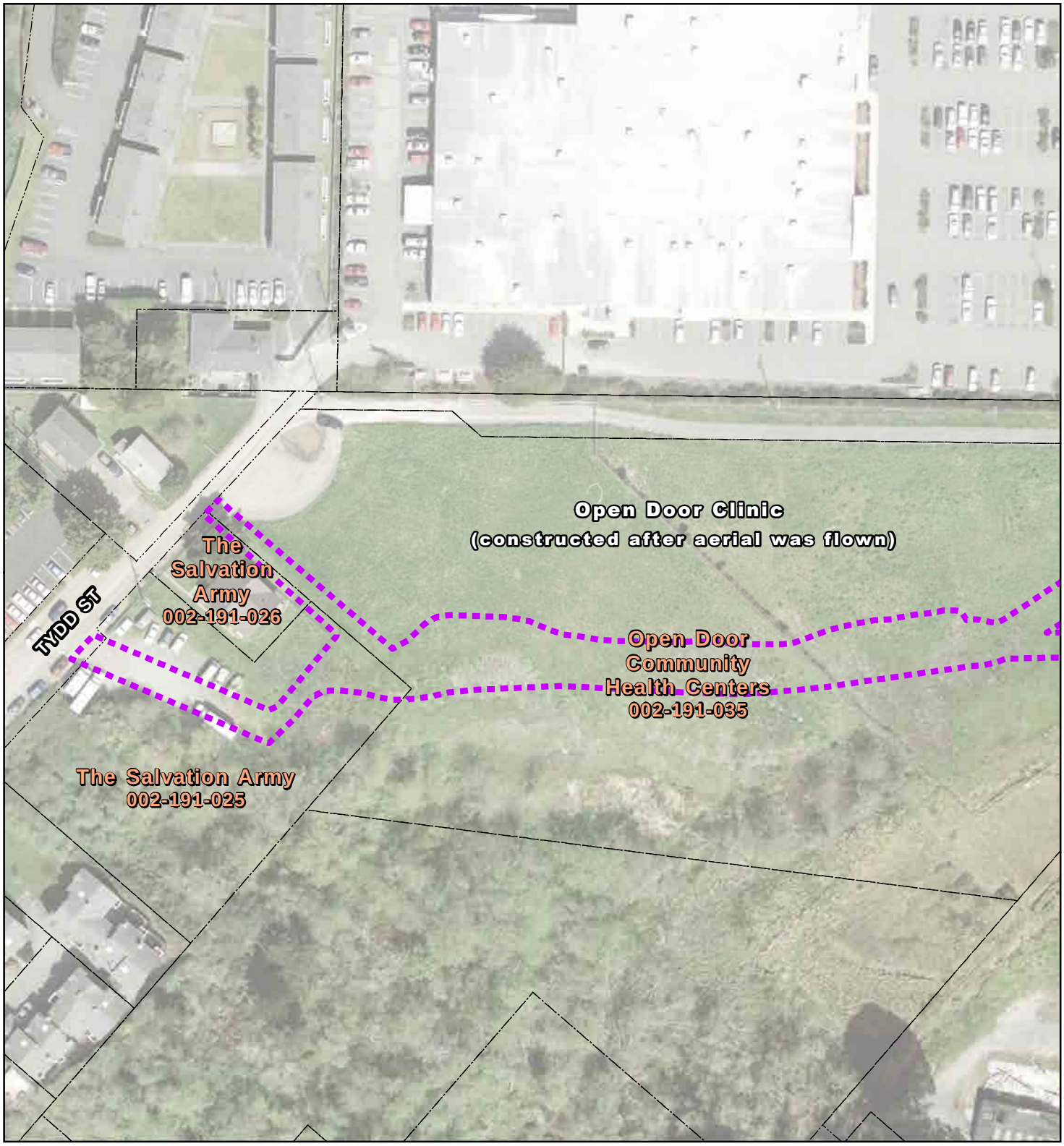

Project Study Boundary

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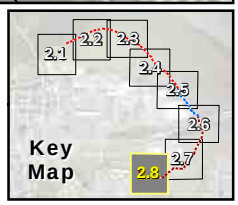

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City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number	8410915
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Date	15 Jan 2014

Project Study Area

Figure 2.8

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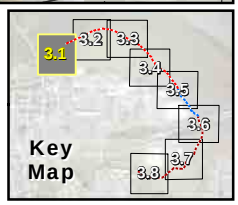
Data source: City of Eureka GIS: parcel layer and 1/2 ft resolution aerial; CPAD: Humboldt Bay Wildlife Refuge GIS layer. Created by:gldavidson

Transect
Upland Test Pit
Staging - Temporary Impacts
Approximate Parcel Boundary
Project Study Boundary
Mean High Tide Line Elev 5.88ft
Mean Higher High Water Elev 6.62ft
2013 High Tide Line Elev 8.51ft

1 Parameter Wetland
Salix hookeriana Shrubland Alliance

3 Parameter Wetland
Freshwater Palustrine Emergent Ditch (PEM1C)
Estuarine Channel (E1UBL)
Estuarine Saltmarsh (E2EM1P)
Estuarine and Marine Deepwater (E1UBL)



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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision B
Date 15 Jan 2014

Wetland Delineation

Figure 3.1

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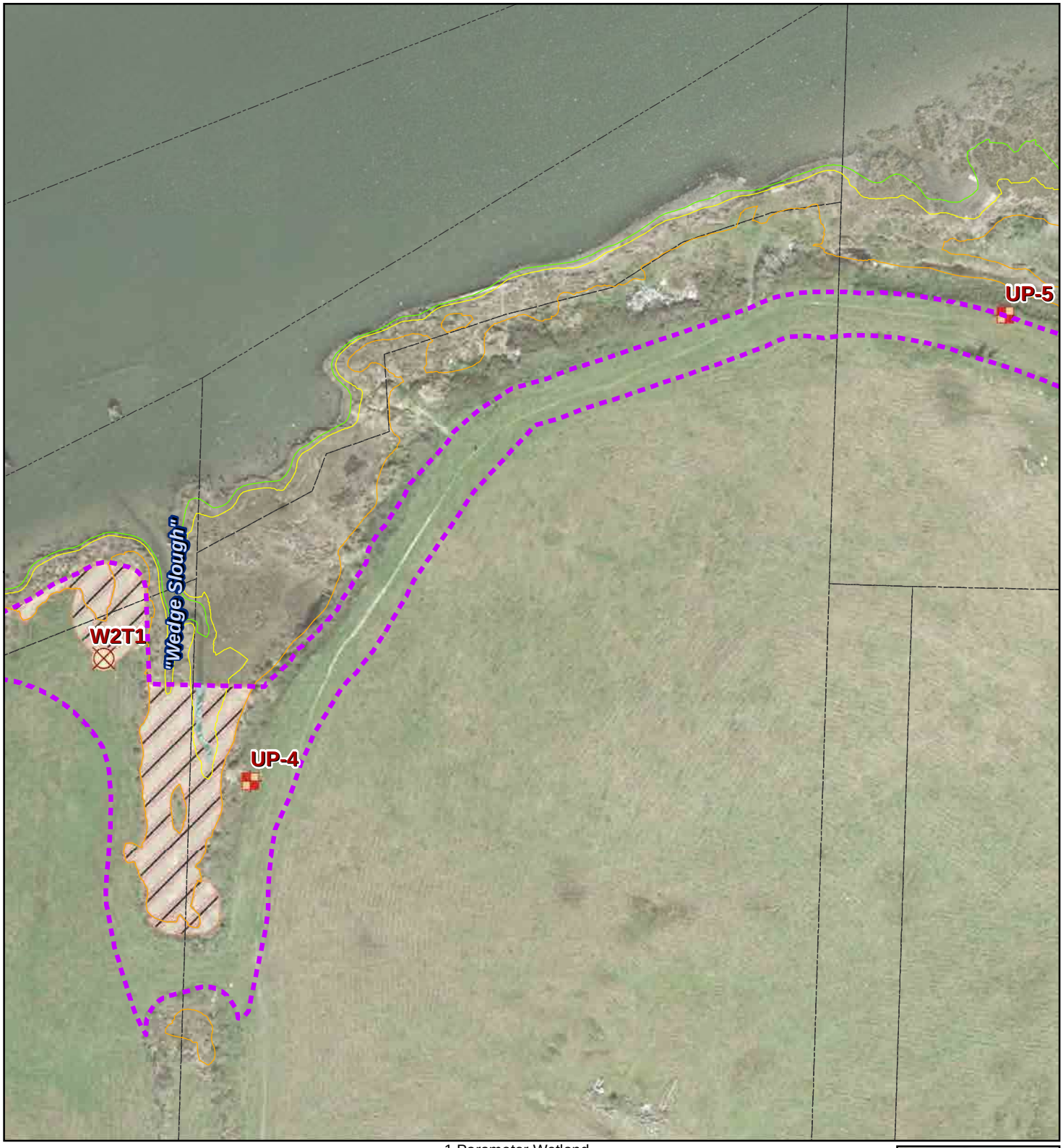
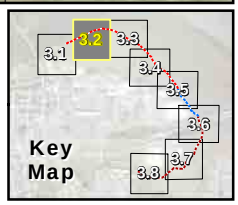


Transect
Upland Test Pit
Staging - Temporary Impacts
Approximate Parcel Boundary
Project Study Boundary
Mean High Tide Line Elev 5.88ft
Mean Higher High Water Elev 6.62ft
2013 High Tide Line Elev 8.51ft

1 Parameter Wetland
Salix hookeriana Shrubland Alliance

3 Parameter Wetland
Freshwater Palustrine Emergent Ditch (PEM1C)
Estuarine Channel (E1UBL)
Estuarine Saltmarsh (E2EM1P)
Estuarine and Marine Deepwater (E1UBL)



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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

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision B
Date 15 Jan 2014

Wetland Delineation

Figure 3.2

718 Third Street Eureka CA 95501 USA T 707 443 8326 F 707 444 8330 E eureka@ghd.com W www.ghd.com

G:\01052 City of Eureka\8410915 Eka-Wtrfrnt Trail PhsC PA-ED\08-GIS\Maps\Figures\NEPA\F3_MB_Wetland_Delineation.mxd

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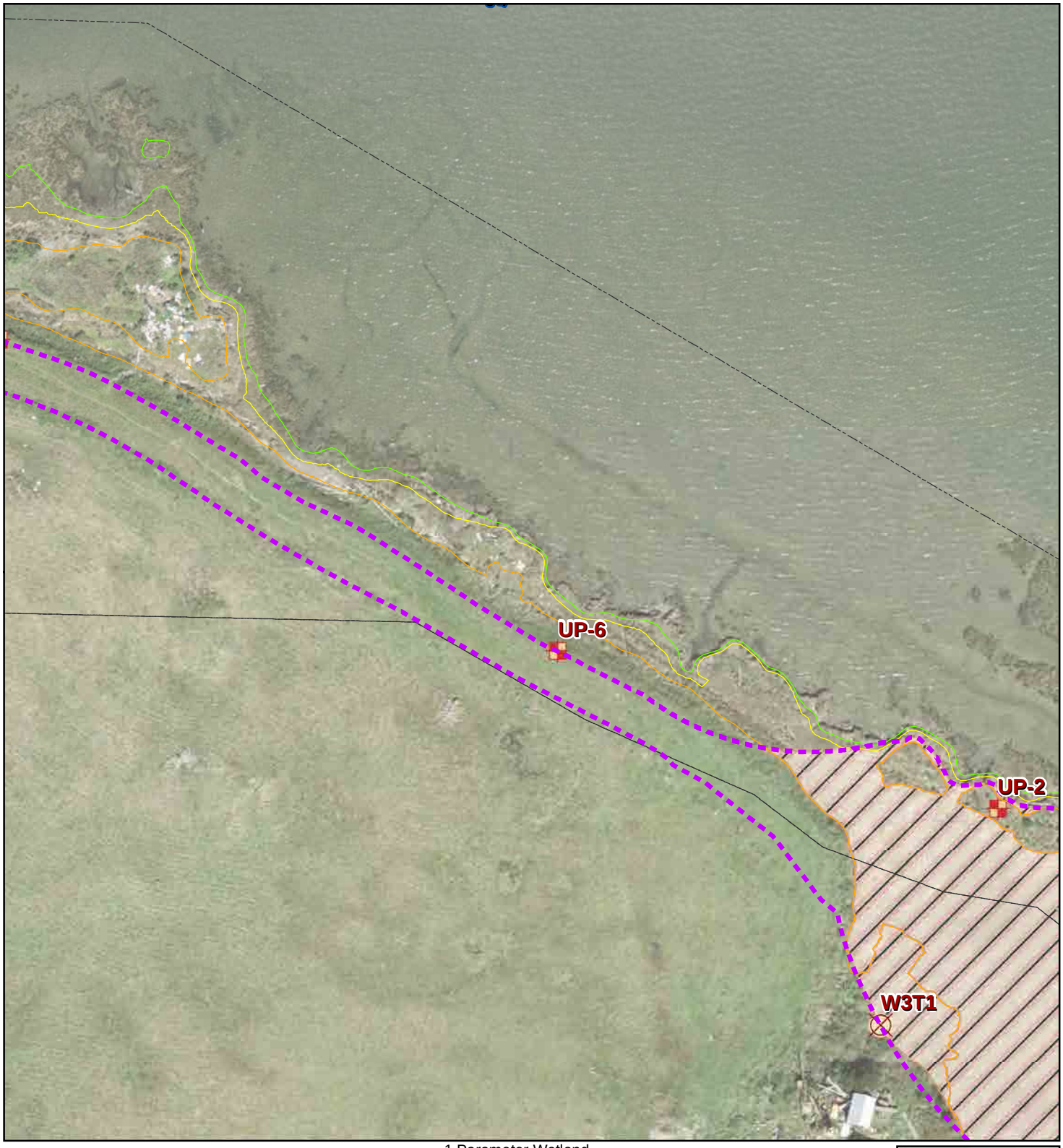

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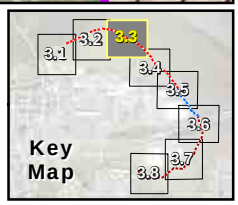

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Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision B
Date 15 Jan 2014

Wetland Delineation

Figure 3.3

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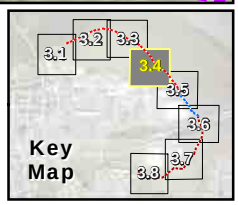

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Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision B
Date 15 Jan 2014

Wetland Delineation

Figure 3.4

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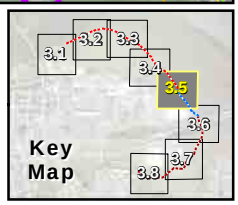

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Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision B
Date 15 Jan 2014

Wetland Delineation

Figure 3.5

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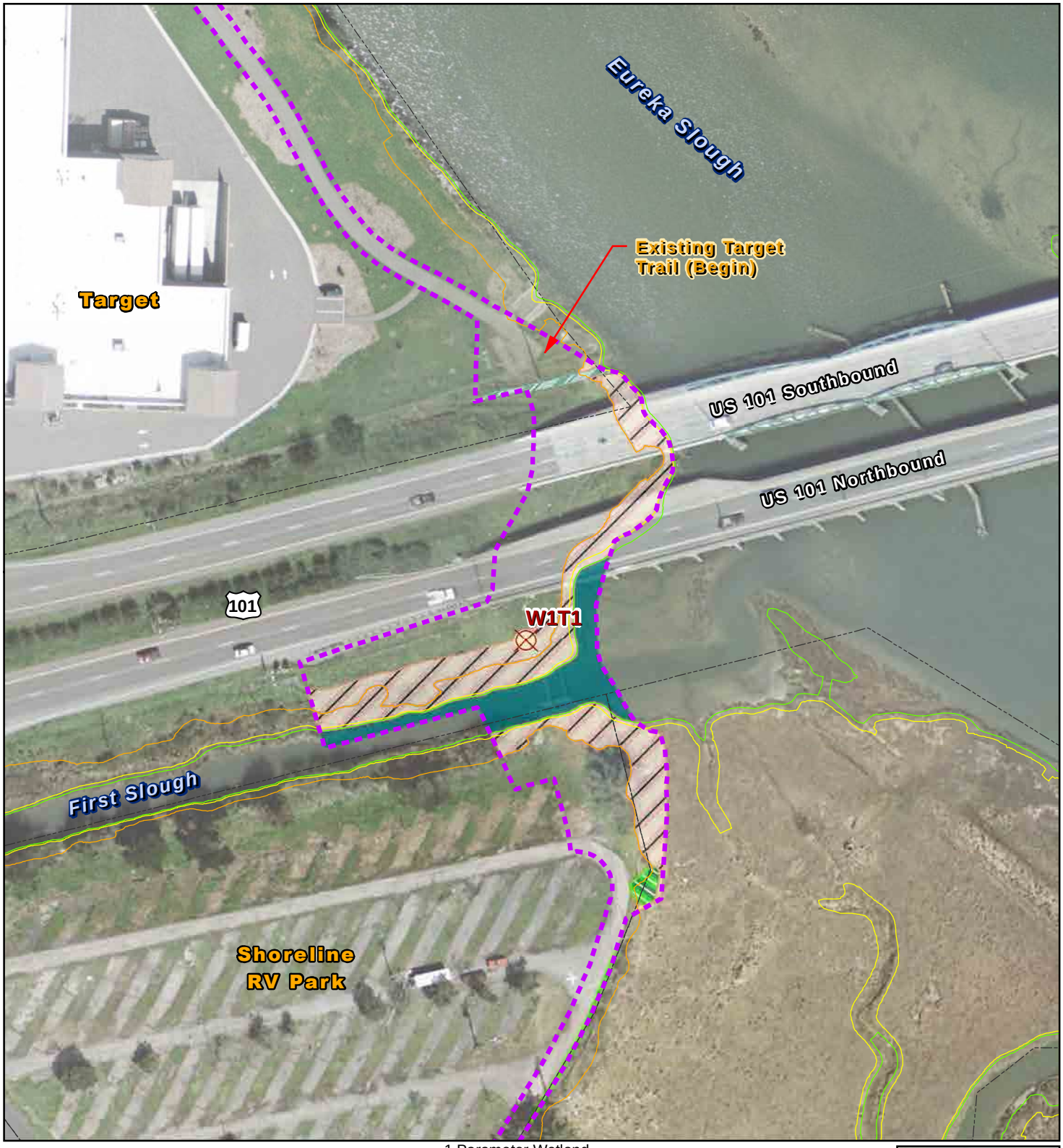

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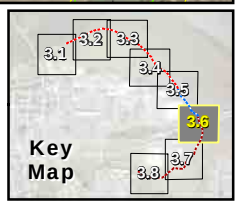

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Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision B
Date 15 Jan 2014

Wetland Delineation

Figure 3.6

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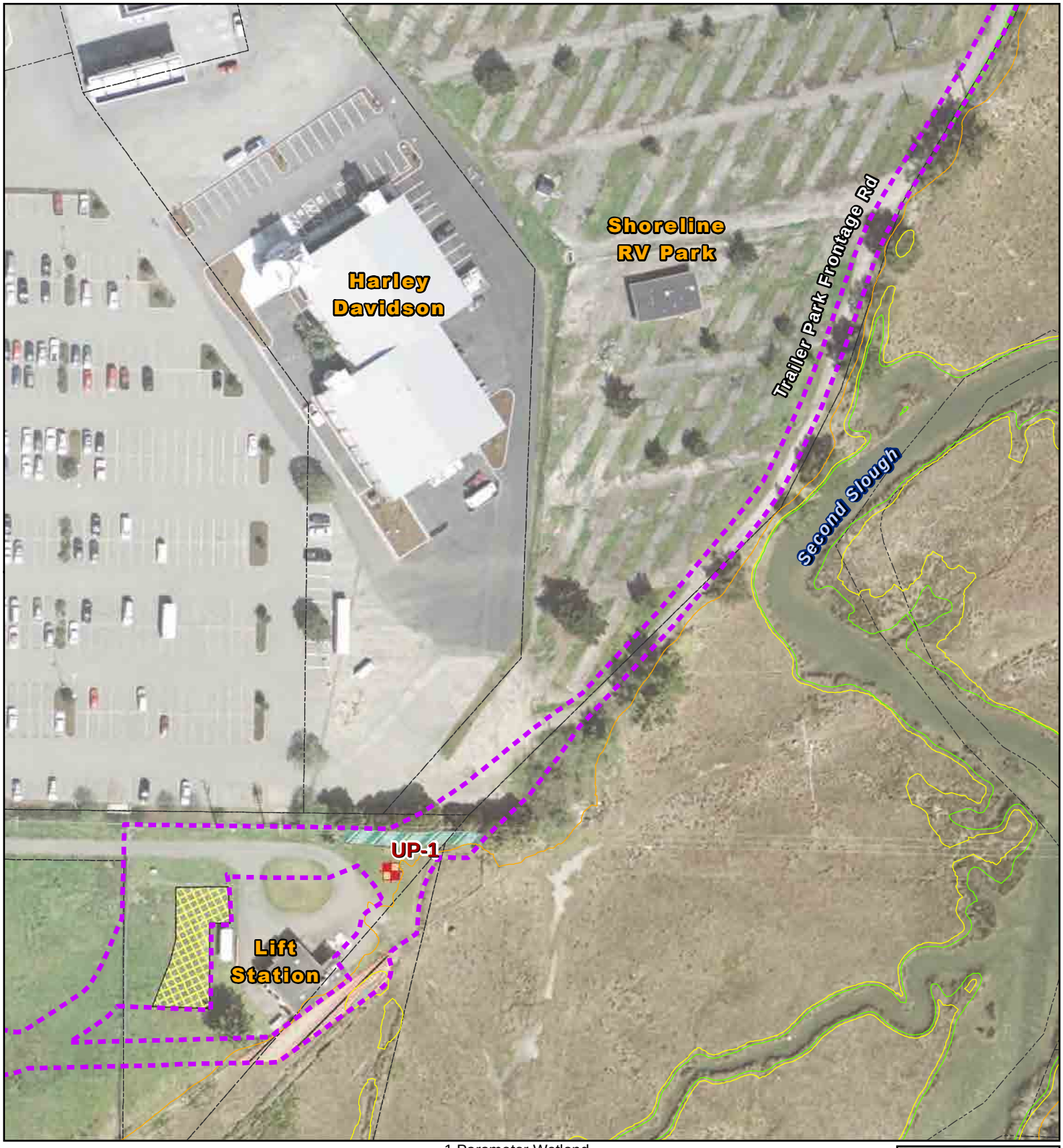

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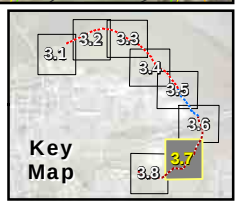

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Feet
Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number	8410915
Revision	B
Date	15 Jan 2014

Wetland Delineation

Figure 3.7

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Transect
Upland Test Pit
Staging - Temporary Impacts
Approximate Parcel Boundary

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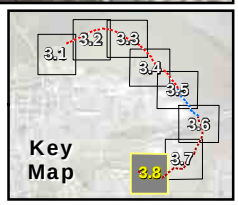

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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision B
Date 15 Jan 2014

Wetland Delineation

Figure 3.8

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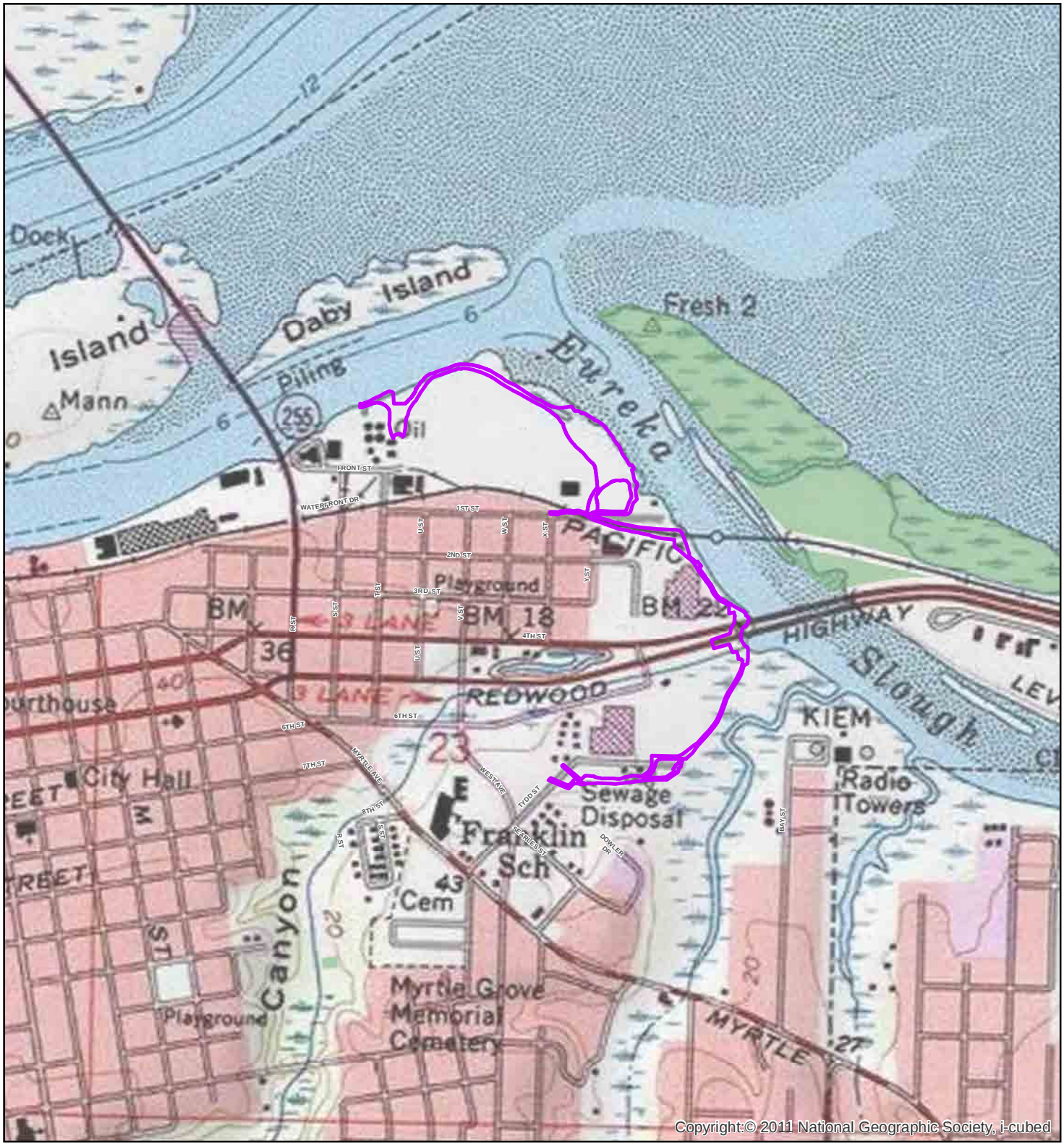

Project Study Area

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Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

City of Eureka
Eureka Waterfront Trail Phase C Tydd St.

Job Number 8410915
Revision A
Date 20 Dec 2013

USGS Topographic Quad

Figure 4

718 Third Street Eureka CA 95501 USA T 707 443 8326 F 707 444 8330 E eureka@ghd.com W www.ghd.com

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Data source: City of Eureka GIS: parcel layer and 1/2 ft resolution aerial; CPAD: Humboldt Bay Wildlife Refuge GIS layer. Created by:gldavidson

Appendix B – Data Sheets

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Tydd St. City/County: Eureka, CA Sampling Date: 12-5-13

Applicant/Owner: State: Sampling Point: W1T1-U

Investigator(s): LWISK Section, Township, Range:

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 5-10%

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

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

Are Vegetation X, Soil X, or Hydrology X significantly disturbed? y Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? n (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
Hydric Soil Present?	Yes ____	No X
Wetland Hydrology Present?	Yes ____	No X

Is the Sampled Area within a Wetland? Yes ____ No ✓

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1. Phalaris arundinacea	20	y	FACW
2. Cirsium vulgare	10	-	FACU
3. Lathyrus latifolius	30	y	NL
4. Juncus effusus	15	y	FACW
5. Foeniculum vulgare	15	-	NL
6. Holcus lanatus	10	-	FAC
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 2 (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 ____	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:

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

SOIL

Sampling Point: W1T1-U

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 %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR3/3	100	—	—	—	—	loam	glass + trash burried
8-18	10YR3/3	75	—	0	—	—	loam	brick + glass
								*See note below

[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)
- ___ 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: 8-18" 25 mixed material, base for highway
Sandy loam 7.5YR4/6, and silty clay loam 2.5Y4/2
High chroma, almost 10YR3/4 in places. Does not meet F6
due to high chroma

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 Inverfebrates (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:
Topographically higher up from toe at base of highway support material. No source for natural hydro and highway runoff likely contributes (although direct pipe or discharge location not observed)

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Judd St. City/County: Eureka, Humboldt Sampling Date: 12-5-13
Applicant/Owner: State: CA Sampling Point: W1T1-W
Investigator(s): LWBK Section, Township, Range:
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): —
Subregion (LRR): Lat: Long: Datum:
Soil Map Unit Name: NWI classification: E2EM1P (close by)
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? N Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? N (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 ____
Hydric Soil Present?	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____

Is the Sampled Area within a Wetland? Yes X No ____

Remarks: Upland 1 = 6' from boundary (W1-T1-U)
Wetland 1 = 9' from boundary (W1-T1-W)

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix sp. sapling	5	N	
2.			
3.			
4.			
	5 = Total Cover		

Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		

Herb Stratum (Plot size: ____)			
1. Poa annua	60	Y	FAC
2. Rumex crispus	5	N	FAC
3. Conium maculatum	5	N	FAC
4. Deschampsia cespitosa	25	Y	FACW
5. Atriplex sp.	5	N	
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 15

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:
X Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 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: wrack line in pit = bare ground

SOIL

Sampling Point: WPT1-W

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 %	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5YR2.5/2	100	–	–	–	–	Organic	
4-7	10YR4/1	100	–	–	–	–	Silt loam	
7-18	10YR4/1	95	7.5YR3/3	5	C	M	"	

[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)
- X 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)
- ___ 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:

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)
- X 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)**
- X 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)
- X 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:
Pedestal pea among plants
likely wet season hydrology at least periodically due to proximity to slough

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: EWTPCT City/County: Eureka/Humboldt Sampling Date: 12/13/13

Applicant/Owner: City of Eureka State: CA Sampling Point: W2T1-U

Investigator(s): LW/AG Section, Township, Range: _____

Landform (hillslope, terrace, etc.): terrace bluff Local relief (concave, convex, none): _____ Slope (%): 1

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ 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 X, Soil _____, or Hydrology _____ significantly disturbed? Y Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? N (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:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	Ø = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	Ø = Total Cover		
Herb Stratum (Plot size: _____)			
1. Holcus lanatus	40	Y	FAC
2. Geranium dissectum	20	Y	NL
3. Lolium sp	10	N	FAC?
4. Trifolium dubium	10	N	FACU
5. ~~Sonchus~~ Symphyotrichum chilense	5	N	FAC
6. Lotus corniculatus	5	N	FAC
7. Plantago lanceolata	5	N	FACU
8. Hypochaeris radicata	5	N	FACU
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	Ø = Total Cover		

% Bare Ground in Herb Stratum Ø

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 2 (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 _____	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:
10' upland pt from wetland boundary

SOIL

Sampling Point: W2T1-U

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 %	Type[1]	Loc[2]	Texture	Remarks
0-12	2.5Y 3/2	40	—	—	—	—	SANDY LOAM	APPROX 100% GRAVEL, WOOD FRAGMENTS AT APPROXIMATELY 2 INCHES BGS DUE TO TRAP-DOOR

[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:

COULD NOT DIG PIT PAST 12 INCHES BGS DUE TO LARGE CONCRETE DEBRIS. FILL SOIL (WOOD, BRICK & CONCRETE). DEBRIS ENCOUNTERED AT APPROX. 18 INCHES BGS.

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 DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: EWFP2-T City/County: Eureka/Humboldt Sampling Date: W2T1-W
Applicant/Owner: City of Eureka State: CA Sampling Point: 12/13/13
Investigator(s): LW/AG Section, Township, Range: _____
Landform (hillslope, terrace, etc.): terrace/bluff Local relief (concave, convex, none): linear/concave Slope (%): _____
Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: _____ 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 X, Soil _____, or Hydrology _____ significantly disturbed? Y Are "Normal Circumstances" present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? N (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 Y	No _____	Is the Sampled Area within a Wetland? Yes Y No _____
Hydric Soil Present?	Yes Y	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks: * Assumed hydro

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		

Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		

Herb Stratum (Plot size: _____)			
1. Deschlis spicata	50	Y	FACW
2. Agrostis stolonifera	20	N	FAC
3. Poa annua	20	Y	FAC
4. Trifolium sp	5		FAC
5. Lotus corniculatus	5	Y	FAC
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
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
- X 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: approx. 30' from wetland boundary. Confirmed with pit [illegible]

SOIL

Sampling Point: WATI-W

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 %	Type[1]	Loc[2]	Texture	Remarks
0-5	2.5Y 4/2	100	—	—	—	M	[illegible]	[illegible]
5-18	2.5Y 4/2	95	7.5Y 4/6	5		M	Sand	[illegible]

[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)
- X 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:

Uncompacted [illegible] soil [illegible] in a [illegible] low. Rocks encountered at approximately 18 inches bgs.

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)**
- X 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)
- X 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:

Assumed [illegible] on [illegible] of [illegible] spot [illegible] micro-topographic low spot.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Eureka Waterfront Trail-C City/County: Eureka / Hum Sampling Date: 1-3-14

Applicant/Owner: City of Eureka State: CA Sampling Point: W3T1-U

Investigator(s): AG-/CS Section, Township, Range: _____

Landform (hillslope, terrace, etc.): terrace slope Local relief (concave, convex, none): none Slope (%): 20%

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

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? No Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (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: drought year

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		

Sapling/Shrub Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Baccharis pilularis	20	Y	NL
2. Rubus armeniacus	20	Y	FACU
3.			
4.			
5.			
	40 = Total Cover		

Herb Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Allium triquetrum	10		NL
2. Foeniculum vulgare	20	Y	NL
3. Hedera helix	15		NL
4. Dipsacus fullonum	5		FAC
5. Geranium molle	5		NL
6. Agrostis stolonifera	5		FAC
7.			
8.			
9.			
10.			
11.			
	60 = Total Cover		

Woody Vine Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
	0 = 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: 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:

SOIL

Sampling Point: N3-T1-U

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 %	Type[1]	Loc[2]	Texture	Remarks
0-18	7.5YR 3/2	100	—	—	—	—	SANDY LOAM	ROOTS, BIOTA, SOIL BRICK ENCOUNTERED

[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: AT LOCATION APPROXIMATELY 9.35 FEET WEST OF W3-T1-W1, NO REDOX FEATURES OR SOILS ON THE DAY. THE PIT WAS DUG TO A DEPTH OF 18 FEET BELOW GRADE. 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:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Eureka Waterfront Trail C City/County: Eureka / HUM Sampling Date: 1-3-14
Applicant/Owner: City of Eureka State: CA Sampling Point: W/3 T1-W
Investigator(s): AG/CS Section, Township, Range: —
Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Convex Slope (%): < 5%
Subregion (LRR): Lat: Long: Datum:
Soil Map Unit Name: NWI classification:
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? No Are "Normal Circumstances" present? Yes ____ No X
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? No (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:
drought year

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	Ø = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1. Sambucus alternifolia	25	Y	OBL
2. Baccharis pilularis	20		NL
3. Rubus armeniacus	10		FACU
4.			
5.			
	65 = Total Cover		
Herb Stratum (Plot size: ____)			
1. Argyrisia tolmiei	30	Y	FAC
2. Rumex conglomeratus	5		FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	35 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	Ø = 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: 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:

SOIL

Sampling Point: WS T1 - W

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 %	Type[1]	Loc[2]	Texture	Remarks
0-12	5Y 3/1	93	7.5YR 4/6	7		M	Sandy loam	[illegible]
								[illegible]

[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)
- X Depleted Matrix (F3)
- X 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:

Soil pits were for hydrology [illegible] pit was located approximately four feet from [illegible] meets F3 & F6 indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- X 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)
- X 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 ___ Depth (inches): ___

Water Table Present? Yes X No ___ Depth (inches): Saturated

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 2 inches

Wetland Hydrology Present? Yes X No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Tydd St. City/County: Eureka / HUM. Sampling Date: 12-11-13
Applicant/Owner: City of Eureka State: CA Sampling Point: UP 1
Investigator(s): LW/CS Section, Township, Range: _____
Landform (hillslope, terrace, etc.): flood plain Local relief (concave, convex, none): convex Slope (%): < 5%
Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: _____ NWI classification: N/A

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? NO Are "Normal Circumstances" present? Yes ____ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? NO (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:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	Ø = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	Ø = Total Cover		
Herb Stratum (Plot size: ____)			
1. Raphanus sat.	5		NL
2. Rumex cong.	15	Y	FACW
3. Poa annua.	10		FAC
4. Helminthotheca echoides	5		FAC
5. Plantago Coronopus	10		FACW
6. Trifolium hirtum.	20	Y	NL
7. Spergularia arvensis.	25	Y	NL
8. Rumex acetosella	10		FACU
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	Ø = Total Cover		

% Bare Ground in Herb Stratum Ø

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:
pvm

SOIL

Sampling Point: UP1

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 %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR3/2	100	—	0	—	—	loam	
3-10	10YR3/2	100	—	0	—	—	sandy loam	extra gravelly
10-14	2.5Y3/3	98					sandy loam	variated 2%
impenetrable gravel material below 14"								+ extra gravelly

[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: does not meet indicators due to high chroma and variation is not in thick enough layer to be even considered redox feature or abundance

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: Location = at pump station above HTR (estimated/mapped)
No primary or secondary wetland indicators

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Tydd St. City/County: Eureka HUM Sampling Date: 12-11-13
Applicant/Owner: City of Eureka State: CA Sampling Point: UP2
Investigator(s): LW/CS Section, Township, Range: _____
Landform (hillslope, terrace, etc.): upland coastal swale Local relief (concave, convex, none): _____ Slope (%): _____
Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: _____ 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? NO Are "Normal Circumstances" present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? NO (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:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		

Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Baccharis pilularis	25	Y	NL
2. Lonicera involucrata	10		FAC
3.			
4.			
5.			
	35 = Total Cover		

Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Juncus effusus	15		FACW
2. Osmanthus yosemitana	25	Y	FACW
3. Angelica lucida	5		FAC
4. Rubus laciniatus	5		FAC
5. Polypodium californicum	5		NL
6. Lonicera hispidula	5		FAC
7. Adiantum aleuticum	5		FACU
8.			
9.			
10.			
11.			
	60 = Total Cover		

Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 2 (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 _____	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:

SOIL

Sampling Point: VP2

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 %	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 2/2	100	—	0	—	—	loam	
2-5	5Y 4/2	100	—	0	—	—	silt loam	
5-18	5Y 4/2	95	2.5Y 4/4	5	C	M	silt 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: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks:
does not meet F3 b/c does not meet thickness criteria
does not meet F6 b/c " ~~thick~~ lower value than required

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 DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: EWT PCT City/County: Eureka/Humboldt Sampling Date: 12/13/13

Applicant/Owner: City of Eureka State: CA Sampling Point: UP3

Investigator(s): LW/AG Section, Township, Range: _____

Landform (hillslope, terrace, etc.): coastal terrace/flat Local relief (concave, convex, none): linear/linear Slope (%): 0

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ 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 X, Soil _____, or Hydrology _____ significantly disturbed? Y Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? N (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: Shoreline parcel

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	Ø = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Rubus armeniacus	15	Y	FACU
2. Baccharis pilularis	5	N	NL
3.			
4.			
5.			
	20 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Juncus breweri	35	Y	FACW
2. Holcus lanatus	10	N	FAC
3. Anthoxanthum od	15	Y	FACU
4. Geranium di	10	N	NL
5. Poa annua	5	N	FAC
6. Distichlis spicata	5	N	FACW
7. Trifolium sp.	5	N	ufo
8.			
9.			
10.			
11.			
	85 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	Ø = Total Cover		

% Bare Ground in Herb Stratum 15

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:

SOIL

Sampling Point: UP-3

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 %	Type[1]	Loc[2]	Texture	Remarks
0-4	2.5Y 3/2	100	—	—	—	—	SANDY LOAM	SOME ROOTS
4-18	2.5Y 3/2	100	—	—	—	—	SAND	GRAVEL (1/2" UNCOVERED)

[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:
APPROXIMATELY 1/2" GRAVEL (~10%) ENCOUNTERED FROM GROUND SURFACE TO APPROXIMATELY 18 INCHES BGS.

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 HYDRIC SOIL INDICATORS NOTED
NO WETLAND HYDROLOGY INDICATORS NOTED.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Eureka Waterfront Trail City/County: Eureka Hum Sampling Date: 1-3-13
Applicant/Owner: City of Eureka State: CA Sampling Point: UP4
Investigator(s): AG / CS Section, Township, Range: _____
Landform (hillslope, terrace, etc.): Slope of hill terrace Local relief (concave, convex, none): _____ Slope (%): 15
Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: _____ 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? NO Are "Normal Circumstances" present? Yes ____ No X
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? NO (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: drought year

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	Ø = Total Cover		

Sapling/Shrub Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Rubus discolor	25	Y	FACU
2. Baccharis pilularis	25	Y	NL
3. Cortaderia jubata	10		FACU
4.			
5.			
	100 = Total Cover		

Herb Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Rubus ursinus	10		FACU
2. Rubus armeniacus	20	Y	FACU
3. Hedera helix	5		NL
4. Holcus lanatus	5		NL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40 = Total Cover		

Woody Vine Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
	Ø = Total Cover		

% Bare Ground in Herb Stratum Ø

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: Ø (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:

SOIL

Sampling Point: UP-4

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 %	Type[1]	Loc[2]	Texture	Remarks
0-18	7.5YR 3/2	100	—	—	—	—	SANDY LOAM	SOME ROOTS

[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: AT LOCATION APPROXIMATELY 14 FEET FROM HIGH TIDE WATER LINE. HIGH (LIVING) TIDES CROSSING BEGINNING TO ENTER WITH. NO REDOX FEATURES OBSERVED. SOIL WAS DRY. NO HYDRIC SOIL INDICATORS MADE.

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: PIT LOCATED UP SLOPE FROM WETLAND SLOUGH IN AN AREA OF CLEARED VEGETATION.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Eureka Waterfront Trail-C City/County: Eureka / HUM Sampling Date: 1-3-14

Applicant/Owner: City of Eureka State: CA Sampling Point: UP5

Investigator(s): AG / CS Section, Township, Range: _____

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

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

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? NO Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? NO (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: drought year

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		

Sapling/Shrub Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Baccharis pilularis	10		NL
2.			
3.			
4.			
5.			
	10 = Total Cover		

Herb Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Cirsium vulgare	5		FACU
2. Medicago lupulina	20	Y	FACU
3. Geranium molle	15	Y	NL
4. Acmispon americanus	15	Y	NL
5. Holcus lanatus	10		FAC
6. Plantago lanceolata	10		FACU
7. Vinca major	10		NL
8. Dactylis glomerata	15	Y	FACU
9.			
10.			
11.			
	= Total Cover		

Woody Vine Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
	0 = 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:

SOIL

Sampling Point: UP5

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 %	Type[1]	Loc[2]	Texture	Remarks
0-18	7.5YR 3/2	100	—	—	—	—	Sandy loam	- fill material; contains wood & glass fragments

[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: Pit located at top of fill pile. Soil encountered was fill material (black ash, pieces of charred wood encountered). Soil was dry. No redox features observed. 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:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Eureka Waterfront Trail C City/County: Eureka / HUM Sampling Date: 1-3-14
Applicant/Owner: City of Eureka State: CA Sampling Point: UP6
Investigator(s): AG / CS Section, Township, Range: _____
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): Ø
Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: _____ NWI classification: _____
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? NO Are "Normal Circumstances" present? Yes ____ No X
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? ND (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:
drought year

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	Ø = Total Cover		

Sapling/Shrub Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Rubus armeniacus	15	Y	FACU
2.			
3.			
4.			
5.			
	15 = Total Cover		

Herb Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Plantago lanceolata	15	Y	FACU
2. Geranium molle	15	Y	NL
3. Raphanus sativa	10		NL
4. Vicia villosa	5		NL
5. Daucus carota	5		FACU
6. Holcus lanatus	10		FAC
7. Anthoxanthum stoloniferum	15	Y	FAC
8. Juncus bufonius	10		FACW
9.			
10.			
11.			
	85 = Total Cover		

Woody Vine Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
	Ø = Total Cover		

% Bare Ground in Herb Stratum Ø

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:

SOIL

Sampling Point: UP-6

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 %	Type[1]	Loc[2]	Texture	Remarks
0-18	7.5Y 3/2	100	—	—	—	—	Sandy Loam	FILL MATERIAL. SOME BRICK ENCOUNTERED

[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:
PIT LOCATED AT TOP OF FOG PROMINENCE IMMEDIATELY SOUTH OF HUMBOLDT BAY. SOME BRICK OBSERVED IN PIT. SOIL WAS DRY. NO REDOX FEATURES NOTED. 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:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Eureka Waterfront Trail-C City/County: Eureka HUM Sampling Date: 1-3-14

Applicant/Owner: City of Eureka State: CA Sampling Point: UP 7

Investigator(s): AE / CS Section, Township, Range: _____

Landform (hillslope, terrace, etc.): open field. Local relief (concave, convex, none): none Slope (%): Ø

Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

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? NO Are "Normal Circumstances" present? Yes _____ No X

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? NO (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 NO	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No NO	
Wetland Hydrology Present?	Yes _____	No NO	

Remarks: drought year.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus monticola x Pinus contorta	5		NL
2. Sequoia sempervirens	5		
3.			
4.			
	10 = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	Ø = Total Cover		
Herb Stratum (Plot size: _____)			
1. Foeniculum vulgare	20	Y	NL
2. Plantago lanceolata	20	Y	FACU
3. Vicia villosa	15	Y	NL
4. Medicago lupulina	10		FACU
5. Trifolium repens	10		FAC
6. Dactylis glomerata	15	Y	FACU
7.			
8.			
9.			
10.			
11.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	Ø = Total Cover		

% Bare Ground in Herb Stratum Ø

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: Ø (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 Ø

Remarks:

SOIL

Sampling Point: UP-7

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 %	Type[1]	Loc[2]	Texture	Remarks
0-14	7.5Y 3/2	100	—	—	—	—	SILT LOAM	FILL MATERIAL, BRICK, CONCRETE AND GRAVEL
14 inches; refusal on concrete								

[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:

P-7 located in WEST MESA PROJECT SEGMENT (OLEN MESA). NO REDOX FEATURES OBSERVED. DOES NOT MEET HYDRIC SOIL INDICATORS.

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 DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Eureka Watershed Trail - C City/County: Humboldt Sampling Date: 1-3-14
Applicant/Owner: City of Eureka State: CA Sampling Point: UP8
Investigator(s): AG / GS Section, Township, Range: _____
Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: _____ 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? NO Are "Normal Circumstances" present? Yes ____ No X
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? NO (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: drought year

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		

Sapling/Shrub Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Baccharis pilularis	10		NL
2.			
3.			
4.			
5.			
	10 = Total Cover		

Herb Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Hypochaeris radiata	10		NL
2. Vicia hirsuta	10		NL
3. Plantago lanceolata	10		FACU
4. Dactylis glomerata	25	Y	FACU
5. Anthoxanthum odoratum	15	Y	FACU
6. Geranium molle	5		NL
7. Holcus lanatus	15	Y	FAC
8.			
9.			
10.			
11.			
	= Total Cover		

Woody Vine Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
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:

SOIL

Sampling Point: VP-8

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 %	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5YR 3/2	100	—	—	—	—	SILT LOAM	20% 3/8" GRAVEL
4-18	7.5YR 4/6	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: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks: AT LOCATION SOUTH OF NEW RAILROAD CROSSING AND NORTH OF PEPSI'S NORTHERN DISTRIBUTION CENTER. NO REDOX FEATURES OBSERVED. SOIL WAS DRY. 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:

none

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Eureka Waterfront Trail-C City/County: Eureka Hum Sampling Date: 1-3-14
Applicant/Owner: City of Eureka State: CA Sampling Point: S2
Investigator(s): AG / CS Section, Township, Range: _____
Landform (hillslope, terrace, etc.): open field Local relief (concave, convex, none): convex Slope (%): <5%
Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: _____ NWI classification: _____
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? No Are "Normal Circumstances" present? Yes _____ No X
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? No (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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No _____
Hydric Soil Present?	Yes _____	No _____	
Wetland Hydrology Present?	Yes _____	No _____	

Remarks: drought year

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		

Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		

Herb Stratum (Plot size: _____)			
1. Rumex conglomeratus	15		FACW
2. Festuca arundinacea	20	Y	FAC
3. Dactylis glomerata	30	Y	FACU
4. Foeniculum vulgare	15		NL
5. Rubus ursinus	5		FACU
6. Geranium molle	5		NL
7. Vicia villosa	5		NL
8. Symphotrichum chilense	5		FAC
9.			
10.			
11.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: _____)			
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: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	0	x 1 = 0
FACW species	1	x 2 = 2
FAC species	2	x 3 = 6
FACU species	2	x 4 = 8
UPL species	3	x 5 = 15
Column Totals:	8 (A)	31 (B)

Prevalence Index = B/A = 3.875

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: Prevalence Index is greater than 3.0

Stagingarea

SOIL

Sampling Point: S-2

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 %	Type[1]	Loc[2]	Texture	Remarks
0-18	7.5Y 3/2	100	—	—	—	—	Sandy Loam	Fill material; Rebar, slag, brick, concrete and charcoal wood debris

[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: AT WAS LOCATED IN PROPOSED DIST FIELD SEGMENT SAMPLING AREA. SOIL WAS DRY AND NO REDOX FEATURES OBSERVED. DOES NOT MEET HYDRIC SOIL INDICATORS.

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:

GHD Inc

718 Third Street

Eureka, California 95501

T: 707-443-8326 F:707-444-8330 E: eureka@ghd.com

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Document Status

Rev No.	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date

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Appendix C
CNDDB, CNPS, & USFWS Lists

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Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Federal Listing Status is (Endangered or Threatened or Candidate or All CNDDB element occurrences or Delisted) AND State Listing Status is (Endangered or Threatened or Rare or All CNDDB element occurrences or Delisted) and CNPS List is (1A or 1B or 1B.1 or 1B.2 or 1B.3 or 2A or 2B or 2B.1 or 2B.2 or 2B.3 or 3 or 3.1 or 3.2 or 3.3 or 4 or 4.1 or 4.2 or 4.3) and Quad is (Eureka (4012472))

Map Index Number:	15950	**EO Index:**	4542
Key Quad:	Eureka (4012472)	**Element Code:**	PDAST5N010
Occurrence Number:	11	**Occurrence Last Updated:**	2008-05-16

Scientific Name: *Layia carnosa*

Common Name: beach layia

Listing Status: **Federal:** Endangered

State: Endangered

Rare Plant Rank: 1B.1

Other Lists:

CNDDB Element Ranks: **Global:** G2

State: S2

General Habitat:

COASTAL DUNES, COASTAL SCRUB.

Micro Habitat:

ON SPARSELY VEGETATED, SEMI-STABILIZED DUNES, USUALLY BEHIND FOREDUNES. 0-60 M.

Last Date Observed:	2003-04-XX	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2003-04-XX	**Occurrence Rank:**	Good
Owner/Manager:	USFWS, PVT, BLM, OTHERS	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

SAND DUNES FROM TYEE CITY SOUTH TO SAMOA.

Detailed Location:

MANY SCATTERED COLONIES IN DUNES. MAPPED MOSTLY ACCORDING TO 1988 MILLER MAPS AND 1991 DUEBENDORFER MAPS. PORTION OF OCCURRENCE IS PROTECTED ON HUMBOLDT BAY NWR, LANPHERE DUNES UNIT (LANPHERE-CHRISTENSEN DUNES PRESERVE).

Ecological:

GROWING IN NORTHERN FOREDUNE COMMUNITY. DOMINANTS ARE SOLIDAGO SPATHULATA AND LATHYRUS LITTORALIS; OTHER ASSOCIATES INCLUDE ERIOGONUM LATIFOLIUM, POA, FRAGARIA CHILOENSIS, ERYSIMUM MENZIESII EUREKENSE, LUPINUS ARBOREUS, AND AMMOPHILA.

Threats:

ORVS, REC BEACHCOMBING, CAMPING, & EXOTICS THREATEN. AMMOPHILA REMOVAL HAS BENEFITTED LAYIA HERE (1996).

General:

ABUNDANT IN 1987, 1988. >100,000 IN 1991. 200,000-500,000 NEAR MANILA IN 1993. 5252 IN A SMALL PORTION IN 1994. UNK # OF PLANTS IN 2001 AT LANPHERE-CHRISTENSEN DUNES PRESERVE. <1500 PLANTS NEAR MANILA IN 2003. INCL FORMER EOS #17 & 18.

PLSS:	T06N, R01W, Sec. 26 (H)	**Accuracy:**	specific area	**Area (acres):**	775
UTM:	Zone-10 N4525372 E402392	**Latitude/Longitude:**	40.87361 / -124.15836	**Elevation (feet):**	40

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472), Tyee City (4012482)

Sources:

ANT94F0001	ANTHONY-WHEELER, J. - FIELD SURVEY FORM FOR ABRONIA UMBELLATA SSP. BREVIFLORA 1994-05-24
BAR76S0006	BARKER, L. - BARKER #1377 HSU #39959 1976-04-13
BER87F0007	BERG, K. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1987-09-21
BRO03F0018	BROOKS, M. - FIELD SURVEY FORM FOR LAYIA CARNOSA WITH ERYSIMUM MENZIESII SSP. EUREKENSE & GILIA MILLEFOLIATA 2003-04-01
DUE91F0008	DUEBENDORFER, T. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1991-07-12
DUE91F0009	DUEBENDORFER, T. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1991-07-13
DUE91F0010	DUEBENDORFER, T. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1991-07-12
DUE91F0011	DUEBENDORFER, T. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1991-07-11
DUE91F0012	DUEBENDORFER, T. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1991-07-11
DUE91F0015	DUEBENDORFER, T. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1991-07-23
DUE91F0016	DUEBENDORFER, T. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1991-07-21
DUE91F0017	DUEBENDORFER, T. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1991-07-21
DUE91F0018	DUEBENDORFER, T. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1991-07-16
DUE91F0019	DUEBENDORFER, T. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1991-07-14
EIC94F0001	EICHER, A. & M. BIVIN - FIELD SURVEY FORM FOR LAYIA CARNOSA 1994-03-25
EIC94F0003	EICHER, A. & M. BIVIN - FIELD SURVEY FORM FOR ABRONIA UMBELLATA SSP. BREVIFLORA 1994-03-25
EIC94R0001	EICHER, A. & M. BIVIN - RARE PLANT ASSESSMENT FOR THE MANILA COMMUNITY SERVICES DISTRICT LEACH FIELD SITE, HUMBOLDT COUNTY 1994-04-04
JOH62S0004	JOHNSON, J. - JOHNSON #1272 HSU #5911 1962-04-18
MIL88F0008	MILLER, L. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1988-04-15
MIL88F0009	MILLER, L. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1988-04-15
MIL88F0010	MILLER, L. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1988-04-15
MIL88F0011	MILLER, L. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1988-04-15
MIL88F0013	MILLER, L. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1988-04-15
MIL88F0014	MILLER, L. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1988-04-15
MIL88M0001	MILLER, L. - TOPO MAPS (EUREKA & TYEE CITY). 1988-XX-XX
MIL93F0002	MILLER, L. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1993-05-10
MOR96U0003	MOREY, S. - COASTAL PLANTS RECOVERY WORKSHOP SUMMARY 1996-12-17
MYE63S0001	MYERS, L. - MYERS #15 HSU #5912 1963-05-13
PIC01F0002	PICKART, A. - FIELD SURVEY FORM FOR ABRONIA UMBELLATA SSP. BREVIFLORA WITH REFERENCE TO LAYIA CARNOSA 2001-06-25
PIC98F0003	PICKART, A. - FIELD SURVEY FORM FOR ABRONIA UMBELLATA SSP. BREVIFLORA 1998-08-20
PIC98F0007	PICKART, A. - FIELD SURVEY FORM FOR LAYIA CARNOSA, ERYSIMUM MENZIESII SSP. EUREKENSE & GILIA MILLEFOLIATA 1998 -06-14
PIC98U0001	PICKART, A. - LETTER TO D. HICKSON REGARDING INFORMATION ON ASTRAGALUS AGNICIDUS, ERYSIMUM MENZIESII SSP. EUREKENSE & LAYIA CARNOSA. 1998-09-11
RAV63S0009	RAVEN, P. - RAVEN #18370 UC #1224620 RSA #176928 1963-05-15
THE98F0001	THEISS, K.C. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1998-04-22
TNC98U0001	THE NATURE CONSERVANCY - UPDATE ON CALIFORNIA TRANSITION PROJECTS 1998-05-XX

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	06781	**EO Index:**	4540
Key Quad:	Eureka (4012472)	**Element Code:**	PDAST5N010
Occurrence Number:	12	**Occurrence Last Updated:**	2008-05-02

Scientific Name: *Layia carnosa*

Common Name: beach layia

Listing Status:	**Federal:**	Endangered	**Rare Plant Rank:**	1B.1
	State:	Endangered	**Other Lists:**	
CNDDB Element Ranks:	**Global:**	G2		
	State:	S2		

General Habitat:

COASTAL DUNES, COASTAL SCRUB.

Micro Habitat:

ON SPARSELY VEGETATED, SEMI-STABILIZED DUNES, USUALLY BEHIND FOREDUNES. 0-60 M.

Last Date Observed:	2003-04-XX	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2003-04-XX	**Occurrence Rank:**	Good
Owner/Manager:	BLM, DHS-COAST GUARD, OTHERS	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

SAMOA PENINSULA, FROM SOUTHERN TIP OF SPIT NORTH ABOUT 4 MILES.

Detailed Location:

SCATTERED POPULATIONS, MOSTLY WEST OF SAMOA AVE AND NEW NAVY BASE ROAD. MAPPED BY CNDDB AS 5 POLYGONS MAINLY ACCORDING TO 1988 MILLER MAPS AND 1991 DUEBENDORFER MAPS.

Ecological:

IN REMNANT NORTHERN FOREDUNE COMMUNITY. DOMINANTS ARE ARTEMISIA PYCNOCEPHALA AND SOLIDAGO SPATHULATA. OTHER ASSOCIATES INCLUDE ERYSIMUM MENZIESII EUREKENSE, FRAGARIA CHILOENSIS, ERIOGONUM LATIFOLIUM, LUPINUS ARBOREUS, AMMOPHILA, AND POA.

Threats:

SEVERE ORV DAMAGE IN PLACES, PROPOSED INDUSTRIAL DEVELOPMENT, RECREATIONAL USE BY BEACHGOERS, COMPETITION FROM EXOTICS.

General:

ABUNDANT IN 1987, 1988. 30,000+ PLANTS OBSERVED IN 1991 BY DUEBENDORFER. <1500 OBSERVED JUST S OF SAMOA IN 2003. AMMOPHILA REMOVAL HAS BENEFITED LAYIA HERE (A. PICKART 1996 PERS. COMM.). INCLUDES FORMER EOS #13 & 16.

PLSS:	T05N, R01W, Sec. 29 (H)	**Accuracy:**	specific area	**Area (acres):**	687
UTM:	Zone-10 N4515736 E397710	**Latitude/Longitude:**	40.78625 / -124.21233	**Elevation (feet):**	20

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472)

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Sources:

BAL96F0002	BALDWIN, B. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1996-03-31
BER87F0008	BERG, K. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1987-09-21
BER87F0009	BERG, K. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1987-09-21
DUE91F0013	DUEBENDORFER, T. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1991-07-25
DUE91F0014	DUEBENDORFER, T. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1991-07-25
DUE91F0020	DUEBENDORFER, T. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1991-07-24
ERI79S0003	ERICKSON, M. - ERICKSON #244 HSU #59481 1979-04-29
JAN84S0006	JANEWAY, L. - JANEWAY #717 CHSC #53236 1984-03-17
JAN84S0007	JANEWAY, L. - JANEWAY #746 HSU #78611 1984-04-25
KLI75S0005	KLIPFEL, B. - KLIPFEL #624 HSU #48775 1975-05-22
MIL88F0012	MILLER, L. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1988-04-15
MIL88F0015	MILLER, L. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1988-04-15
MIL88M0001	MILLER, L. - TOPO MAPS (EUREKA & TYEE CITY). 1988-XX-XX
MON75S0002	MONTALVO, A. - MONTALVO #272 HSU #33755 1975-05-24
MOR96U0003	MOREY, S. - COASTAL PLANTS RECOVERY WORKSHOP SUMMARY 1996-12-17
NEL71S0002	NELSON, T. - NELSON #381 HSU #26331 1971-04-16
OSW97S0008	OSWALD, V. - OSWALD #8360 CHSC #68554 1997-04-29
SMI75S0008	SMITH, J. - SMITH #8078 HSU #34455 1975-05-11
SOR76S0002	SORENSEN, P. - SORENSEN SN HSU #39786 1976-06-14
TRA01S0010	TRACY, J. - TRACY #1017 UC #165025 1901-04-14
TRA46S0002	TRACY, J. - TRACY #17555 UC #1223217 RSA #170196 1946-06-02
WOO63S0002	WOODSIDE, J. - WOODSIDE #38 HSU #5915 1963-04-03

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	30346	**EO Index:**	4539
Key Quad:	Fields Landing (4012462)	**Element Code:**	PDAST5N010
Occurrence Number:	27	**Occurrence Last Updated:**	2008-10-03

Scientific Name: *Layia carnosa*

Common Name: beach layia

Listing Status: **Federal:** Endangered

State: Endangered

Rare Plant Rank: 1B.1

Other Lists:

CNDDB Element Ranks: **Global:** G2

State: S2

General Habitat:

COASTAL DUNES, COASTAL SCRUB.

Micro Habitat:

ON SPARSELY VEGETATED, SEMI-STABILIZED DUNES, USUALLY BEHIND FOREDUNES. 0-60 M.

Last Date Observed:	2000-04-05	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2000-04-05	**Occurrence Rank:**	Fair
Owner/Manager:	PVT-GREEN DIAMOND, TEXACO	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

SOUTH SPIT OF HUMBOLDT BAY.

Detailed Location:

SCATTERED POPULATIONS ON BOTH SIDES OF SOUTH JETTY ROAD FROM EXTREME NORTHERN TIP OF SPIT TO JUST NORTH OF TABLE BLUFF.

Ecological:

GROWING IN OPENINGS WITHIN NORTHERN FOREDUNE COMMUNITY. ASSOCIATED WITH ERIOGONUM LATIFOLIUM, POA DOUGLASII, LATHYRUS LITTORALIS, FRAGARIA CHILOENSIS, ABRONIA LATIFOLIA, CALYSTEGIA SOLDANELLA, CAMISSONIA CHEIRANTHIFOLIA, HYPOCHAERIS, ETC.

Threats:

BEACHCOMBING, ORV USE, CAMPING, HIKING, AND NON-NATIVE PLANTS THREATEN.

General:

MORE THAN 20,000 PLANTS OBSERVED IN 1991 BY DUEBENDORFER. PLANT OBSERVED IN 2000 DURING ERYSIMUM MENZIESII SSP. EUREKENSE SURVEY.

PLSS:	T04N, R02W, Sec. 13 (H)	**Accuracy:**	specific area	**Area (acres):**	255
UTM:	Zone-10 N4509171 E394254	**Latitude/Longitude:**	40.72669 / -124.25218	**Elevation (feet):**	10

County Summary:

Humboldt, Pacific Ocean

Quad Summary:

Fields Landing (4012462), Cannibal Island (4012463), Eureka (4012472)

Sources:

BLM02R0001	BLM-BUREAU OF LAND MANAGEMENT - SOUTH SPIT INTERIM MANAGEMENT PLAN 2002-07-10
BRO80I0001	BROSSEAU, A. - PHOTOS OF LAYIA CARNOSA, CALPHOTOS ID #6040 1631 1308 0073, 0074 1980-06-08
DUE91F0021	DUEBENDORFER, T. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1991-07-28
DUE91F0022	DUEBENDORFER, T. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1991-07-28
DUE91F0023	DUEBENDORFER, T. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1991-07-28
MEY90R0001	MEYERS, C. - REPORT: A VERIFICATION OF THE OCCURRENCE OF BEACH LAYIA (LAYIA CARNOSA) ON SOUTH SPIT, HUMBOLDT COUNTY, CA. 1990-06-18
MEY90S0001	MEYERS, C. - MEYERS SN HSU 1990-06-13
PIC00F0002	PICKART, A. - FIELD SURVEY FORM FOR ERYSIMUM MENZIESII SSP. EUREKENSE WITH COMMENTS REGARDING PRESENCE OF LAYIA CARNOSA 2000-04-05

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	40401	**EO Index:**	35408
Key Quad:	Eureka (4012472)	**Element Code:**	PDAST5N010
Occurrence Number:	29	**Occurrence Last Updated:**	2008-06-23

Scientific Name: *Layia carnosa*

Common Name: beach layia

Listing Status: **Federal:** Endangered

State: Endangered

Rare Plant Rank: 1B.1

Other Lists:

CNDDB Element Ranks: **Global:** G2

State: S2

General Habitat:

COASTAL DUNES, COASTAL SCRUB.

Micro Habitat:

ON SPARSELY VEGETATED, SEMI-STABILIZED DUNES, USUALLY BEHIND FOREDUNES. 0-60 M.

Last Date Observed:	2000-04-17	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2000-04-17	**Occurrence Rank:**	Good
Owner/Manager:	CITY OF EUREKA	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

MOUTH OF THE ELK RIVER, SOUTHWEST OF EUREKA.

Detailed Location:

MAPPED ALONG SAND SPIT ALONG WEST SIDE OF THE MOUTH OF THE RIVER, FROM RR TRACKS NORTH TO THE END OF THE SPIT.

Ecological:

SAND VERBENA-BURSAGE SERIES WITH LATHYRUS LITTORALIS, ARTEMISIA PYCNOCEPHALA, CALYSTEGIA SOLDANELLA, FRAGARIA CHILOENSIS AND ERYSIMUM MENZIESII EUREKENSE. EXOTIC AMMOPHILA ARENARIA, BRIZA MAXIMA, CORTADERIA JUBATA, AND CARPOBROTUS EDULIS.

Threats:

INVASIVE NON-NATIVE PLANTS; DIRT BIKE TRACKS EVIDENT.

General:

1000+ PLANTS OBSERVED IN 1998. 100+ PLANTS IN 1999. PLANTS SEEN AS PART OF ANOTHER SURVEY IN 2000. SPIT IS UNDEVELOPED. SITE IS NOT CURRENTLY MANAGED; EXOTICS APPEAR TO BE TAKING OVER.

PLSS:	T04N, R01W, Sec. 05 (H)	**Accuracy:**	specific area	**Area (acres):**	96
UTM:	Zone-10 N4513174 E398783	**Latitude/Longitude:**	40.76331 / -124.19921	**Elevation (feet):**	10

County Summary:	**Quad Summary:**
Humboldt, Pacific Ocean	Eureka (4012472)

Sources:

PIC00F0002	PICKART, A. - FIELD SURVEY FORM FOR ERYSIMUM MENZIESII SSP. EUREKENSE WITH COMMENTS REGARDING PRESENCE OF LAYIA CARNOSA 2000-04-05
PIC98F0002	PICKART, A. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1998-06-10
PIC98F0005	PICKART, A. - FIELD SURVEY FORM FOR ERYSIMUM MENZIESII SSP. EUREKENSE WITH REFERENCE TO LAYIA CARNOSA 1998-06-10
PIC99F0002	PICKART, A. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1999-04-18
PIC99F0006	PICKART, A. - FIELD SURVEY FORM FOR LAYIA CARNOSA 1999-04-18

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	60227	**EO Index:**	60263
Key Quad:	Eureka (4012472)	**Element Code:**	PDASTE5011
Occurrence Number:	25	**Occurrence Last Updated:**	2005-02-25

Scientific Name: *Hesperevax sparsiflora var. brevifolia*

Common Name: short-leaved evax

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.2

Other Lists: BLM_S-Sensitive

CNDDB Element Ranks: **Global:** G4T2T3

State: S2S3

General Habitat:

COASTAL BLUFF SCRUB, COASTAL DUNES.

Micro Habitat:

SANDY BLUFFS AND FLATS. 0-200M.

Last Date Observed:	1984-04-25	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1984-04-25	**Occurrence Rank:**	Unknown
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

ON NORTH SPIT OF HUMBOLDT BAY, SOUTHEAST SIDE OF INTERSECTION OF SAMOA AND FAIRHAVEN ROADS.

Detailed Location:

NORTHEAST OF THE WILLOW PATCH. MAPPED AS BEST GUESS BY CNDDB, ABOUT 0.25 MI EAST OF THE EUREKA CITY ARIPORT.

Ecological:

ON MOSTLY OPEN SAND/SAND DUNES.

Threats:

General:

1932 TRACY COLLECTION "SAMOA, NEAR HUMBOLDT BAY", AND 1976 BECKING COLLECTION "SAND DUNES ALONG SAMOA AIRSTRIP AT FAIRHAVEN" ALSO ATTRIBUTED TO THIS SITE. NEEDS FIELDWORK.

PLSS:	T05N, R01W, Sec. 29 (H)	**Accuracy:**	1/5 mile	**Area (acres):**	0
UTM:	Zone-10 N4515220 E398244	**Latitude/Longitude:**	40.78167 / -124.20592	**Elevation (feet):**	10

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472)

Sources:

BEC76S0001	BECKING, R. - BECKING SN HSC #39822 1976-05-02
JAN84S0003	JANEWAY, L. & A. EISENBERG - JANEWAY #747 HSC #78088 1984-04-25
TRA32S0005	TRACY, J. - TRACY #10107 UC #1199419 1932-05-16

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	54366	**EO Index:**	60264
Key Quad:	Eureka (4012472)	**Element Code:**	PDASTE5011
Occurrence Number:	26	**Occurrence Last Updated:**	2005-02-25

Scientific Name: *Hesperevax sparsiflora var. brevifolia*

Common Name: short-leaved evax

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.2

Other Lists: BLM_S-Sensitive

CNDDB Element Ranks: **Global:** G4T2T3

State: S2S3

General Habitat:

COASTAL BLUFF SCRUB, COASTAL DUNES.

Micro Habitat:

SANDY BLUFFS AND FLATS. 0-200M.

Last Date Observed:	1912-05-12	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1912-05-12	**Occurrence Rank:**	Unknown
Owner/Manager:	CITY OF EUREKA	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

BUCKSPORT, HUMBOLDT BAY.

Detailed Location:

LOCATION VAGUE; MAPPED AS BEST GUESS BY CNDDB ON THE SAND DUNES SPIT SOUTH-SOUTHWEST OF BUCKSPORT.

Ecological:

SANDY GROUND.

Threats:

General:

ONLY INFORMATION FOR THIS SITE IS 1912 TRACY COLLECTION "SANDY GROUND, BUCKSPORT." NEEDS FIELDWORK.

PLSS:	T04N, R01W, Sec. 05 (H)	**Accuracy:**	specific area	**Area (acres):**	120
UTM:	Zone-10 N4513297 E398701	**Latitude/Longitude:**	40.76440 / -124.20020	**Elevation (feet):**	

County Summary:	**Quad Summary:**
Humboldt, Pacific Ocean	Eureka (4012472)

Sources:

TRA12S0012 TRACY, J. & E. BABCOCK - TRACY #3639 UC #169086 1912-05-12

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	71797	**EO Index:**	72685
Key Quad:	Eureka (4012472)	**Element Code:**	PDASTE5011
Occurrence Number:	33	**Occurrence Last Updated:**	2008-07-23

Scientific Name: *Hesperevax sparsiflora var. brevifolia*

Common Name: short-leaved evax

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.2

Other Lists: BLM_S-Sensitive

CNDDB Element Ranks: **Global:** G4T2T3

State: S2S3

General Habitat:

COASTAL BLUFF SCRUB, COASTAL DUNES.

Micro Habitat:

SANDY BLUFFS AND FLATS. 0-200M.

Last Date Observed:	2007-XX-XX	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2007-XX-XX	**Occurrence Rank:**	Unknown
Owner/Manager:	BLM	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

SAMOA DUNES ENDANGERED PLANT PROTECTION AREA, N OF THE U.S. COAST GUARD STATION, S END OF SAMOA PENINSULA.

Detailed Location:

MAPPED BY CNDDB IN THE VICINITY OF THE ENDANGERED PLANT PROTECTION AREA, LOCATED IN THE VICINITY OF THE "WATER" POINT NW OF THE "LIFEBOAT STATION" ON TOPO MAP, ACCORDING TO A NON-SOURCE MAP OF THE SAMOA DUNES RECREATION AREA.

Ecological:

DUNES.

Threats:

General:

ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS 2007 OBSERVATION BY WHEELER. NEEDS FIELDWORK TO DETERMINE EXACT LOCATION WITHIN THE PLANT PROTECTION AREA.

PLSS:	T05N, R01W, Sec. 31 (H)	**Accuracy:**	1/5 mile	**Area (acres):**	0
UTM:	Zone-10 N4514157 E397170	**Latitude/Longitude:**	40.77196 / -124.21848	**Elevation (feet):**	20

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472)

Sources:

WHENDU0001 WHEELER, J. - EMAIL FROM JENNIFER WHEELER TO CNPS RARE PLANT STATUS REVIEW PANEL FOR HESPEREVAX SPARSIFLORA VAR. BREVIFOLIA XXXX-XX-XX

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	23680	**EO Index:**	7254
Key Quad:	Eureka (4012472)	**Element Code:**	PDBRA160R0
Occurrence Number:	11	**Occurrence Last Updated:**	2013-03-06

Scientific Name: *Erysimum menziesii* **Common Name:** Menzies' wallflower

Listing Status:	**Federal:**	Endangered	**Rare Plant Rank:**	1B.1
	State:	Endangered	**Other Lists:**	
CNDDB Element Ranks:	**Global:**	G1		
	State:	S1		

General Habitat:

COASTAL DUNES.

Micro Habitat:

LOCALIZED ON DUNES AND COASTAL STRAND. 0-35 M.

Last Date Observed:	2004-05-XX	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2004-05-XX	**Occurrence Rank:**	Excellent
Owner/Manager:	USFWS-HUMBOLDT BAY NWR, BLM	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

SAND DUNES NW OF THE MOUTH OF MAD RIVER SLOUGH, WEST OF ARCATA.

Detailed Location:

MAPPED BY CNDDB AS 3 POLYGONS: 2 S-MOST POLYGONS BASED ON A 1988 MILLER MAP AND 2005 EDAW MAP, N-MOST POLYGON BASED ON A VAGUE 1988 ANDRE MAP. INCLUDES THE MA-LE'L DUNES UNIT OF HUMBOLDT BAY NWR, CURRENTLY UNDERGOING DUNE RESTORATION.

Ecological:

GROWING AMONG DUNES IN ASSOCIATION WITH ARTEMISIA PYCNOCEPHALA, SOLIDAGO SPATHULATA, LATHYRUS LITTORALIS, AMMOPHILA ARENARIA, AND LUPINUS ARBOREUS. OTHER RARE SPECIES INCLUDE LAYIA CARNOSA AND GILIA MILLEFOLIATUM.

Threats:

ORV USE, TRAMPLING, AND INVASIVE WEEDY SPECIES (L. ARBOREUS AND AMMOPHILA) THREATEN.

General:

FORMER SSP. EUREKENSE EO #2. 500 PLANTS SEEN IN 1988. UNKNOWN # IN 1994 AND 1998. ~1000 IN 2004. INCLUDES FORMER SSP. MENZIESII #41. PORTION OF SITE FENCED BY CSU HUMBOLDT FOR WALLFLOWER RESEARCH PROGRAM. N-MOST POLYGON NEEDS VERIFICATION.

PLSS:	T06N, R01W, Sec. 26 (H)	**Accuracy:**	specific area	**Area (acres):**	53
UTM:	Zone-10 N4525395 E402437	**Latitude/Longitude:**	40.87382 / -124.15784	**Elevation (feet):**	20

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472), Tyee City (4012482)

Sources:

AND88U0001	ANDRE, J. - THE MAPPING AND POPULATION-WIDE SAMPLING OF MENZIES WALLFLOWER, HUMBOLDT BAY NORTH SPIT (= SSP. EUREKENSE). 1988-05-14
ANT94F0001	ANTHONY-WHEELER, J. - FIELD SURVEY FORM FOR ABRONIA UMBELLATA SSP. BREVIFLORA 1994-05-24
EDA05R0001	EDAW, INC. - DRAFT ENVIRONMENTAL ASSESSMENT FOR THE HUMBOLDT BAY NATIONAL WILDLIFE REFUGE, MA-LE'L DUNES RESTORATION 2005-05-05
MIL88F0002	MILLER, L. - FIELD SURVEY FORM FOR ERYSIMUM MENZIESII 1988-03-20
MOR96U0003	MOREY, S. - COASTAL PLANTS RECOVERY WORKSHOP SUMMARY 1996-12-17
PIC87F0001	PICKART, A. - FIELD SURVEY FORM FOR ERYSIMUM MENZIESII 1987-03-XX
PRI87U0002	PRICE, R. - DISSERTATION ON THE SYSTEMATICS OF THE ERYSIMUM CAPITATUM ALLIANCE (BRASSICACEAE) IN NORTH AMERICA 1987-XX-XX
TNC87R0001	THE NATURE CONSERVANCY - ELEMENT MONITORING REPORTS, 1987, THE NATURE CONSERVANCY, CALIFORNIA 1987-XX-XX

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	06821	**EO Index:**	7255
Key Quad:	Eureka (4012472)	**Element Code:**	PDBRA160R0
Occurrence Number:	12	**Occurrence Last Updated:**	2013-03-05

Scientific Name: *Erysimum menziesii*

Common Name: Menzies' wallflower

Listing Status: **Federal:** Endangered
State: Endangered

Rare Plant Rank: 1B.1

Other Lists:

CNDDB Element Ranks: **Global:** G1
State: S1

General Habitat:

COASTAL DUNES.

Micro Habitat:

LOCALIZED ON DUNES AND COASTAL STRAND. 0-35 M.

Last Date Observed:	2009-XX-XX	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2009-XX-XX	**Occurrence Rank:**	Good
Owner/Manager:	PVT, MANILA COMM SERVICES DIST	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

SAND DUNES JUST NORTH OF MANILA, SAMOA PENINSULA, NORTH OF EURKEA.

Detailed Location:

MAPPED BY CNDDB AS 2 POLYGONS ACCORDING TO A 1994 EICHER MAP AND A 2010 FRIENDS OF THE DUNES MAP IN THE S 1/2 OF SECT 34 AND THE NW 1/4 OF SEC 3. A 1988 ANDRE MAP SHOWS A LOCATION JUST N OF MAPPED AREA BUT ACCURACY OF MAP IS UNCLEAR.

Ecological:

IN NORTHERN FOREDUNE COMMUNITY IN ASSOCIATION WITH SOLIDAGO SPATHULATA, POA DOUGLASII, LATHYRUS LITTORALIS, AND THE RARE LAYIA CARNOSA.

Threats:

ORV TRESPASS AND EXOTIC SPECIES ENCROACHMENT (ESPECIALLY AMMOPHILA ARENARIA) THREATEN.

General:

FORMER SSP. EUREKENSE EO #3, 6, & 23. S PART OF SITE IN SEC 3 (LEACHFIELD SITE): 39 PLANTS IN 1994; SITE IS ACTIVELY MANAGED AND RESTORED. N PART OF SITE: OBSERVED ~1984, 136 PLANTS IN 1988, SEEN IN 2008, ERYSIMUM COVERED >1.9 HA IN 2009.

PLSS:	T06N, R01W, Sec. 34 (H)	**Accuracy:**	specific area	**Area (acres):**	14
UTM:	Zone-10 N4523401 E401610	**Latitude/Longitude:**	40.85576 / -124.16733	**Elevation (feet):**	30

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472)

Sources:

AND88U0001	ANDRE, J. - THE MAPPING AND POPULATION-WIDE SAMPLING OF MENZIES WALLFLOWER, HUMBOLDT BAY NORTH SPIT (= SSP. EUREKENSE). 1988-05-14
ANO84M0002	ANONYMOUS - DISTRIBUTION OF ERYSIMUM MENZIESII (SSP. MENZIESII, YADONII, AND EUREKENSE). 1984-XX-XX
EIC94F0002	EICHER, A. & M. BIVIN - FIELD SURVEY FORM FOR ERYSIMUM MENZIESII 1994-03-25
FOD10R0001	FRIENDS OF THE DUNES - PUBLIC ACCESS TRAILS PLAN FOR FRIENDS OF THE DUNES HUMBOLDT COASTAL NATURE CENTER 2010-07-XX
JOH62S0002	JOHNSON, J. - JOHNSON #1183 HSC #6782 1962-03-09
MIL88F0003	MILLER, L. - FIELD SURVEY FORM FOR ERYSIMUM MENZIESII 1988-03-20
MOR96U0003	MOREY, S. - COASTAL PLANTS RECOVERY WORKSHOP SUMMARY 1996-12-17
NEL83U0001	NELSON, T. - PHONE CONVERSATION WITH T. NELSON REGARDING LOCATION OF HUNT FARM ON SAMOA PENINSULA. 1983-03-11
PIC87F0002	PICKART, A. - FIELD SURVEY FORM FOR ERYSIMUM MENZIESII 1987-03-XX
PRI87U0002	PRICE, R. - DISSERTATION ON THE SYSTEMATICS OF THE ERYSIMUM CAPITATUM ALLIANCE (BRASSICACEAE) IN NORTH AMERICA 1987-XX-XX
SAW74U0001	SAWYER, J. - CNPS NOTE CARD W/ JOH62S0002 HUNT FARM SITE 1974-04-XX
WAL10R0001	WALTER, E. - DEFINING RESTORATION GOALS FOR THE HUMBOLDT COASTAL NATURE CENTER, MANILA, CALIFORNIA BASED ON AN ANALYSIS OF ECOLOGICAL PROCESSES IN COASTAL DUNES 2010-11-XX

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	88348	**EO Index:**	5679
Key Quad:	Eureka (4012472)	**Element Code:**	PDBRA160R0
Occurrence Number:	13	**Occurrence Last Updated:**	2013-03-05

Scientific Name: *Erysimum menziesii* **Common Name:** Menzies' wallflower

Listing Status:	**Federal:**	Endangered	**Rare Plant Rank:**	1B.1
	State:	Endangered	**Other Lists:**	
CNDDB Element Ranks:	**Global:**	G1		
	State:	S1		

General Habitat:

COASTAL DUNES.

Micro Habitat:

LOCALIZED ON DUNES AND COASTAL STRAND. 0-35 M.

Last Date Observed:	2010-05-11	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2010-05-11	**Occurrence Rank:**	Good
Owner/Manager:	PVT, BLM, OTHERS	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

SAND DUNES OF SAMOA PENINSULA, FROM COAST GUARD STATION NORTH TO MANILA.

Detailed Location:

FROM S 1/2 OF SECTION 31 NORTH TO SW 1/4 OF SECTION 3. SEVERAL COLLECTIONS FROM THE SAMOA PENINSULA ATTRIBUTED TO THIS OCCURRENCE. RESTORATION WORK AND INVASIVE PLANT REMOVAL HAVE BEEN ONGOING SINCE 1988.

Ecological:

GROWING ON DUNES IN ASSOCIATION WITH ARTEMISIA PYCNOCEPHALA, SOLIDAGO SPATHULATA, AMMOPHILA ARENARIA, LUPINUS ARBOREUS, LAYIA CARNOSA, LATHYRUS LITTORALIS, ERIOGONUM LATIFOLIA, ABRONIA LATIFOLIA, AND POA DOUGLASII.

Threats:

ORV ACTIVITY, PEDESTRIAN TRAFFIC, DEVELOPMENT, INVASIVE WEEDS, POWERLINE MAINTENANCE ACTIVITIES.

General:

FORMER SSP. EUREKENSE EO #4, 17-19, 21, 22. ~2000 PLANTS IN 1982, ~12,000 IN 1988, ~20,000 IN 1989, ~29,000 IN 1998. UNK NUMBER IN 2003. 32 PLANTS IN 2004 "AT OR NEAR PG&E TOWERS 8/46 AND 8/47." APPROX 10,000 IN 2010 AT S END OF SITE.

PLSS:	T05N, R01W, Sec. 20 (H)	**Accuracy:**	specific area	**Area (acres):**	701
UTM:	Zone-10 N4517287 E398627	**Latitude/Longitude:**	40.80033 / -124.20172	**Elevation (feet):**	20

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472)

Sources:

ACK73S0001	ACKERMAN, J. - ACKERMAN #54 HSC #28486 1973-03-27
AND62S0002	ANDERSON, D. - ANDERSON #1949 HSC #6788 1962-03-25
AND88U0001	ANDRE, J. - THE MAPPING AND POPULATION-WIDE SAMPLING OF MENZIES WALLFLOWER, HUMBOLDT BAY NORTH SPIT (= SSP. EUREKENSE). 1988-05-14
ANO84M0002	ANONYMOUS - DISTRIBUTION OF ERYSIMUM MENZIESII (SSP. MENZIESII, YADONII, AND EUREKENSE). 1984-XX-XX
BER85U0001	BERG, K. - LETTER TO JOE PETRILLO, COASTAL CONSERVANCY REGARDING ERYSIMUM MENZIESII 1985-04-24
BRO03F0016	BROOKS, M. - FIELD SURVEY FORM FOR ERYSIMUM MENZIESII 2003-04-XX
CCC10U0001	CALIFORNIA COASTAL COMMISSION - STAFF REPORT FOR PROJECT ALONG SOUTH END OF THE SAMOA PENINSULA 2010-XX-XX
EXX84M0001	EXXON - EXXON PLATFORM JACKET ASSEMBLY SITE - PRELIMINARY FINAL EIR/MAP 1984-XX-XX
FOR63S0001	FORESTER, R. - FORESTER #9 HSC #6786 1963-04-23
FRA11R0002	FRAGA, N. & M. WALL (RANCHO SANTA ANA BOTANIC GARDEN) - STATUS OF EX-SITU CONSERVATION EFFORTS FOR FEDERALLY LISTED THREATENED AND ENDANGERED TAXA ON BLM LAND 2011-09-06
FRI86U0007	FRIEDMAN, L. - ELEMENT CONSERVATION PLAN FOR ERYSIMUM MENZIESII 1986-09-01

FWS08R0003	U.S. FISH AND WILDLIFE SERVICE - 5-YEAR REVIEW FOR MENZIES' WALLFLOWER (ERYSIMUM MENZIESII) 2008-06-XX
HAU80U0001	HAUX, S. - PAPER FOR HSU-COMPARISON OF QUADRAT SHAPES. 1980-XX-XX
HAW65S0001	HAWKS, S. - HAWKS #8 HSC #6785 1965-03-19
LOG78S0001	LOGAN, S. - LOGAN #4 HSC #47486 1978-04-07
MIL88F0004	MILLER, L. - FIELD SURVEY FORM FOR ERYSIMUM MENZIESII 1988-03-20
MIL88F0005	MILLER, L. - FIELD SURVEY FORM FOR ERYSIMUM MENZIESII 1988-03-20
MIL88F0006	MILLER, L. - FIELD SURVEY FORM FOR ERYSIMUM MENZIESII 1988-03-20
MIL88F0007	MILLER, L. - FIELD SURVEY FORM FOR ERYSIMUM MENZIESII 1988-03-20
MIL94F0001	MILLER, L. - FIELD SURVEY FORM FOR ERYSIMUM MENZIESII 1994-03-16
MOR96U0003	MOREY, S. - COASTAL PLANTS RECOVERY WORKSHOP SUMMARY 1996-12-17
NEL71S0001	NELSON, T. - NELSON #383 HSC #26313 1971-04-16
OSW00S0002	OSWALD, V. - OSWALD #9911 RSA #712843, CHSC #93444 2000-04-03
PAU18S0002	PAULSON, M. - PAULSON SN DS #87658 1918-04-28
PIE82F0001	PIERCE, H. - FIELD SURVEY FORM FOR ERYSIMUM MENZIESII 1982-04-28
PIE82F0002	PIERCE, H. - FIELD SURVEY FORM FOR ERYSIMUM MENZIESII 1982-04-28
PIE82F0003	PIERCE, H. - FIELD SURVEY FORM FOR ERYSIMUM MENZIESII 1982-04-28
PIE82F0004	PIERCE, H. - FIELD SURVEY FORM FOR ERYSIMUM MENZIESII 1982-04-28
PIE82F0005	PIERCE, H. - FIELD SURVEY FORM FOR ERYSIMUM MENZIESII 1982-04-28
PIE82F0006	PIERCE, H. - FIELD SURVEY FORM FOR ERYSIMUM MENZIESII 1982-04-28
PRI82F0006	PRICE, R. - FIELD SURVEY FORM FOR ERYSIMUM MENZIESII 1982-04-24
PRI82M0001	PRICE, R. - MAP ATTACHED TO PRI82F0006 WITH FSF REGARDING SEVERAL OCCURRENCE ON SAMOA PENINSULA. 1982-04-24
PRI83U0001	PRICE, R. - LETTER TO MARY ANN SHOWERS 1983-01-30
PRI87U0002	PRICE, R. - DISSERTATION ON THE SYSTEMATICS OF THE ERYSIMUM CAPITATUM ALLIANCE (BRASSICACEAE) IN NORTH AMERICA 1987-XX-XX
ROS55S0004	ROSSBACH, G. - ROSSBACH #596 DS #378174, RSA #102134, UC #1034752, GH #387489 1955-06-10
SMI74U0006	SMITH, J. - CNPS NOTE CARD ON HAW65S0001 1974-04-XX
SMI75S0002	SMITH, J. & J. SAWYER - SMITH #8079 HSC #34457 1975-05-11
STO80S0004	STOPHER, M. - STOPHER #46 CHSC #31281 1980-04-02
TNC87R0001	THE NATURE CONSERVANCY - ELEMENT MONITORING REPORTS, 1987, THE NATURE CONSERVANCY, CALIFORNIA 1987-XX-XX
VAN66S0001	VAN WEEMEN VAN NOORD, R. - VAN WEEMEN VAN NOORD #2 HSC #6784 1966-03-24
WHE10F0007	WHEELER, J. (U.S. BUREAU OF LAND MANAGEMENT) - FIELD SURVEY FORM FOR ERYSIMUM MENZIESII 2010-05-11
WHE10S0002	WHEELER, J. - WHEELER #573 RSA #757820 2010-05-11
WIN60S0001	WINTER, F. - WINTER SN HSC #6772 1960-03-26
WIT92F0001	WITZMAN, J. - FIELD SURVEY FORM FOR ERYSIMUM MENZIESII 1992-04-05
WOO63S0001	WOODSIDE, J. - WOODSIDE #40 HSC #6787 1963-03-10
YOR79S0002	YORK, R. - YORK #230 HSC #49804 1979-04-16

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	23041	**EO Index:**	72450
Key Quad:	Eureka (4012472)	**Element Code:**	PDBRA160R0
Occurrence Number:	15	**Occurrence Last Updated:**	2013-02-28

Scientific Name: *Erysimum menziesii*

Common Name: Menzies' wallflower

Listing Status: **Federal:** Endangered
State: Endangered

Rare Plant Rank: 1B.1

Other Lists:

CNDDB Element Ranks: **Global:** G1
State: S1

General Habitat:

COASTAL DUNES.

Micro Habitat:

LOCALIZED ON DUNES AND COASTAL STRAND. 0-35 M.

Last Date Observed:	2004-04-08	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2004-04-08	**Occurrence Rank:**	Fair
Owner/Manager:	CITY OF EUREKA	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

ELK RIVER SPIT, ON HUMBOLDT BAY SOUTH OF THE CITY OF EUREKA.

Detailed Location:

Ecological:

DUNE MAT COMMUNITY AT BASE OF SPIT. OTHER RARE SPECIES INCLUDE LAYIA CARNOSA, CASTILLEJA AMBIGUA SSP. HUMBOLDTENSIS (IN SALT MARSH NEARBY), GILIA MILLEFOLIATUM. CORDYLANTHUS MARITIMUS SSP. PALUSTRIS IS ALSO MAPPED AT THIS LOCATION.

Threats:

INVASIVE SPECIES, ORVS, TRAMPLING.

General:

FORMER SSP. EUREKENSE EO #7. OVER 20 PLANTS ESTIMATED IN 1998; PLANTS WERE FREE OF CRUCIFER WHITE RUST DISEASE. ~500 PLANTS IN 1999. 3782 PLANTS >2 CM IN DIAMETER, 6066 PLANTS <2 CM IN 2000. UNKNOWN NUMBER IN 2004. THE SITE IS NOT MANAGED.

PLSS:	T04N, R01W, Sec. 04 (H)	**Accuracy:**	specific area	**Area (acres):**	11
UTM:	Zone-10 N4512603 E398988	**Latitude/Longitude:**	40.75819 / -124.19669	**Elevation (feet):**	5

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472)

Sources:

FWS08R0003	U.S. FISH AND WILDLIFE SERVICE - 5-YEAR REVIEW FOR MENZIES' WALLFLOWER (ERYSIMUM MENZIESII) 2008-06-XX
NEL04S0015	NELSON, T. & J. NELSON - NELSON #9181 HSC #97239 2004-04-08
PIC00F0003	PICKART, A. - FIELD SURVEY FORM FOR ERYSIMUM MENZIESII 2000-04-17
PIC98F0006	PICKART, A. - FIELD SURVEY FORM FOR ERYSIMUM MENZIESII SSP. EUREKENSE & GILIA MILLEFOLIATA 1998-06-10
PIC98F0012	PICKART, A. - FIELD SURVEY FORM FOR ERYSIMUM MENZIESII 1998-06-10
PIC98U0002	PICKART, A. - LETTER TO DIANA HICKSON REGARDING HUMBOLT MILK-VETCH AND MENZIES' WALLFLOWER ELK RIVER SPIT AND SOUTH SPIT POPULATIONS. 1998-09-11
PIC99F0007	PICKART, A. - FIELD SURVEY FORM FOR ERYSIMUM MENZIESII 1999-04-18

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	45003	**EO Index:**	45003
Key Quad:	Eureka (4012472)	**Element Code:**	PDCAR0W032
Occurrence Number:	1	**Occurrence Last Updated:**	2007-08-16

Scientific Name: *Spergularia canadensis var. occidentalis*

Common Name: western sand-spurrey

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 2B.1

Other Lists:

CNDDB Element Ranks: **Global:** G5T4?

State: S1

General Habitat:

COASTAL SALT MARSH.

Micro Habitat:

0-3 M.

Last Date Observed:	XXXX-XX-XX	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	XXXX-XX-XX	**Occurrence Rank:**	Unknown
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

SAMOA.

Detailed Location:

Ecological:

Threats:

General:

NEEDS FIELDWORK, LOCATION INFORMATION IS VAGUE.

PLSS:	T05N, R01W, Sec. 16 (H)	**Accuracy:**	3/5 mile	**Area (acres):**	0
UTM:	Zone-10 N4519261 E399956	**Latitude/Longitude:**	40.81827 / -124.18629	**Elevation (feet):**	10

County Summary:	**Quad Summary:**
Humboldt, Pacific Ocean	Eureka (4012472)

Sources:

CNPNDU0009 CALIFORNIA NATIVE PLANT SOCIETY - NORTH COAST RPSAC COMMENTS ON PROPOSED INVENTORY 6TH EDITION CHANGES (INCLUDES INFORMATION ON MULTIPLE SPECIES. RELEVANT INFORMATION FOR L. JAPONICUS QUOTED FROM A. PICKART). XXXX-XX-XX

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	06814	**EO Index:**	45004
Key Quad:	Eureka (4012472)	**Element Code:**	PDCAR0W032
Occurrence Number:	2	**Occurrence Last Updated:**	2001-03-05

Scientific Name: *Spergularia canadensis var. occidentalis*

Common Name: western sand-spurrey

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 2B.1

Other Lists:

CNDDB Element Ranks: **Global:** G5T4?

State: S1

General Habitat:

COASTAL SALT MARSH.

Micro Habitat:

0-3 M.

Last Date Observed:	XXXX-XX-XX	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	XXXX-XX-XX	**Occurrence Rank:**	Unknown
Owner/Manager:	CITY OF EUREKA	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

GUNTHER (INDIAN) ISLAND.

Detailed Location:

Ecological:

Threats:

General:

NEEDS FIELDWORK, LOCATION INFORMATION IS VAGUE.

PLSS:	T05N, R01W, Sec. 15 (H)	**Accuracy:**	nonspecific area	**Area (acres):**	250
UTM:	Zone-10 N4518833 E401590	**Latitude/Longitude:**	40.81462 / -124.16685	**Elevation (feet):**	5

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472)

Sources:

CNPNDU0009 CALIFORNIA NATIVE PLANT SOCIETY - NORTH COAST RPSAC COMMENTS ON PROPOSED INVENTORY 6TH EDITION CHANGES (INCLUDES INFORMATION ON MULTIPLE SPECIES. RELEVANT INFORMATION FOR L. JAPONICUS QUOTED FROM A. PICKART). XXXX-XX-XX

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	06770	**EO Index:**	45005
Key Quad:	Fields Landing (4012462)	**Element Code:**	PDCAR0W032
Occurrence Number:	3	**Occurrence Last Updated:**	2008-12-31

Scientific Name: *Spergularia canadensis var. occidentalis*

Common Name: western sand-spurrey

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 2B.1

Other Lists:

CNDDB Element Ranks: **Global:** G5T4?

State: S1

General Habitat:

COASTAL SALT MARSH.

Micro Habitat:

0-3 M.

Last Date Observed:	1977-07-06	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1977-07-06	**Occurrence Rank:**	Unknown
Owner/Manager:	PVT, OTHERS	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

HUMBOLDT BAY, SOUTH SPIT.

Detailed Location:

MAPPED BY CNDDB ALONG ENTIRE SOUTH SPIT. NEED MAP DETAIL.

Ecological:

TIDAL SALTMARSH.

Threats:

GENERAL THREATS ON THE SOUTH SPIT INCLUDE OHV USE, RECREATION, AND INVASION OF NON-NATIVE PLANTS.

General:

OCCASIONAL. INCLUDES 1 OTHER COLLECTION FROM 1878 BY RATTAN FROM "HUMBOLDT BAY"; NEEDS FIELDWORK.

PLSS:	T04N, R02W, Sec. 13 (H)	**Accuracy:**	nonspecific area	**Area (acres):**	667
UTM:	Zone-10 N4509634 E394536	**Latitude/Longitude:**	40.73089 / -124.24892	**Elevation (feet):**	10

County Summary:

Humboldt, Pacific Ocean

Quad Summary:

Fields Landing (4012462), Cannibal Island (4012463), Eureka (4012472)

Sources:

ABR44B0001	ABRAMS, L. - ILLUSTRATED FLORA OF THE PACIFIC STATES, STANFORD, VOL. 2 1944-XX-XX
BLM02R0001	BLM-BUREAU OF LAND MANAGEMENT - SOUTH SPIT INTERIM MANAGEMENT PLAN 2002-07-10
HAR77S0001	HARVEY, H. - HARVEY #614 SJSU #8458 1977-07-06
JEP93B0001	JEPSON, W. - MANUAL OF THE FLOWERING PLANTS OF CALIFORNIA 1993-XX-XX
RAT78S0001	RATTAN - RATTAN SN GLT (CITED IN ROS40A0001) 1878-06-XX
ROS40A0001	ROSSBACH, R. - "SPERGULARIA IN NORTH AND SOUTH AMERICA (CONTINUED)." RHODORA: JOURNAL OF THE NEW ENGLAND BOTANICAL CLUB, VOL. 42, NO. 496. 1940-04-XX

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	45003	**EO Index:**	49680
Key Quad:	Eureka (4012472)	**Element Code:**	PDFAB0F7B2
Occurrence Number:	23	**Occurrence Last Updated:**	2004-12-13

Scientific Name: *Astragalus pycnostachyus var. pycnostachyus*

Common Name: coastal marsh milk-vetch

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.2

Other Lists: BLM_S-Sensitive

CNDDB Element Ranks: **Global:** G2T2

State: S2

General Habitat:

COASTAL DUNES, COASTAL SALT MARSHES, COASTAL SCRUB.

Micro Habitat:

MESIC SITES IN DUNES OR ALONG STREAMS OR COASTAL SALT MARSHES. 0-30 M.

Last Date Observed:	XXXX-XX-XX	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2003-09-12	**Occurrence Rank:**	Unknown
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

SAMOA.

Detailed Location:

Ecological:

Threats:

PREVIOUS EXTENSIVE ORV USE NOW RESTRICTED (2003). AREA DOMINATED BY AMMOPHILA AND CARPOBROTUS.

General:

NEEDS FIELDWORK. HISTORIC SITE. ACCORDING TO IMPER (2004) THE GENERAL AREA OF SAMOA HAS BEEN LOOKED AT SEVERAL TIMES BY A CONSULTANT & J. CRAWFORD LOOKED AT THE OCEAN SIDE OF THE TOWN IN 2003, BUT NO PLANTS SEEN. ABUNDANT HABITAT HERE.

PLSS:	T05N, R01W, Sec. 16 (H)	**Accuracy:**	3/5 mile	**Area (acres):**	0
UTM:	Zone-10 N4519261 E399956	**Latitude/Longitude:**	40.81827 / -124.18629	**Elevation (feet):**	

County Summary:	**Quad Summary:**
Humboldt, Pacific Ocean	Eureka (4012472)

Sources:

BAY98U0001	BAYE, P. - EXCERPT FROM PRELIMINARY DRAFT "RECOVERY PLAN FOR THE TIDAL MARSH ECOSYSTEMS OF CENTRAL AND NORTHERN CALIFORNIA" 1998-08-19
BAY99U0002	BAYE, P. - EMAIL TO D. TIBOR REGARDING WEST CENTRAL SUBREGION REVISIONS 1999-06-24
CRA03F0003	CRAWFORD, J. - FIELD SURVEY FORM FOR ASTRAGALUS PYCNOSTACHYUS VAR. PYCNOSTACHYUS 2003-09-12
IMP04U0001	IMPER, D. - EMAIL TO R. BITTMAN REGARDING NEGATIVE SURVEYS FOR ASTRAGALUS PYCNOSTACHYUS VAR. PYCNOSTACHYUS 2004-08-24

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	43313	**EO Index:**	43313
Key Quad:	Eureka (4012472)	**Element Code:**	PDFAB250C0
Occurrence Number:	1	**Occurrence Last Updated:**	2000-07-27

Scientific Name: *Lathyrus japonicus*

Common Name: seaside pea

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 2B.1

Other Lists:

CNDDB Element Ranks: **Global:** G5

State: S2

General Habitat:

COASTAL DUNES.

Micro Habitat:

1-30 M.

Last Date Observed:	1915-06-06	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1915-06-06	**Occurrence Rank:**	Unknown
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

ELK RIVER (MOUTH). EUREKA.

Detailed Location:

MAPPED AS BEST GUESS AT RAILROAD BRIDGE OVER MOUTH OF ELK RIVER.

Ecological:

Threats:

General:

EXACT LOCATION UNKNOWN. NEEDS FIELDWORK.

PLSS:	T04N, R01W, Sec. 04 (H)	**Accuracy:**	2/5 mile	**Area (acres):**	0
UTM:	Zone-10 N4512389 E399130	**Latitude/Longitude:**	40.75628 / -124.19498	**Elevation (feet):**	200

County Summary:	**Quad Summary:**
Humboldt, Pacific Ocean	Eureka (4012472)

Sources:

FER32A0001	FERNALD, M. - LATHYRUS JAPONICUS VERSUS L. MARITIMUS IN RHODORA, VOL. 34 NO. 405 1932-09-XX
JEP36B0001	JEPSON, W. - A FLORA OF CALIFORNIA - VOLUME 2 1936-XX-XX
TRA12S0008	TRACY, J. - TRACY #3736 JEPS #55246 1912-07-07
TRA15S0002	TRACY, J. - TRACY #4647 UC #1199079 1915-06-06

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	27975	**EO Index:**	24270
Key Quad:	Eureka (4012472)	**Element Code:**	PDFAB250P0
Occurrence Number:	2	**Occurrence Last Updated:**	1996-05-30

Scientific Name: *Lathyrus palustris*

Common Name: marsh pea

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 2B.2

Other Lists:

CNDDB Element Ranks: **Global:** G5

State: S2S3

General Habitat:

BOGS & FENS, LOWER MONTANE CONIF. FOREST, MARSHES & SWAMPS, N. COAST CONIFEROUS FOREST, COASTAL PRAIRIE, COASTAL SCRUB.

Micro Habitat:

MOIST COASTAL AREAS. 1-100M.

Last Date Observed:	1949-08-03	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1949-08-03	**Occurrence Rank:**	Unknown
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

SOUTHERN OUTSKIRTS OF EUREKA.

Detailed Location:

MAPPED IN THE VICINITY OF THE MOUTH OF THE EEL RIVER AND MARTIN SLOUGH. EXACT LOCATION UNKNOWN.

Ecological:

MARSH AND BOG LAND.

Threats:

General:

ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1949 COLLECTION BY NOBS AND SMITH.

PLSS:	T04N, R01W, Sec. 03 (H)	**Accuracy:**	1 mile	**Area (acres):**	0
UTM:	Zone-10 N4513041 E400758	**Latitude/Longitude:**	40.76235 / -124.17580	**Elevation (feet):**	50

County Summary:	**Quad Summary:**
Humboldt	Fields Landing (4012462), Eureka (4012472)

Sources:

NOB49S0006 NOBS, M. & S. SMITH - NOBS #1187 DS #415212, UC #1191473, POM #312874 1949-08-03

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	45003	**EO Index:**	24291
Key Quad:	Eureka (4012472)	**Element Code:**	PDFAB250P0
Occurrence Number:	3	**Occurrence Last Updated:**	2001-09-14

Scientific Name: *Lathyrus palustris*

Common Name: marsh pea

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 2B.2

Other Lists:

CNDDB Element Ranks: **Global:** G5

State: S2S3

General Habitat:

BOGS & FENS, LOWER MONTANE CONIF. FOREST, MARSHES & SWAMPS, N. COAST CONIFEROUS FOREST, COASTAL PRAIRIE, COASTAL SCRUB.

Micro Habitat:

MOIST COASTAL AREAS. 1-100M.

Last Date Observed:	1907-07-20	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1907-07-20	**Occurrence Rank:**	Unknown
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

NEAR SAMOA.

Detailed Location:

Ecological:

IN SWAMP ADJACENT TO TIDEWATER.

Threats:

General:

ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1907 COLLECTION BY TRACY. NEEDS FIELDWORK.

PLSS:	T05N, R01W, Sec. 16 (H)	**Accuracy:**	3/5 mile	**Area (acres):**	0
UTM:	Zone-10 N4519261 E399956	**Latitude/Longitude:**	40.81827 / -124.18629	**Elevation (feet):**	10

County Summary:	**Quad Summary:**
Humboldt, Pacific Ocean	Eureka (4012472)

Sources:

TRA07S0001 TRACY, J. - TRACY #2593 JEPS #55333, HSC #14753, DS #34293, CAS 1907-07-20

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	32648	**EO Index:**	9831
Key Quad:	Eureka (4012472)	**Element Code:**	PDMAL110E0
Occurrence Number:	29	**Occurrence Last Updated:**	2007-09-19

Scientific Name: *Sidalcea malachroides*

Common Name: maple-leaved checkerbloom

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 4.2

Other Lists:

CNDDB Element Ranks: **Global:** G3G4

State: S3S4.2

General Habitat:

BROADLEAFED UPLAND FOREST, COASTAL PRAIRIE, COASTAL SCRUB, NORTH COAST CONIFEROUS FOREST.

Micro Habitat:

WOODLANDS AND CLEARINGS NEAR COAST; OFTEN IN DISTURBED AREAS. 2-760M.

Last Date Observed:	1921-05-22	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1921-05-22	**Occurrence Rank:**	Unknown
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

EUREKA.

Detailed Location:

Ecological:

Threats:

General:

SITE REPORTED IN 1921 COLLECTION BY PIPER AND FOUR COLLECTIONS BY TRACY.

PLSS:	T05N, R01W, Sec. 22 (H)	**Accuracy:**	1 mile	**Area (acres):**	0
UTM:	Zone-10 N4517461 E401947	**Latitude/Longitude:**	40.80230 / -124.16241	**Elevation (feet):**	100

County Summary:	**Quad Summary:**
Humboldt, Pacific Ocean	Eureka (4012472)

Sources:

JEP36B0001	JEPSON, W. - A FLORA OF CALIFORNIA - VOLUME 2 1936-XX-XX
PIP21S0001	PIPER - PIPER SN CAS #52205 1921-05-22
TRA09S0002	TRACY, J. - TRACY #3010 UC #144092 (IN JEPSON FLORA; FORMERLY CODED AS TRANDS0001)) 1909-07-04
TRA10S0001	TRACY, J. - TRACY #3141 UC #153948 1910-05-22
TRA12S0004	TRACY, J. - TRACY #3716 UC #175692 1912-06-30
TRA18S0004	TRACY, J. - TRACY #4952 UC #1197967 1918-06-09

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	46326	**EO Index:**	46326
Key Quad:	Eureka (4012472)	**Element Code:**	PDMAL110E0
Occurrence Number:	105	**Occurrence Last Updated:**	2001-11-07

Scientific Name: *Sidalcea malachroides*

Common Name: maple-leaved checkerbloom

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 4.2

Other Lists:

CNDDB Element Ranks: **Global:** G3G4

State: S3S4.2

General Habitat:

BROADLEAFED UPLAND FOREST, COASTAL PRAIRIE, COASTAL SCRUB, NORTH COAST CONIFEROUS FOREST.

Micro Habitat:

WOODLANDS AND CLEARINGS NEAR COAST; OFTEN IN DISTURBED AREAS. 2-760M.

Last Date Observed:	2001-06-18	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2001-06-18	**Occurrence Rank:**	Excellent
Owner/Manager:	PVT	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

BOB HILL GULCH AREA. SOUTH OF EUREKA, SOUTH OF CUTTEN.

Detailed Location:

MAPPED AS THE SOUTHERN HALF OF SECTION 2 AS INDICATED BY SOURCE DOCUMENT.

Ecological:

MESIC SEQUOIA SEMPERVIRENS FOREST. ASSOC: RUBUS PARVIFLORUS, RUBUS LEUCODERMIS, GAULTHERIA SHALLON, VACCINIUM OVATUM, VACCINIUM PARVIFOLIUM, STACHYS AJUGOIDES, IRIS DOUGLASIANA, JUNCUS EFFUSUS, LEUCANTHEUM VULGARE, LINUM BIENNE, ET AL.

Threats:

TIMBER HARVEST ACTIVITIES.

General:

208 INDIVIDUALS OBSERVED IN 2001.

PLSS:	T04N, R01W, Sec. 02 (H)	**Accuracy:**	nonspecific area	**Area (acres):**	317
UTM:	Zone-10 N4512211 E402970	**Latitude/Longitude:**	40.75514 / -124.14947	**Elevation (feet):**	

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472)

Sources:

HAY01F0001 HAYLER, K. - FIELD SURVEY FORM FOR SIDALCEA MALACHROIDES 2001-06-18

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	35011	**EO Index:**	363
Key Quad:	Eureka (4012472)	**Element Code:**	PDMAL110F9
Occurrence Number:	4	**Occurrence Last Updated:**	2006-01-23

Scientific Name: *Sidalcea malviflora ssp. patula*

Common Name: Siskiyou checkerbloom

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.2

Other Lists: BLM_S-Sensitive

CNDDB Element Ranks: **Global:** G5T2

State: S2

General Habitat:

COASTAL PRAIRIE, BROADLEAFED UPLAND FOREST.

Micro Habitat:

OPEN COASTAL FOREST. 15-65M.

Last Date Observed:	1944-05-14	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1944-05-14	**Occurrence Rank:**	Unknown
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

BLUFF BACK OF BUCKSPORT (NEAR EUREKA).

Detailed Location:

Ecological:

Threats:

General:

SITE REPORTED IN 3 COLLECTIONS BY J. TRACY; #1148 UC IN 1901, #2193 UC IN 1905 AND #17472 UC IN 1944. TRACY NOTED ON 1944 COLLECTION THAT SPECIES WAS "FORMERLY ABUNDANT BUT NOW VERGING ON EXTERMINATION" AT THIS SITE.

PLSS:	T05N, R01W, Sec. 33 (H)	**Accuracy:**	1 mile	**Area (acres):**	0
UTM:	Zone-10 N4514396 E400502	**Latitude/Longitude:**	40.77453 / -124.17905	**Elevation (feet):**	50

County Summary:	**Quad Summary:**
Humboldt, Pacific Ocean	Eureka (4012472)

Sources:

TRA01S0013	TRACY, J. - TRACY #1148 UC #1197975 1901-06-16
TRA05S0002	TRACY, J. - TRACY #2193 UC #146187 1905-06-11
TRA44S0001	TRACY, J. - TRACY #17472 UC #902194 1944-05-14

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	26633	**EO Index:**	1305
Key Quad:	Fields Landing (4012462)	**Element Code:**	PDMAL110K9
Occurrence Number:	3	**Occurrence Last Updated:**	2004-01-21

Scientific Name: *Sidalcea oregana ssp. eximia*

Common Name: coast sidalcea

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.2

Other Lists: BLM_S-Sensitive

CNDDB Element Ranks: **Global:** G5T1

State: S1

General Habitat:

MEADOWS AND SEEPS, NORTH COAST CONIFEROUS FOREST, LOWER MONTANE CONIFEROUS FOREST.

Micro Habitat:

NEARS MEADOWS, IN GRAVELLY SOIL. 5-1340 M.

Last Date Observed:	1907-06-25	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1907-06-25	**Occurrence Rank:**	Unknown
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

ELK PRAIRIE, VALLEY OF THE ELK RIVER.

Detailed Location:

MAPPED NORTHEAST OF FIELDS LANDING.

Ecological:

ALONG DITCH IN VALLEY OF RIVER 0-500'

Threats:

General:

ONLY SOURCE OF INFORMATION FOR THIS SITE IS COLLECTION BY TRACY #2578 CITED IN "A STUDY OF THE PERENNIAL SPECIES OF SIDALCEA" IN U WASH PUBL BIOL VOL 18 BY HITCHCOCK (1957).

PLSS:	T04N, R01W, Sec. 09 (H)	**Accuracy:**	1 mile	**Area (acres):**	0
UTM:	Zone-10 N4510388 E400106	**Latitude/Longitude:**	40.73838 / -124.18310	**Elevation (feet):**	100

County Summary:	**Quad Summary:**
Humboldt	Fields Landing (4012462), Eureka (4012472)

Sources:

HIT57A0001	HITCHCOCK, C. - A STUDY OF THE PERENNIAL SPECIES OF SIDALCEA, PART I: TAXONOMY. UNIV. WASH. PUBL. BIOL. 18:56-58, 67, 79, 3-12. 1957-XX-XX
JEP36B0001	JEPSON, W. - A FLORA OF CALIFORNIA - VOLUME 2 1936-XX-XX
TRA07S0007	TRACY, J. - TRACY #2578 UC #146131 & #146134 1907-06-25

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	37428	**EO Index:**	32430
Key Quad:	Eureka (4012472)	**Element Code:**	PDMON03030
Occurrence Number:	1	**Occurrence Last Updated:**	1997-10-28

Scientific Name: *Monotropa uniflora*

Common Name: ghost-pipe

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 2B.2

Other Lists:

CNDDB Element Ranks: **Global:** G5

State: S2

General Habitat:

BROADLEAVED UPLAND FOREST, NORTH COAST CONIFEROUS FOREST.

Micro Habitat:

OFTEN UNDER REDWOODS OR WESTERN HEMLOCK. 10-550 M.

Last Date Observed:	1971-08-XX	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1971-08-XX	**Occurrence Rank:**	Unknown
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

REDWOOD ACRES, EUREKA.

Detailed Location:

REDWOOD ACRES IN A FAIRGROUND IN EASTERN EUREKA.

Ecological:

Threats:

General:

ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1971 COLLECTION BY BAER.

PLSS:	T05N, R01W, Sec. 36 (H)	**Accuracy:**	3/5 mile	**Area (acres):**	0
UTM:	Zone-10 N4514372 E404748	**Latitude/Longitude:**	40.77481 / -124.12874	**Elevation (feet):**	100

County Summary:	**Quad Summary:**
Humboldt	Arcata South (4012471), Eureka (4012472)

Sources:

BAE71S0001 BAER, H. - BAER SN HSC #20905 1971-08-XX

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	06815	**EO Index:**	20879
Key Quad:	Eureka (4012472)	**Element Code:**	PDNYC010N4
Occurrence Number:	15	**Occurrence Last Updated:**	1999-07-26

Scientific Name: *Abronia umbellata var. breviflora*

Common Name: pink sand-verbena

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.1

Other Lists: BLM_S-Sensitive

CNDDB Element Ranks: **Global:** G4G5T2

State: S1

General Habitat:

COASTAL DUNES AND COASTAL STRAND.

Micro Habitat:

FOREDUNES AND INTERDUNES WITH SPARSE COVER. A. UMB. BREVIFLORA IS USUALLY THE PLANT CLOSEST TO THE OCEAN. 0-10 M.

Last Date Observed:	1994-03-25	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1994-03-25	**Occurrence Rank:**	Good
Owner/Manager:	PVT, MANILA COMM SERVICES DIST	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

DUNE SYSTEM WEST OF MANILA ON THE SAMOA PENINSULA, NORTHWEST OF EUREKA.

Detailed Location:

SEVERAL COLONIES MAPPED NEAR NORTH END OF LUPIN ROAD, ONE WEST OF THE ROAD, AND ONE SW OF THE ROAD.

Ecological:

ON TOP AND BACK (LEE SIDE) OF FOREDUNES AND IN INTRADUNE AREA. NORTHERN FOREDUNE VEGETATION WITH ABRONIA LATIFOLIA, AMMOPHILA ARENARIA, SOLIDAGO SPATHULATA, POA DOUGLASII, LATHYRUS LITTORALIS, FRAGARIA CHILOENSIS, AND ERIOGONUM LATIFOLIUM.

Threats:

DUNE STABILIZATION, ORV DAMAGE, & RECREATIONAL USE (CAMPING).

General:

100-150 PLANTS SEEN IN 1987, FEWER THAN 50 IN TWO COLONIES IN 1991, AND 1 PLANT IN 1 COLONY EARLY IN SEASON IN 1994.

PLSS:	T05N, R01W, Sec. 03 (H)	**Accuracy:**	specific area	**Area (acres):**	9
UTM:	Zone-10 N4523015 E401539	**Latitude/Longitude:**	40.85228 / -124.16812	**Elevation (feet):**	15

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472)

Sources:

ALP85U0001	ALPERT, P. - LETTER TO OREGON NATURE CONSERVANCY 1985-07-22
DUE91F0024	DUEBENDORFER, T. - FIELD SURVEY FORM FOR ABRONIA UMBELLATA SSP. BREVIFLORA 1991-07-30
EIC94F0003	EICHER, A. & M. BIVIN - FIELD SURVEY FORM FOR ABRONIA UMBELLATA SSP. BREVIFLORA 1994-03-25
GEL87F0004	GELDIN-MEYERS, C. - FIELD SURVEY FORM FOR ABRONIA UMBELLATA VAR. BREVIFLORA 1987-XX-XX
GEL87R0001	GELDIN-MEYERS, C. - SUMMARY REPORT FOR OREGON NATURE CONSERVANCY. 1987-07-28

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	06785	**EO Index:**	14147
Key Quad:	Eureka (4012472)	**Element Code:**	PDNYC010N4
Occurrence Number:	24	**Occurrence Last Updated:**	2008-08-26

Scientific Name: *Abronia umbellata var. breviflora*

Common Name: pink sand-verbena

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.1

Other Lists: BLM_S-Sensitive

CNDDB Element Ranks: **Global:** G4G5T2

State: S1

General Habitat:

COASTAL DUNES AND COASTAL STRAND.

Micro Habitat:

FOREDUNES AND INTERDUNES WITH SPARSE COVER. A. UMB. BREVIFLORA IS USUALLY THE PLANT CLOSEST TO THE OCEAN. 0-10 M.

Last Date Observed:	2007-09-07	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2007-09-07	**Occurrence Rank:**	Good
Owner/Manager:	PVT, CITY OF EUREKA	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

SOUTHEAST OF FAIRHAVEN ON THE SAMOA PENINSULA, WEST OF EUREKA.

Detailed Location:

ALONG DUNES AND WASHOVER ON TOP OF BRACKISH MARSH FROM PARK STREET IN FAIRHAVEN SOUTH TO THE COAST GUARD RESERVATION. MAPPED AS SIX SUBPOPULATIONS, AS PER DUEBENDORFER (1991) AND PICKART (2007).

Ecological:

IN NARROW STRIP OF COASTAL SAND DUNES ASSOC. W/CAKILE MARITIMA, AMMOPHILA ARENARIA, ATRIPLEX SPP, ARTEMISIA PYCNOCEPHALA, FRAGARIA CHILOENSE, ABRONIA LATIFOLIA, LEYMUS X VANCOUVERENSIS, AMBROSIA CHAMISSONIS, ETC.

Threats:

CURRENT USE IS MOSTLY PEDESTRIAN. POTENTIAL THREATS INCLUDE ORV USE, INDUSTRIAL DEVELOPMENT, COMPETITION FROM EXOTICS.

General:

100-150 PLANTS FOUND IN 1987, 50-100 PLANTS IN 1991. 25 PLANTS IN 2000 & 2001 AT NORTHERNMOST COLONY. 20 PLANTS IN MIDDLE COLONY (AWAY FROM SHORE) IN 2007; BECAME ESTABLISHED AFTER SAND DEPOSITED IN WASHOVER EVENT AROUND 2005.

PLSS:	T05N, R01W, Sec. 32 (H)	**Accuracy:**	specific area	**Area (acres):**	23
UTM:	Zone-10 N4514600 E397973	**Latitude/Longitude:**	40.77605 / -124.20904	**Elevation (feet):**	10

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472)

Sources:

ALP85U0001	ALPERT, P. - LETTER TO OREGON NATURE CONSERVANCY 1985-07-22
DUE91F0026	DUEBENDORFER, T. - FIELD SURVEY FORM FOR ABRONIA UMBELLATA SSP. BREVIFLORA 1991-07-30
GEL87F0006	GELDIN-MEYERS, C. - FIELD SURVEY FORM FOR ABRONIA UMBELLATA VAR. BREVIFLORA 1987-07-27
GEL87R0001	GELDIN-MEYERS, C. - SUMMARY REPORT FOR OREGON NATURE CONSERVANCY. 1987-07-28
GEL88U0002	GELDIN-MEYERS, C. - LETTER AND MAP REGARDING ABRONIA UMBELLATA SSP. BREVIFLORA. 1988-09-21
HOR88U0003	HORENSTEIN, J. - FORM LETTER (W/REPLIES) TO VARIOUS HERBARIA REQUESTING COLLECTION DATES. 1988-10-XX
PIC00F0001	PICKART, A. - FIELD SURVEY FORM FOR ABRONIA UMBELLATA SSP. BREVIFLORA 2000-06-25
PIC01F0001	PICKART, A. - FIELD SURVEY FORM FOR ABRONIA UMBELLATA SSP. BREVIFLORA 2001-06-19
PIC07F0001	PICKART, A. - FIELD SURVEY FORM FOR ABRONIA UMBELLATA SSP. BREVIFLORA 2007-09-07

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	06827	**EO Index:**	20866
Key Quad:	Eureka (4012472)	**Element Code:**	PDNYC010N4
Occurrence Number:	25	**Occurrence Last Updated:**	2003-09-19

Scientific Name: *Abronia umbellata var. breviflora*

Common Name: pink sand-verbena

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.1

Other Lists: BLM_S-Sensitive

CNDDB Element Ranks: **Global:** G4G5T2

State: S1

General Habitat:

COASTAL DUNES AND COASTAL STRAND.

Micro Habitat:

FOREDUNES AND INTERDUNES WITH SPARSE COVER. A. UMB. BREVIFLORA IS USUALLY THE PLANT CLOSEST TO THE OCEAN. 0-10 M.

Last Date Observed:	1999-07-28	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1999-07-28	**Occurrence Rank:**	Fair
Owner/Manager:	PVT, BLM	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

NORTHERN END OF THE SAMOA PENINSULA, ABOUT 0.7 MILE NW OF MAD RIVER SLOUGH AT HIGHWAY 255, NORTH OF EUREKA.

Detailed Location:

TWO SMALL COLONIES.

Ecological:

ON LEE SIDE OF FOREDUNES OPPOSITE LARGE DIAMETER WATER MAINS CROSSING MAD RIVER SLOUGH. DOMINANTS INCLUDE ABRONIA LATIFOLIA AND AMMOPHILA ARENARIA WITH CAKILE MARITIMA, ERIGERON GLAUCUS, SOLIDAGO SPATHULATA, ACHILLEA MILLEFOLIUM, ET AL.

Threats:

POTENTIAL THREATS INCLUDE ORV USE AND DUNE STABILIZATION BY AMMOPHILA.

General:

FEWER THAN 50 PLANTS SEEN IN 1987 (N COLONY). FEWER THAN 5 OBSERVED IN SOUTH COLONY IN 1999.

PLSS:	T06N, R01W, Sec. 26 (H)	**Accuracy:**	specific area	**Area (acres):**	5
UTM:	Zone-10 N4525158 E402280	**Latitude/Longitude:**	40.87167 / -124.15967	**Elevation (feet):**	40

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472)

Sources:

GEL87F0004	GELDIN-MEYERS, C. - FIELD SURVEY FORM FOR ABRONIA UMBELLATA VAR. BREVIFLORA 1987-XX-XX
GEL87R0001	GELDIN-MEYERS, C. - SUMMARY REPORT FOR OREGON NATURE CONSERVANCY. 1987-07-28
GEL88U0002	GELDIN-MEYERS, C. - LETTER AND MAP REGARDING ABRONIA UMBELLATA SSP. BREVIFLORA. 1988-09-21
PIC99F0004	PICKART, A. - FIELD SURVEY FORM FOR ABRONIA UMBELLATA SSP. BREVIFLORA 1999-07-28

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	06823	**EO Index:**	20864
Key Quad:	Eureka (4012472)	**Element Code:**	PDNYC010N4
Occurrence Number:	26	**Occurrence Last Updated:**	1999-07-22

Scientific Name: *Abronia umbellata var. breviflora*

Common Name: pink sand-verbena

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.1

Other Lists: BLM_S-Sensitive

CNDDB Element Ranks: **Global:** G4G5T2

State: S1

General Habitat:

COASTAL DUNES AND COASTAL STRAND.

Micro Habitat:

FOREDUNES AND INTERDUNES WITH SPARSE COVER. A. UMB. BREVIFLORA IS USUALLY THE PLANT CLOSEST TO THE OCEAN. 0-10 M.

Last Date Observed:	1994-05-24	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1994-05-24	**Occurrence Rank:**	Good
Owner/Manager:	BLM	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

NORTH END OF SAMOA PENINSULA, ABOUT 0.7 MILE WEST OF MAD RIVER SLOUGH AT HWY 255 CROSSING, NORTH OF EUREKA.

Detailed Location:

0.3 MILES WEST OF TRANSMISSION TOWER WHERE POWER LINES TURN EAST. MAPPED ABOUT 0.5 MILE DUE WEST OF NWPRR TRACKS WHERE THEY CROSS HIGHWAY 255 AT MAD RIVER SLOUGH.

Ecological:

COASTAL DUNE ON DISTURBED SITE. DOMINANTS INCLUDE ABRONIA LATIFOLIA, AMMOPHILA ARENARIA, LATHYRUS LITTORALIS, AND ERIOGONUM LATIFOLIA.

Threats:

POTENTIAL THREATS INCLUDE INCREASED ORV USE AND DUNE STABILIZATION BY AMMOPHILA.

General:

FEWER THAN 50 PLANTS SEEN IN 1987, 20 SEEN IN 1994. OTHER RARE PLANTS IN AREA INCLUDE LAYIA CARNOSA AND ERYSIMUM MENZIESII VAR. EUREKENSE.

PLSS:	T06N, R01W, Sec. 34 (H)	**Accuracy:**	specific area	**Area (acres):**	3
UTM:	Zone-10 N4524273 E401903	**Latitude/Longitude:**	40.86365 / -124.16400	**Elevation (feet):**	40

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472)

Sources:

ANT94F0001	ANTHONY-WHEELER, J. - FIELD SURVEY FORM FOR ABRONIA UMBELLATA SSP. BREVIFLORA 1994-05-24
GEL87F0004	GELDIN-MEYERS, C. - FIELD SURVEY FORM FOR ABRONIA UMBELLATA VAR. BREVIFLORA 1987-XX-XX
GEL87R0001	GELDIN-MEYERS, C. - SUMMARY REPORT FOR OREGON NATURE CONSERVANCY. 1987-07-28
GEL88U0002	GELDIN-MEYERS, C. - LETTER AND MAP REGARDING ABRONIA UMBELLATA SSP. BREVIFLORA. 1988-09-21

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	41383	**EO Index:**	41383
Key Quad:	Eureka (4012472)	**Element Code:**	PDNYC010N4
Occurrence Number:	28	**Occurrence Last Updated:**	1999-07-26

Scientific Name: *Abronia umbellata var. breviflora*

Common Name: pink sand-verbena

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.1

Other Lists: BLM_S-Sensitive

CNDDB Element Ranks: **Global:** G4G5T2

State: S1

General Habitat:

COASTAL DUNES AND COASTAL STRAND.

Micro Habitat:

FOREDUNES AND INTERDUNES WITH SPARSE COVER. A. UMB. BREVIFLORA IS USUALLY THE PLANT CLOSEST TO THE OCEAN. 0-10 M.

Last Date Observed:	1991-07-30	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1991-07-30	**Occurrence Rank:**	Good
Owner/Manager:	PVT-LOUISIANA PACIFIC CORP	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

NORTH OF SAMOA ON THE SAMOA PENINSULA, ABOUT 0.5 MILE WEST OF HIGHWAY 255 AT NEW NAVY BASE ROAD, NW OF EUREKA.

Detailed Location:

SAND DUNES NORTH OF SAMOA ORV STAGING AREA. MAPPED WITHIN THE SW 1/4 SE 1/4 SECTION 9.

Ecological:

NORTHERN FOREDUNE COMMUNITY WITH DUNE MAT, BEACH GRASS, AND OPEN SAND. ASSOCIATED WITH ERIOGONUM LATIFOLIUM, POA DOUGLASII, LATHYUS LITTORALIS, AND FRAGARIA CHILOENSIS. GROWING IN SAND.

Threats:

BEACHCOMBING, ORV USE, AND HIKING.

General:

FEWER THAN 50 PLANTS OBSERVED IN 1991. HISTORIC COLLECTIONS BY TRACY (#2550 UC) AND PURER (#4155 SD) FROM "SAMOA" ARE ATTRIBUTED TO THIS SITE.

PLSS:	T05N, R01W, Sec. 09 (H)	**Accuracy:**	specific area	**Area (acres):**	2
UTM:	Zone-10 N4520070 E399933	**Latitude/Longitude:**	40.82556 / -124.18669	**Elevation (feet):**	15

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472)

Sources:

DUE91F0025	DUEBENDORFER, T. - FIELD SURVEY FORM FOR ABRONIA UMBELLATA SSP. BREVIFLORA 1991-07-30
PUR32S0004	PURER, E. - PURER #4155 SD #41447 1932-07-27
TIL67A0001	TILLETT, S. - THE MARITIME SUBSPECIES OF ABRONIA. BRITTONIA 19:299-327. 1967-XX-XX
TRA06S0003	TRACY - TRACY #2550 UC #146158, US (CITED IN TIL67A0001) 1906-09-29

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	06790	**EO Index:**	20860
Key Quad:	Eureka (4012472)	**Element Code:**	PDNYC010N4
Occurrence Number:	34	**Occurrence Last Updated:**	1989-08-11

Scientific Name: *Abronia umbellata var. breviflora*

Common Name: pink sand-verbena

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.1

Other Lists: BLM_S-Sensitive

CNDDB Element Ranks: **Global:** G4G5T2

State: S1

General Habitat:

COASTAL DUNES AND COASTAL STRAND.

Micro Habitat:

FOREDUNES AND INTERDUNES WITH SPARSE COVER. A. UMB. BREVIFLORA IS USUALLY THE PLANT CLOSEST TO THE OCEAN. 0-10 M.

Last Date Observed:	1983-XX-XX	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1983-XX-XX	**Occurrence Rank:**	Unknown
Owner/Manager:	PVT	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

SAMOA PENINSULA, NEAR VANCE AVE SOUTH OF SAMOA, WEST OF EUREKA.

Detailed Location:

NORTH OF BAY STREET ALONG RAILROAD TRACKS NOT FAR FROM BAY STREET.

Ecological:

IN SANDY SOIL.

Threats:

General:

ALSO SEEN BY KEN BERG.

PLSS:	T05N, R01W, Sec. 20 (H)	**Accuracy:**	1/5 mile	**Area (acres):**	0
UTM:	Zone-10 N4517198 E398837	**Latitude/Longitude:**	40.79956 / -124.19923	**Elevation (feet):**	20

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472)

Sources:

ALP85U0001 ALPERT, P. - LETTER TO OREGON NATURE CONSERVANCY 1985-07-22

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	41384	**EO Index:**	41384
Key Quad:	Eureka (4012472)	**Element Code:**	PDNYC010N4
Occurrence Number:	40	**Occurrence Last Updated:**	1999-07-26

Scientific Name: *Abronia umbellata var. breviflora*

Common Name: pink sand-verbena

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.1

Other Lists: BLM_S-Sensitive

CNDDB Element Ranks: **Global:** G4G5T2

State: S1

General Habitat:

COASTAL DUNES AND COASTAL STRAND.

Micro Habitat:

FOREDUNES AND INTERDUNES WITH SPARSE COVER. A. UMB. BREVIFLORA IS USUALLY THE PLANT CLOSEST TO THE OCEAN. 0-10 M.

Last Date Observed:	1975-08-02	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1975-08-02	**Occurrence Rank:**	Unknown
Owner/Manager:	DHS-COAST GUARD	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

SAMOA PENINSULA, NORTH SPIT OF HUMBOLDT BAY ABOUT 0.25 MI NORTH OF NORTH JETTY, COAST GUARD RESERVATION, WEST OF EUREKA.

Detailed Location:

Ecological:

LOW SAND DUNES ON DISTURBED SAND AND GRAVEL SITE. GROWING WITH ABRONIA LATIFOLIA.

Threats:

General:

ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1975 COLLECTION BY ACKERMAN.

PLSS:	T05N, R01W, Sec. 31 (H)	**Accuracy:**	1/5 mile	**Area (acres):**	0
UTM:	Zone-10 N4513582 E396368	**Latitude/Longitude:**	40.76668 / -124.22789	**Elevation (feet):**	15

County Summary:	**Quad Summary:**
Humboldt, Pacific Ocean	Eureka (4012472)

Sources:

ACK75S0006 ACKERMAN, J. - ACKERMAN SN HSC #37503 1975-08-02

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	72787	**EO Index:**	73631
Key Quad:	Eureka (4012472)	**Element Code:**	PDONA0C1K0
Occurrence Number:	24	**Occurrence Last Updated:**	2008-11-03

Scientific Name: *Oenothera wolfii*

Common Name: Wolf's evening-primrose

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.1

Other Lists: BLM_S-Sensitive

CNDDB Element Ranks: **Global:** G1

State: S1

General Habitat:

COASTAL BLUFF SCRUB, COASTAL DUNES, COASTAL PRAIRIE, LOWER MONTANE CONIFEROUS FOREST.

Micro Habitat:

SANDY SUBSTRATES; USUALLY MESIC SITES. 3-800M.

Last Date Observed:	2001-07-08	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2001-07-08	**Occurrence Rank:**	Unknown
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

NORTH SPIT OF SAMOA PENINSULA, 0.5 MI NORTH OF HWY 255 BRIDGE OVER HUMBOLDT BAY.

Detailed Location:

EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB APPROXIMATELY 0.5 MILES NORTH OF HWY 255 BRIDGE.

Ecological:

MARSHLAND AND ADJACENT COASTAL SCRUB.

Threats:

General:

ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS 2001 HELMKAMP & HELMKAMP COLLECTION. NEEDS FIELDWORK TO DETERMINE EXACT LOCATION.

PLSS:	T05N, R01W, Sec. 10 (H)	**Accuracy:**	2/5 mile	**Area (acres):**	0
UTM:	Zone-10 N4520869 E400787	**Latitude/Longitude:**	40.83286 / -124.17669	**Elevation (feet):**	10

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472)

Sources:

HEL01S0006 HELMKAMP, G. & E. HELMKAMP - HELMKAMP #7005 UCR #122379 2001-07-08

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	35011	**EO Index:**	52133
Key Quad:	Eureka (4012472)	**Element Code:**	PDPLM040B6
Occurrence Number:	13	**Occurrence Last Updated:**	2003-09-02

Scientific Name: *Gilia capitata ssp. pacifica*

Common Name: Pacific gilia

Listing Status: **Federal:** None

State: None

CNDDB Element Ranks: **Global:** G5T3T4

State: S2.2?

Rare Plant Rank: 1B.2

Other Lists:

General Habitat:

COASTAL BLUFF SCRUB, COASTAL PRAIRIE, VALLEY AND FOOTHILL GRASSLAND.

Micro Habitat:

5-300M.

Last Date Observed:	1905-06-11	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1905-06-11	**Occurrence Rank:**	Unknown
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

BUCKSPORT, NEAR THE REGION ABOUT HUMBOLDT BAY.

Detailed Location:

EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB, IN THE VICINITY OF BUCKSPORT, NEAR HUMBOLDT BAY.

Ecological:

SANDY FIELD.

Threats:

General:

ONLY INFORMATION FOR THIS SITE IS 1905 COLLECTION BY TRACY. NEEDS FIELDWORK.

PLSS:	T05N, R01W, Sec. 33 (H)	**Accuracy:**	1 mile	**Area (acres):**	0
UTM:	Zone-10 N4514396 E400502	**Latitude/Longitude:**	40.77453 / -124.17905	**Elevation (feet):**	250

County Summary:	**Quad Summary:**
Humboldt, Pacific Ocean	Eureka (4012472)

Sources:

TRA05S0008 TRACY, J. - TRACY #2188 UC #133634 (CITED IN GRA50A0001) 1905-06-11

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	71737	**EO Index:**	54363
Key Quad:	Eureka (4012472)	**Element Code:**	PDPLM04130
Occurrence Number:	22	**Occurrence Last Updated:**	2008-07-18

Scientific Name: *Gilia millefoliata*

Common Name: dark-eyed gilia

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.2

Other Lists: BLM_S-Sensitive

CNDDB Element Ranks: **Global:** G2

State: S2.2

General Habitat:

COASTAL DUNES.

Micro Habitat:

2-20M.

Last Date Observed:	2003-04-XX	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2003-04-XX	**Occurrence Rank:**	Good
Owner/Manager:	PVT-PGE, UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

BENEATH PG&E POWERLINE CORRIDOR NEAR SAMOA.

Detailed Location:

MAPPED BENEATH CORRIDOR LINE BETWEEN PG&E TOWERS 8/46 AND 8/45 AND BETWEEN TOWERS 8/44 AND 8/43, ACCORDING TO MAP PROVIDED BY BROOKS.

Ecological:

COASTAL DUNES WITH OPEN SAND HABITAT. SAND VERBENA-BEACH BURSAGE SERIES. OTHER RARE SPECIES IN THE AREA ARE LAYIA CARNOSA AND ERYSIMUM MENZIESII SSP. EUREKENSE.

Threats:

COMPETITION FROM INVASIVE WEEDS IN SOME PLACES; TOWERLINE MAINTENANCE ACTIVITIES, BUT PG&E TRYING TO AVOID IMPACTS.

General:

EST. 2000 PLANTS OBSERVED IN 2003 AMONG THIS OCCURRENCE AND OCCURRENCES #23 AND #32; POSSIBLY MORE PLANTS PRESENT. SEVERAL COLLECTIONS BY TRACY, AND 1939 DEARING COLLECTION FROM "NEAR SAMOA" ATTRIBUTED TO THIS SITE.

PLSS:	T05N, R01W, Sec. 16 (H)	**Accuracy:**	specific area	**Area (acres):**	7
UTM:	Zone-10 N4518720 E399256	**Latitude/Longitude:**	40.81331 / -124.19450	**Elevation (feet):**	20

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472)

Sources:

BRO03F0017	BROOKS, M. - FIELD SURVEY FORM FOR GILIA MILLEFOLIATA 2003-04-01
DEA39S0011	DEARING, H. & M. DEARING - DEARING #3432 SBBG #5887 1939-05-25
GRA54A0001	GRANT, V. - GENETIC AND TAXONOMIC STUDIES IN GILIA. EL ALISO 3(1):19-34. 1954-03-15
TRA05S0011	TRACY, J. - TRACY #2170 UC 1905-04-30
TRA36S0010	TRACY, J. - TRACY #14833 JEPS 1936-05-30
TRA46S0003	TRACY, J. - TRACY #17554 UC 1946-06-02
TRA48S0001	TRACY, J. - TRACY #18067 1/2 UC 1948-06-12
TRA48S0002	TRACY, J. - TRACY #18067 UC 1948-06-12
TRANDS0005	TRACY, J. - TRACY #179 HERBARIUM UNKNOWN (CITED IN GRA54A0001) XXXX-XX-XX

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	54364	**EO Index:**	54364
Key Quad:	Eureka (4012472)	**Element Code:**	PDPLM04130
Occurrence Number:	23	**Occurrence Last Updated:**	2008-07-18

Scientific Name: *Gilia millefoliata*

Common Name: dark-eyed gilia

Listing Status: **Federal:** None

State: None

CNDDB Element Ranks: **Global:** G2

State: S2.2

Rare Plant Rank: 1B.2

Other Lists: BLM_S-Sensitive

General Habitat:

COASTAL DUNES.

Micro Habitat:

2-20M.

Last Date Observed:	2003-04-XX	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2003-04-XX	**Occurrence Rank:**	Good
Owner/Manager:	PVT-PGE, UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

NEAR PG&E TOWERS LOCATED 0.5 AND 0.7 AIR MI SW OF BM 17, SOUTH OF SAMOA.

Detailed Location:

LOCATED AT OR NEAR PG&E TOWERS 9/51 AND 9/48. MAPPED ACCORDING TO MAP PROVIDED BY BROOKS. OTHER TOWERS LISTED ON FORM BUT NOT SHOWN ON MAP PROVIDED: 9/52, 9/50, AND 8/47; COULD NOT LOCATE.

Ecological:

COASTAL DUNES WITH OPEN SAND HABITAT. SAND VERBENA-BEACH BURSAGE SERIES. OTHER RARE SPECIES IN THE AREA ARE LAYIA CARNOSA AND ERYSIMUM MENZIESII SSP. EUREKENSE.

Threats:

COMPETITION FROM INVASIVE WEEDS IN SOME PLACES; TOWERLINE MAINTENANCE ACTIVITIES, BUT PG&E TRYING TO AVOID IMPACTS.

General:

OVER 1000 PLANTS SEEN DURING UNDATED SITE VISIT BY MORRELL. EST. 2000 PLANTS IN 2003 AMONG THIS OCCURRENCE AND OCCS. #22 AND #32; POSS. MORE PLANTS PRESENT. 1962 BREEDLOVE COLLECTION FROM "1.5 MI S OF SAMOA" ATTRIBUTED TO THIS OCCURRENCE.

PLSS:	T05N, R01W, Sec. 20 (H)	**Accuracy:**	specific area	**Area (acres):**	10
UTM:	Zone-10 N4517495 E398986	**Latitude/Longitude:**	40.80224 / -124.19750	**Elevation (feet):**	20

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472)

Sources:

BRE62S0037	BREEDLOVE, D. - BREEDLOVE #3041 RSA #150803 1962-06-XX
BRO03F0017	BROOKS, M. - FIELD SURVEY FORM FOR GILIA MILLEFOLIATA 2003-04-01
MOR95U0010	MORRELL, P. - CORRESPONDENCE TO M. SKINNER REGARDING LOCALITY AND COLLECTION DATA ON GILIA MILLEFOLIATA & GILIA CAPITATA SSP. CHAMISSONIS 1995-10-02
MORNDS0016	MORRELL, P. - MORRELL #280 RSA (CITED IN MOR95U0010) XXXX-XX-XX

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	54365	**EO Index:**	54365
Key Quad:	Eureka (4012472)	**Element Code:**	PDPLM04130
Occurrence Number:	24	**Occurrence Last Updated:**	2008-08-04

Scientific Name: *Gilia millefoliata*

Common Name: dark-eyed gilia

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.2

Other Lists: BLM_S-Sensitive

CNDDB Element Ranks: **Global:** G2

State: S2.2

General Habitat:

COASTAL DUNES.

Micro Habitat:

2-20M.

Last Date Observed:	1997-06-05	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1997-06-05	**Occurrence Rank:**	Unknown
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

NORTH SPIT OF HUMBOLDT BAY, NORTH OF THE BOAT RAMP AND COAST GUARD STATION.

Detailed Location:

EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDB IN THE VICINITY OF EUREKA CITY AIRPORT, ACCORDING TO T-R-S PROVIDED BY JANEWAY, T5N R1W NW1/4 OF SEC 32, AND OSWALD'S DESCRIPTION, "OPPOSITE THE JCT OF NEW NAVY BASE RD AND LINCOLN AVE."

Ecological:

COASTAL STRAND. IN SANDY SOIL IN A BROAD DEPRESSION BETWEEN STABILIZED SAND DUNES, AND IN PARTIALLY STABLIZED SAND DUNES.

Threats:

OHVS?

General:

1997 OSWALD COLLECTION FROM "3.7 MI S OF HWY 255, ORVIL WILSON MEMORIAL OFF-ROAD VEHICLE PARK OPPOSITE THE JCT NEW NAVY BASE RD AND LINCOLN AVE" ATTRIBUTED TO THIS OCCURRENCE. NEEDS FIELDWORK.

PLSS:	T05N, R01W, Sec. 29 (H)	**Accuracy:**	2/5 mile	**Area (acres):**	0
UTM:	Zone-10 N4515196 E397790	**Latitude/Longitude:**	40.78139 / -124.21130	**Elevation (feet):**	15

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472)

Sources:

JAN84S0002	JANEWAY, L. - JANEWAY #731 CHSC, HSC 1984-04-11
OSW97S0010	OSWALD, V. - OSWALD #8543 CHSC #68788 1997-06-05

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	54366	**EO Index:**	54366
Key Quad:	Eureka (4012472)	**Element Code:**	PDPLM04130
Occurrence Number:	25	**Occurrence Last Updated:**	2004-02-10

Scientific Name: *Gilia millefoliata*

Common Name: dark-eyed gilia

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.2

Other Lists: BLM_S-Sensitive

CNDDB Element Ranks: **Global:** G2

State: S2.2

General Habitat:

COASTAL DUNES.

Micro Habitat:

2-20M.

Last Date Observed:	1998-06-10	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1998-06-10	**Occurrence Rank:**	Fair
Owner/Manager:	CITY OF EUREKA	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

SAND DUNE SPIT AT MOUTH OF ELK RIVER IN HUMBOLDT BAY, SW OF BUCKSPORT.

Detailed Location:

MAPPED AS ONE POLYGON EXTENDING THROUGH THE NE 1/4 OF SECTION 5.

Ecological:

IN DUNE MAT, WITH ARTEMISIA PYCNOCEPHALA, CALYSTEGIA SOLDANELLA, POA DOUGLASSII, AND LUPINUS LITTORALIS.

Threats:

OFF ROAD VEHICLES. EXOTIC SPECIES.

General:

SEVERAL COLLECTIONS FROM SANDY REGIONS NEAR BUCKSPORT AND EUREKA/HUMBOLDT BAY ATTRIBUTED TO THIS SITE. FEWER THAN 10 PLANTS SEEN BY PICKART IN 1998. OTHER RARE PLANTS AT THIS SITE: LAYIA CARNOSA AND ERYSIMUM MENZIESII SSP. EUREKENSE.

PLSS:	T04N, R01W, Sec. 05 (H)	**Accuracy:**	specific area	**Area (acres):**	120
UTM:	Zone-10 N4513297 E398701	**Latitude/Longitude:**	40.76440 / -124.20020	**Elevation (feet):**	15

County Summary:	**Quad Summary:**
Humboldt, Pacific Ocean	Eureka (4012472)

Sources:

CHA01S0004	CHANDLER, H. - CHANDLER #1135 1901-05-XX
PIC98F0006	PICKART, A. - FIELD SURVEY FORM FOR ERYSIMUM MENZIESII SSP. EUREKENSE & GILIA MILLEFOLIATA 1998-06-10
TRA03S0011	TRACY, J. - TRACEY #1921 JEPS 1903-06-12
TRA05S0009	TRACY, J. - TRACY #2189 UC 1905-06-11
TRA05S0010	TRACY, J. - TRACY #2190 UC 1905-06-11
TRA31S0004	TRACY, J. - TRACY #9583 UC 1931-06-15

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	71739	**EO Index:**	72635
Key Quad:	Eureka (4012472)	**Element Code:**	PDPLM04130
Occurrence Number:	32	**Occurrence Last Updated:**	2008-07-18

Scientific Name: *Gilia millefoliata*

Common Name: dark-eyed gilia

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.2

Other Lists: BLM_S-Sensitive

CNDDB Element Ranks: **Global:** G2

State: S2.2

General Habitat:

COASTAL DUNES.

Micro Habitat:

2-20M.

Last Date Observed:	2003-04-XX	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2003-04-XX	**Occurrence Rank:**	Good
Owner/Manager:	PVT-PGE, UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

NEAR PG&E TOWERS LOCATED 0.3 AND 0.6 AIR MI NNE OF MANILA SCHOOL, SAMOA PENINSULA.

Detailed Location:

LOCATED AT OR NEAR PG&E TOWERS 5/29 AND 5/27. MAPPED ACCORDING TO MAP PROVIDED BY BROOKS.

Ecological:

COASTAL DUNES WITH OPEN SAND HABITAT. SAND VERBENA-BEACH BURSAGE SERIES. OTHER RARE SPECIES IN THE AREA ARE LAYIA CARNOSA AND ERYSIMUM MENZIESII SSP. EUREKENSE.

Threats:

COMPETITION FROM INVASIVE WEEDS IN SOME PLACES; TOWERLINE MAINTENANCE ACTIVITIES, BUT PG&E TRYING TO AVOID IMPACTS.

General:

EST. 2000 PLANTS IN 2003 AMONG THIS OCCURRENCE AND OCCURRENCES #22 AND #23; POSSIBLY MORE PLANTS PRESENT.

PLSS:	T05N, R01W, Sec. 03 (H)	**Accuracy:**	specific area	**Area (acres):**	10
UTM:	Zone-10 N4522856 E401624	**Latitude/Longitude:**	40.85085 / -124.16708	**Elevation (feet):**	35

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472)

Sources:

BRO03F0017 BROOKS, M. - FIELD SURVEY FORM FOR GILIA MILLEFOLIATA 2003-04-01

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	32648	**EO Index:**	9830
Key Quad:	Eureka (4012472)	**Element Code:**	PDPOR05070
Occurrence Number:	1	**Occurrence Last Updated:**	2013-06-11

Scientific Name: *Montia howellii* **Common Name:** Howell's montia

Listing Status: **Federal:** None **Rare Plant Rank:** 2B.2

State: None **Other Lists:**

CNDDB Element Ranks: **Global:** G3G4

State: S3

General Habitat:

MEADOWS, NORTH COAST CONIFEROUS FOREST, VERNAL POOLS.

Micro Habitat:

VERNALLY WET SITES; OFTEN ON COMPACTED SOIL. 0-835 M.

Last Date Observed:	1916-05-07	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1989-06-22	**Occurrence Rank:**	Unknown
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

EUREKA.

Detailed Location:

EXACT LOCATION UNKNOWN, MAPPED BY CNDDB IN GENERAL VICINITY OF EUREKA.

Ecological:

WET SHADY PLACES.

Threats:

General:

OCCURRENCE IS BASED ON 4 TRACY COLLECTIONS FROM 1904, 1909, AND 1916. AREA SEARCHED IN 1989 BUT NO PLANTS FOUND; MAY HAVE BEEN TOO LATE IN SEASON.

PLSS:	T05N, R01W, Sec. 22 (H)	**Accuracy:**	1 mile	**Area (acres):**	0
UTM:	Zone-10 N4517461 E401947	**Latitude/Longitude:**	40.80230 / -124.16241	**Elevation (feet):**	50

County Summary:	**Quad Summary:**
Humboldt, Pacific Ocean	Eureka (4012472)

Sources:

TRA04S0004	TRACY, J. - TRACY #2018 GH #376987 1904-04-17
TRA09S0001	TRACY, J. - TRACY #2956 DS #45742, JEPS #43276, UC #162354 1909-05-02
TRA09S0005	TRACY, J. - TRACY #2947 UC #162353 1909-03-21
TRA16S0001	TRACY, J. - TRACY #4686 POM #163985 & 168985, JEPS #43192, UC #198599, CAS #167024 1916-05-07
VRI89U0001	VRILAKAS, S. - MONTIA HOWELLII INTERIM REPORT. 1989-XX-XX

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	32648	**EO Index:**	44722
Key Quad:	Eureka (4012472)	**Element Code:**	PDSCR0D012
Occurrence Number:	18	**Occurrence Last Updated:**	2001-01-16

Scientific Name: *Castilleja litoralis*

Common Name: Oregon coast paintbrush

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 2B.2

Other Lists:

CNDDB Element Ranks: **Global:** G4G5T4

State: S2.2

General Habitat:

COASTAL BLUFF SCRUB, COASTAL DUNES, COASTAL SCRUB.

Micro Habitat:

SANDY SITES. 15-100 M.

Last Date Observed:	1918-04-28	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1918-04-28	**Occurrence Rank:**	Unknown
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

EUREKA, VICINITY.

Detailed Location:

Ecological:

FOUND AMONGST DENSE GRASS IN MOIST/DAMP SOIL.

Threats:

General:

NEEDS FIELDWORK. BASED ON 3 COLLECTIONS FROM 1900 AND 1901 BY TRACY, AND FROM 1918 BY PAULSON.

PLSS:	T05N, R01W, Sec. 22 (H)	**Accuracy:**	1 mile	**Area (acres):**	0
UTM:	Zone-10 N4517461 E401947	**Latitude/Longitude:**	40.80230 / -124.16241	**Elevation (feet):**	500

County Summary:	**Quad Summary:**
Humboldt, Pacific Ocean	Eureka (4012472)

Sources:

PAU18S0001	PAULSON, M. - PAULSON SN JEPS #21129 1918-04-28
TRA00S0002	TRACY, J. - TRACY #864 UC #147876 1900-06-25
TRA01S0008	TRACY, J. - TRACY #1084 UC #1196864 1901-05-12

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	71362	**EO Index:**	24293
Key Quad:	Eureka (4012472)	**Element Code:**	PDSCR0D402
Occurrence Number:	2	**Occurrence Last Updated:**	2008-05-23

Scientific Name: *Castilleja ambigua var. humboldtiensis*

Common Name: Humboldt Bay owl's-clover

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.2

Other Lists: BLM_S-Sensitive

CNDDB Element Ranks: **Global:** G4T2

State: S2.2

General Habitat:

COASTAL SALT MARSH.

Micro Habitat:

IN COASTAL SALTMARSH WITH SPARTINA, DISTICHLIS, SALICORNIA, JAUMEA. 0-3 M.

Last Date Observed:	1976-07-03	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1976-07-03	**Occurrence Rank:**	Unknown
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

SAMOA PENINSULA; JUST NORTH OF SAMOA BRIDGE.

Detailed Location:

Ecological:

COASTAL SALT MARSH.

Threats:

General:

HISTORIC COLLECTIONS FROM "SAMOA" AND FORMER OCCURRENCE #16 ATTRIBUTED TO THIS OCCURRENCE.

PLSS:	T05N, R01W, Sec. 10 (H)	**Accuracy:**	1/5 mile	**Area (acres):**	0
UTM:	Zone-10 N4519912 E401022	**Latitude/Longitude:**	40.82426 / -124.17375	**Elevation (feet):**	5

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472)

Sources:

DUD99S0002	DUDLEY, W. - DUDLEY SN DS #68434 1899-06-XX
SMI76S0003	SMITH, J. - SMITH #8934 HSC #38444 1976-07-03
TRA00S0003	TRACY, J. - TRACY #867 UC #26389 JEPS #26389 2000-07-04
TRA09S0004	TRACY, J. - TRACY #3100 JEPS #26223 1909-09-19

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	71360	**EO Index:**	26387
Key Quad:	Tyee City (4012482)	**Element Code:**	PDSCR0D402
Occurrence Number:	9	**Occurrence Last Updated:**	2008-06-10

Scientific Name: *Castilleja ambigua var. humboldtiensis*

Common Name: Humboldt Bay owl's-clover

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.2

Other Lists: BLM_S-Sensitive

CNDDB Element Ranks: **Global:** G4T2

State: S2.2

General Habitat:

COASTAL SALT MARSH.

Micro Habitat:

IN COASTAL SALTMARSH WITH SPARTINA, DISTICHLIS, SALICORNIA, JAUMEA. 0-3 M.

Last Date Observed:	1991-08-30	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1991-08-30	**Occurrence Rank:**	Good
Owner/Manager:	TNC, PVT	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

MAD RIVER SLOUGH ISLANDS AND SHORELINE, SALT MARSH BORDERING N PORTION OF ARCATA BAY.

Detailed Location:

EXTENDS SOUTH TO SECTION 26 ON ARCATA QUAD. PLANTS ALSO FOUND ON NORTH SIDE OF BRIDGE ON LANPHERE ROAD CROSSING MAD RIVER SLOUGH.

Ecological:

ASSOCIATED WITH SPARTINA, DISTICHLIS SPICATA, SALICORNIA VIRGINICA, & JAUMEA CARNOSA. ALSO WITH 2 OTHER RARE PLANTS: GRINDELIA STRICTA BLAKEI & CORDYLANTHUS MARITIMUS PALUSTRIS. CLAYEY PEAT SOIL.

Threats:

AGRICULTURE & GRAZING ADJACENT TO SITE. SOME REC. USE: DUCK HUNTING AND BIRDWATCHING. OCCASIONAL FOOT TRAFFIC.

General:

10,000+ PLANTS. TNC BEGAN MONITORING SITE IN 1988. INCLUDES FORMER OCCURRENCES #8 AND #22.

PLSS:	T06N, R01W, Sec. 23 (H)	**Accuracy:**	specific area	**Area (acres):**	420
UTM:	Zone-10 N4526368 E403997	**Latitude/Longitude:**	40.88277 / -124.13947	**Elevation (feet):**	5

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472), Tyee City (4012482)

Sources:

AND62S0001	ANDERSON, D. - ANDERSON #2208 HSC 1962-05-10
ANO84S0001	ANONYMOUS - ANONYMOUS #749 HSC #78957 1984-04-28
DUE91F0003	DUEBENDORFER, T. - FIELD SURVEY FORM FOR CASTILLEJA AMBIGUA SSP. HUMBOLDTIENSIS 1991-08-30
DUE91F0006	DUEBENDORFER, T. - FIELD SURVEY FORM FOR CASTILLEJA AMBIGUA SSP. HUMBOLDTIENSIS 1991-07-30
GEL86F0001	GELDIN-MEYERS, C. - FIELD SURVEY FORM FOR CASTILLEJA AMBIGUA SSP. HUMBOLDTIENSIS 1986-05-08
PIC86F0001	PICKART, A. - FIELD SURVEY FORM FOR NORTHERN COASTAL SALT MARSH & CASTILLEJA AMBIGUA SSP. HUMBOLDTIENSIS 1986-03-XX
SWE81M0001	SWEEB, S. - MAP OF LOCATIONS NEAR LANPHERE-CHRISTIANSEN DUNES FOR CASTILLEJA AMBIGUA SSP. HUMBOLDTIENSIS. 1981-XX-XX
TNC88R0001	THE NATURE CONSERVANCY - NATURE CONSERVANCY ELEMENT MONITORING REPORTS, 1987 1988-XX-XX
TNC91R0001	THE NATURE CONSERVANCY - ELEMENT MONITORING REPORTS, 1991 1991-XX-XX
YOR81F0001	YORK, R. - FIELD SURVEY FORM FOR CASTILLEJA AMBIGUA SSP. HUMBOLDTIENSIS 1981-06-07

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	06820	**EO Index:**	17675
Key Quad:	Eureka (4012472)	**Element Code:**	PDSCR0D402
Occurrence Number:	11	**Occurrence Last Updated:**	2008-05-23

Scientific Name: *Castilleja ambigua var. humboldtiensis*

Common Name: Humboldt Bay owl's-clover

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.2

Other Lists: BLM_S-Sensitive

CNDDB Element Ranks: **Global:** G4T2

State: S2.2

General Habitat:

COASTAL SALT MARSH.

Micro Habitat:

IN COASTAL SALTMARSH WITH SPARTINA, DISTICHLIS, SALICORNIA, JAUMEA. 0-3 M.

Last Date Observed:	1987-08-11	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1987-08-11	**Occurrence Rank:**	Unknown
Owner/Manager:	CITY OF EUREKA, PVT	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

WOODLEY ISLAND AND INDIAN ISLAND, HUMBOLDT BAY.

Detailed Location:

TWO COLONIES: N COLONY ON INDIAN ISL MAPPED FROM SPECIFIC DATA SW AND ADJACENT TO HWY 255 CROSSING ON INDIAN ISLAND (ALSO KNOWN AS GUNTHER ISLAND); SOUTHERN COLONY MAPPED ON WOODLEY ISLAND FROM NON-SPECIFIC DATA.

Ecological:

SALT MARSH AND IN MIXTURE OF CLAY-PEAT SUBSTRATE AND SOIL BROUGHT IN TO FORM HWY BERM. WITH SPARTINA DENSIFLORA (EXOTIC), DISTICHLIS SPICATA STOLONIFERA, SALICORNIA VIRGINICA, JAUMEA CARNOSA, AND THE RARE CORDYLANTHUS MARITIMUS PALUSTRIS.

Threats:

POTENTIAL THREAT IS FUTURE HWY MAINTENANCE OR ENHANCEMENT.

General:

UNKNOWN NUMBER OF PLANTS SEEN IN 1987. FORMER OCCURRENCE #20 ATTRIBUTED TO THIS OCCURRENCE.

PLSS:	T05N, R01W, Sec. 15 (H)	**Accuracy:**	nonspecific area	**Area (acres):**	80
UTM:	Zone-10 N4518279 E402115	**Latitude/Longitude:**	40.80968 / -124.16053	**Elevation (feet):**	7

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472)

Sources:

GEL87F0009	GELDIN-MEYERS, C. - FIELD SURVEY FORM FOR CASTILLEJA AMBIGUA SSP. HUMBOLDTIENSIS & CORDYLANTHUS MARITIMUS SSP. PALUSTRIS 1987-08-11
SOR76S0001	SORENSEN, P. - SORENSEN SN HSC #37966 1976-06-16

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	06810	**EO Index:**	17666
Key Quad:	Eureka (4012472)	**Element Code:**	PDSCR0D402
Occurrence Number:	12	**Occurrence Last Updated:**	2003-04-24

Scientific Name: *Castilleja ambigua var. humboldtiensis*

Common Name: Humboldt Bay owl's-clover

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.2

Other Lists: BLM_S-Sensitive

CNDDB Element Ranks: **Global:** G4T2

State: S2.2

General Habitat:

COASTAL SALT MARSH.

Micro Habitat:

IN COASTAL SALTMARSH WITH SPARTINA, DISTICHLIS, SALICORNIA, JAUMEA. 0-3 M.

Last Date Observed:	1978-05-27	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1978-05-27	**Occurrence Rank:**	Unknown
Owner/Manager:	PVT	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

S OF MANILA, APPROX ONE MI N OF SAMOA BRIDGE TURNOFF FROM SAMOA BLVD.

Detailed Location:

Ecological:

SALT MARSH.

Threats:

General:

1978 COLLECTION FROM ABOUT 1.2 MILES NORTH OF EUREKA BRIDGE ATTRIBUTED TO THIS SITE.

PLSS:	T05N, R01W, Sec. 03 (H)	**Accuracy:**	nonspecific area	**Area (acres):**	33
UTM:	Zone-10 N4521730 E401493	**Latitude/Longitude:**	40.84070 / -124.16846	**Elevation (feet):**	

County Summary:	**Quad Summary:**
Humboldt, Pacific Ocean	Eureka (4012472)

Sources:

ACK75S0005	ACKERMAN, J. - ACKERMAN #462 HSC 1975-06-10
HEC78S0005	HECKARD, L. - HECKARD #4804 JEPS #76823 & #76824 1978-05-27

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	06789	**EO Index:**	26389
Key Quad:	Eureka (4012472)	**Element Code:**	PDSCR0D402
Occurrence Number:	13	**Occurrence Last Updated:**	2003-09-22

Scientific Name: *Castilleja ambigua var. humboldtiensis*

Common Name: Humboldt Bay owl's-clover

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.2

Other Lists: BLM_S-Sensitive

CNDDB Element Ranks: **Global:** G4T2

State: S2.2

General Habitat:

COASTAL SALT MARSH.

Micro Habitat:

IN COASTAL SALTMARSH WITH SPARTINA, DISTICHLIS, SALICORNIA, JAUMEA. 0-3 M.

Last Date Observed:	2002-07-19	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2002-07-19	**Occurrence Rank:**	Good
Owner/Manager:	HUM COUNTY	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

ELK RIVER AND SWAIN SLOUGH, S OF EUREKA.

Detailed Location:

Ecological:

NORTHERN COASTAL SALT MARSH ASSOCIATED WITH SPARTINA SP, DISTICHLIS, SALICORNIA, JAUMEA, GRINDELIA STRICTA BLACKEI.

Threats:

DEVELOPMENT IN VICINITY.

General:

MORE THAN 1000 PLANTS. IN PAST SITE HAS HAD DREDGE SPOILS DUMPED ON OCCURRENCE. LOVELACE OBSERVED SPECIES IN THIS VICINITY IN 2002. IS IT STILL IN GOOD CONDITIOIN?

PLSS:	T04N, R01W, Sec. 04 (H)	**Accuracy:**	specific area	**Area (acres):**	28
UTM:	Zone-10 N4512821 E398947	**Latitude/Longitude:**	40.76015 / -124.19721	**Elevation (feet):**	5

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472)

Sources:

GEL85U0001	GELDIN-MEYERS, C. - LETTER TO ROXANNE BITTMAN 1985-05-15
GEL86F0002	GELDIN-MEYERS, C. - FIELD SURVEY FORM FOR CASTILLEJA AMBIGUA SSP. HUMBOLDTIENSIS 1986-05-22
LOV02F0001	LOVELACE, B. - FIELD SURVEY FORM FOR CAREX LYNGBYEI WITH OBSERVATION OF CASTILLEJA AMBIGUA SSP. HUMBOLDTIENSIS 2002-07-19

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	06839	**EO Index:**	26397
Key Quad:	Eureka (4012472)	**Element Code:**	PDSCR0D402
Occurrence Number:	14	**Occurrence Last Updated:**	2005-05-31

Scientific Name: *Castilleja ambigua var. humboldtiensis*

Common Name: Humboldt Bay owl's-clover

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.2

Other Lists: BLM_S-Sensitive

CNDDB Element Ranks: **Global:** G4T2

State: S2.2

General Habitat:

COASTAL SALT MARSH.

Micro Habitat:

IN COASTAL SALTMARSH WITH SPARTINA, DISTICHLIS, SALICORNIA, JAUMEA. 0-3 M.

Last Date Observed:	2003-05-XX	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2003-05-XX	**Occurrence Rank:**	Good
Owner/Manager:	CITY OF EUREKA, PVT, CALTRANS	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

EUREKA SLOUGH, NORTH AND SOUTH OF HIGHWAY 101 BRIDGE, CITY OF EUREKA.

Detailed Location:

MAPPED AS TWO POLYGONS: ONE LARGE POLY SOUTH OF HIGHWAY 101 BRIDGE OVER EUREKA SLOUGH, AND ONE SMALL POLY ON NORTH SIDE OF BRIDGE (FROM LU_03F0003).

Ecological:

NORTHERN COASTAL SALT MARSH ASSOCIATED WITH SPARTINA SP, DISTICHLIS, SALICORNIA, JAUMEA, GRINDELIA STRICTA BLAKEI AND CORDYLANTHUS MARITIMUS PALUSTRIS.

Threats:

DISTURBANCE ON AND ADJACENT TO SITE FROM FROM RESIDENTIAL AND COMMERCIAL DEVELOPMENT.

General:

MORE THAN 9000 PLANTS IN SOUTHERN POLY IN 1986, AND 1350 SEEN IN NORTHERN POLY IN 2003. 1950 COLLECTION BY TRACY FROM EUREKA SLOUGH AT THE RAILROAD BRIDGE ATTRIBUTED HERE.

PLSS:	T05N, R01W, Sec. 23 (H)	**Accuracy:**	specific area	**Area (acres):**	64
UTM:	Zone-10 N4517443 E403738	**Latitude/Longitude:**	40.80235 / -124.14116	**Elevation (feet):**	20

County Summary:	Quad Summary:
Humboldt	Eureka (4012472)

Sources:

GEL85U0001	GELDIN-MEYERS, C. - LETTER TO ROXANNE BITTMAN 1985-05-15
GEL86F0003	GELDIN-MEYERS, C. - FIELD SURVEY FORM FOR CASTILLEJA AMBIGUA SSP. HUMBOLDTIENSIS 1986-05-06
GEL86F0004	GELDIN-MEYERS, C. - FIELD SURVEY FORM FOR CASTILLEJA AMBIGUA SSP. HUMBOLDTIENSIS 1986-05-15
LU_03F0003	LU, C. - FIELD SURVEY FORM FOR CASTILLEJA AMBIGUA SSP. HUMBOLDTIENSIS 2003-05-XX
TRA50S0015	TRACY, J. - TRACY #18839 UC #1222799 1950-06-17

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	23043	**EO Index:**	22466
Key Quad:	Eureka (4012472)	**Element Code:**	PDSCR0D402
Occurrence Number:	21	**Occurrence Last Updated:**	2003-04-24

Scientific Name: *Castilleja ambigua var. humboldtiensis*

Common Name: Humboldt Bay owl's-clover

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.2

Other Lists: BLM_S-Sensitive

CNDDB Element Ranks: **Global:** G4T2

State: S2.2

General Habitat:

COASTAL SALT MARSH.

Micro Habitat:

IN COASTAL SALTMARSH WITH SPARTINA, DISTICHLIS, SALICORNIA, JAUMEA. 0-3 M.

Last Date Observed:	1980-06-20	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1980-06-20	**Occurrence Rank:**	Unknown
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

WEST END OF INDIAN ISLAND (ALSO KNOWN AS GUNTHER ISLAND), HUMBOLDT BAY.

Detailed Location:

1980 COLLECTION BY LEPPIG FROM NORTHWEST SIDE OF INDIAN ISLAND ATTRIBUTED TO THIS SITE.

Ecological:

IN HEAVY MUD WITH GRASSES, ARROWWEED, TRIGLOCHIN MARITIMA.

Threats:

General:

FEWER THAN 10 PLANTS SEEN IN 1980.

PLSS:	T05N, R01W, Sec. 15 (H)	**Accuracy:**	1/5 mile	**Area (acres):**	0
UTM:	Zone-10 N4518379 E401017	**Latitude/Longitude:**	40.81046 / -124.17357	**Elevation (feet):**	0

County Summary:	**Quad Summary:**
Humboldt, Pacific Ocean	Eureka (4012472)

Sources:

LEP80S0001 LEPPIG, G. - LEPPIG SN HSC #90264 1980-05-24

LEP80S0002 LEPPIG, G. - LEPPIG SN HSC #90430 1980-06-22

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	06838	**EO Index:**	22467
Key Quad:	Eureka (4012472)	**Element Code:**	PDSCR0J0C3
Occurrence Number:	27	**Occurrence Last Updated:**	2007-08-15

Scientific Name: *Chloropyron maritimum ssp. palustre*

Common Name: Point Reyes salty bird's-beak

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.2

Other Lists: BLM_S-Sensitive

CNDDB Element Ranks: **Global:** G4?T2

State: S2

General Habitat:

COASTAL SALT MARSH.

Micro Habitat:

USUALLY IN COASTAL SALT MARSH WITH SALICORNIA, DISTICHLIS, JAUMEA, SPARTINA, ETC. 0-10 M.

Last Date Observed:	2003-07-XX	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2003-07-XX	**Occurrence Rank:**	Good
Owner/Manager:	USFWS-HUMBOLDT BAY NWR	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

FROM MOUTH OF EUREKA SLOUGH (NEAR RAILROAD BRIDGE) EAST TO NEAR BRAINARD (EUREKA AIRPORT).

Detailed Location:

ON NORTH SIDE OF HIGHWAY 101. ONE COLLECTION STATES, "ACROSS FROM MURRAY FIELD (EUREKA AIRPORT) NEAR RR TRACKS AND HWY 101".

Ecological:

ON BERMS OF SLOUGHS AND MEANDERS. WITH SPARTINA DENSIFLORA (EXOTIC), SALICORNIA VIRGINICA, TRIGLOCHIN MARITIMA, DISTICHLIS SPICATA STOLONIFERA, AND OTHER RARE PLANTS: CASTILLEJA AMBIGUA HUMBOLDTIENSIS AND GRINDELIA STRICTA BLAKEI.

Threats:

General:

TOTAL OF ABOUT 12,000 PLANTS HERE, MOSTLY CONCENTRATED AT EAST END OF POLYGON IN 1987. INCLUDES FORMER OCCURRENCE #28. IN 2003 800 PLANTS SEEN AT NORTH (EAST) END OF THE EUREKA SLOUGH BRIDGE.

PLSS:	T05N, R01W, Sec. 24 (H)	**Accuracy:**	specific area	**Area (acres):**	85
UTM:	Zone-10 N4517895 E403950	**Latitude/Longitude:**	40.80645 / -124.13873	**Elevation (feet):**	7

County Summary:	**Quad Summary:**
Humboldt, Pacific Ocean	Arcata South (4012471), Eureka (4012472)

Sources:

ACK75S0004	ACKERMAN, J. - ACKERMAN #615 HSC 1975-08-02
GEL87F0012	GELDIN-MEYERS, C. - FIELD SURVEY FORM FOR CORDYLANTHUS MARITIMUS SSP. PALUSTRIS 1987-06-06
LU-03F0001	LU, C. - FIELD SURVEY FORM FOR CORDYLANTHUS MARITIMUS SSP. PALUSTRIS 2003-07-XX
TRA50S0003	TRACY, J. - TRACY #18839A UC #1222818 1950-06-17
WET93S0005	WETHERWAX, M. & K. DOWNING - WETHERWAX #2462 JEPS #93181 1993-08-09

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	06811	**EO Index:**	24268
Key Quad:	Eureka (4012472)	**Element Code:**	PDSCR0J0C3
Occurrence Number:	29	**Occurrence Last Updated:**	2007-08-15

Scientific Name: *Chloropyron maritimum ssp. palustre*

Common Name: Point Reyes salty bird's-beak

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.2

Other Lists: BLM_S-Sensitive

CNDDB Element Ranks: **Global:** G4?T2

State: S2

General Habitat:

COASTAL SALT MARSH.

Micro Habitat:

USUALLY IN COASTAL SALT MARSH WITH SALICORNIA, DISTICHLIS, JAUMEA, SPARTINA, ETC. 0-10 M.

Last Date Observed:	2001-07-08	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2001-07-08	**Occurrence Rank:**	Unknown
Owner/Manager:	PVT	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

SAMOA PENINSULA, APPROXIMATELY 100 FT EAST OF PARKING AREA AT JUNCTION OF STATE HWY 255 & VANCE AVENUE, SOUTH OF MANILA.

Detailed Location:

WEST SIDE OF HUMBOLDT BAY.

Ecological:

IN UPPER EDGE OF MARSH, WITH DISTICHLIS SPICATA, TRIGLOCHIN MARITIMUM, JAUMEA CARNOSA, SALICORNIA VIRGINICA, SPARTINA FOLIOSA, JUNCUS SP.

Threats:

SITE IS ADJACENT TO PARKING AREA AND RAILROAD TRACKS.

General:

ABOUT 150 PLANTS IN 1984, 500-1000 SEEN IN 1987. INCLUDES FORMER OCCURRENCE #30.

PLSS:	T05N, R01W, Sec. 10 (H)	**Accuracy:**	specific area	**Area (acres):**	3
UTM:	Zone-10 N4520809 E401222	**Latitude/Longitude:**	40.83237 / -124.17153	**Elevation (feet):**	5

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472)

Sources:

GEL87F0008	GELDIN-MEYERS, C. - FIELD SURVEY FORM FOR CORDYLANTHUS MARITIMUS SSP. PALUSTRIS 1987-06-18
HEL01S0005	HELMKAMP, G. - HELMKAMP #7008 UCR #122376 2001-07-08
MAR84F0008	MARTZ, C. - FIELD SURVEY FORM FOR CORDYLANTHUS MARITIMUS SSP. PALUSTRIS 1984-07-18
NOB49S0013	NOBS, M. & S.G. SMITH - NOBS #1200 JEPS #21706, UC #1191855, POM #312521, DAV 1949-08-03
THO65S0006	THORNE, R. & P. EVERETT - THORNE #35209 UC #1409054 1965-08-07
TRA01S0004	TRACY, J. - TRACY #1257 UC #147873 1901-08-07
WET93S0004	WETHERWAX, M. & K. DOWNING - WETHERWAX #2460 JEPS #93170 1993-08-09
WIL68S0004	WILDER, P. - WILDER #4413 POM #319325 1968-08-21

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	06824	**EO Index:**	22468
Key Quad:	Eureka (4012472)	**Element Code:**	PDSCR0J0C3
Occurrence Number:	31	**Occurrence Last Updated:**	1993-05-18

Scientific Name: *Chloropyron maritimum ssp. palustre*

Common Name: Point Reyes salty bird's-beak

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.2

Other Lists: BLM_S-Sensitive

CNDDB Element Ranks: **Global:** G4?T2

State: S2

General Habitat:

COASTAL SALT MARSH.

Micro Habitat:

USUALLY IN COASTAL SALT MARSH WITH SALICORNIA, DISTICHLIS, JAUMEA, SPARTINA, ETC. 0-10 M.

Last Date Observed:	1987-06-18	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1987-06-18	**Occurrence Rank:**	Poor
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

MANILA, SAMOA PENINSULA. EAST OF THE INTERSECTION OF MILL STREET AND PEERLESS STREET.

Detailed Location:

Ecological:

IN MOSTLY SANDY SOIL (SOMEWHAT ATYPICAL FOR THIS PLANT). WITH SALICORNIA VIRGINICA, DISTICHLIS SPICATA STOLONIFERA, TRIGLOCHIN MARITIMA, T. CONCINNA, SPERGULARIA SP., JAUMEA CARNOSA, ETC. ALSO WITH GRINDELIA STRICTA BLAKEI (ALSO RARE).

Threats:

SOME FOOT TRAFFIC AND TRASH DUMPING. OCCURRENCE IS NEAR RESIDENCES.

General:

400-500 PLANTS IN 1987. HABITAT CONFINED TO A NARROW STRIP OF BAY SHORE DUE TO ABRUPT ELEVATIONAL INCREASE INLAND FROM BAY.

PLSS:	T05N, R01W, Sec. 03 (H)	**Accuracy:**	80 meters	**Area (acres):**	0
UTM:	Zone-10 N4523017 E402336	**Latitude/Longitude:**	40.85239 / -124.15867	**Elevation (feet):**	7

County Summary:	**Quad Summary:**
Humboldt, Pacific Ocean	Eureka (4012472)

Sources:

GEL87F0010	GELDIN-MEYERS, C. - FIELD SURVEY FORM FOR CORDYLANTHUS MARITIMUS SSP. PALUSTRIS 1987-06-18
SMI76S0002	SMITH, J. - SMITH #8936 HSC 1976-07-03

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	06850	**EO Index:**	26952
Key Quad:	Tyee City (4012482)	**Element Code:**	PDSCR0J0C3
Occurrence Number:	37	**Occurrence Last Updated:**	2003-02-06

Scientific Name: *Chloropyron maritimum ssp. palustre*

Common Name: Point Reyes salty bird's-beak

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.2

Other Lists: BLM_S-Sensitive

CNDDB Element Ranks: **Global:** G4?T2

State: S2

General Habitat:

COASTAL SALT MARSH.

Micro Habitat:

USUALLY IN COASTAL SALT MARSH WITH SALICORNIA, DISTICHLIS, JAUMEA, SPARTINA, ETC. 0-10 M.

Last Date Observed:	1991-08-30	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1991-08-30	**Occurrence Rank:**	Good
Owner/Manager:	TNC, PVT	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

MAD RIVER SLOUGH ISLANDS AND SHORELINE, SALT MARSH BORDERING NORTH PORTION OF ARCATA BAY.

Detailed Location:

EXTENDS SOUTH TO SECTION 26 ON EUREKA QUADRANGLE.

Ecological:

IN COASTAL SALT MARSH HABITAT WITH SPARTINA DENSIFLORA (EXOTIC), SALICORNIA VIRGINICA, DISTICHLIS SPICATA, ORTHOCARPUS CASTILLEJOIDES VAR. HUMBOLDTIENSIS AND GRINDELIA STRICTA SSP. BLAKEI. CLAYEY PEAT SUBSTRATE.

Threats:

LITTLE DISTURBANCE; SOME RECREATIONAL USE-AN OCCASIONAL DUCK BLIND. SPARTINA DENSIFLORA INVASION.

General:

10,000+ PLANTS. OCCURRENCE IN GOOD CONDITION. TNC MONITORING BEGAN IN 1988. IN A 2002 PRESENTATION CLIFFORD STATED THAT POP. DENSITY HAS SIGNIFICANTLY DECLINED. PLANTS SEEM TO PREFER AREAS WHERE OTHER SPECIES DON'T EXCEED 6-10" TALL.

PLSS:	T06N, R01W, Sec. 26 (H)	**Accuracy:**	specific area	**Area (acres):**	363
UTM:	Zone-10 N4526248 E403855	**Latitude/Longitude:**	40.88167 / -124.14115	**Elevation (feet):**	5

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472), Tyee City (4012482)

Sources:

CLI02U0001	CLIFFORD, P. - MONITORING OF TWO RARE SPECIES (CORDYLANTHUS MARITIMUS SSP. PALUSTRIS & CASTILLEJA CAMBIGUA VAR. HUMBOLDIENSIS) AT THE LANPHERE DUNES UNIT OF THE HUMBOLDT BAY NWR. 2002-02-XX
DUE91F0001	DUEBENDORFER, T. - FIELD SURVEY FORM FOR CORDYLANTHUS MARITIMUS SSP. PALUSTRIS 1991-08-30
DUE91F0002	DUEBENDORFER, T. - FIELD SURVEY FORM FOR CORDYLANTHUS MARITIMUS SSP. PALUSTRIS 1991-07-30
GEL87F0007	GELDIN-MEYERS, C. - FIELD SURVEY FORM FOR CORDYLANTHUS MARITIMUS SSP. PALUSTRIS 1987-05-19
MOO87F0002	MOORE, M. - FIELD SURVEY FORM FOR CORDYLANTHUS MARITIMUS SSP. PALUSTRIS 1987-09-08
TNC88R0001	THE NATURE CONSERVANCY - NATURE CONSERVANCY ELEMENT MONITORING REPORTS, 1987 1988-XX-XX

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	23572	**EO Index:**	8193
Key Quad:	Eureka (4012472)	**Element Code:**	PDSCR0J0C3
Occurrence Number:	38	**Occurrence Last Updated:**	1993-04-14

Scientific Name: *Chloropyron maritimum ssp. palustre*

Common Name: Point Reyes salty bird's-beak

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.2

Other Lists: BLM_S-Sensitive

CNDDB Element Ranks: **Global:** G4?T2

State: S2

General Habitat:

COASTAL SALT MARSH.

Micro Habitat:

USUALLY IN COASTAL SALT MARSH WITH SALICORNIA, DISTICHLIS, JAUMEA, SPARTINA, ETC. 0-10 M.

Last Date Observed:	1987-08-11	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1987-08-11	**Occurrence Rank:**	Good
Owner/Manager:	CITY OF EUREKA	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

INDIAN ISLAND, HUMBOLDT BAY. SW AND ADJACENT TO HWY 255 CROSSING. (ALSO KNOWN AS GUNTHER ISLAND).

Detailed Location:

Ecological:

IN MIXTURE OF CLAY-PEAT SUBSTRATE AND SOIL BROUGHT IN TO FORM HWY BERM. W/SPARTINA DENSIFLORA (EXOTIC), DISTICHLIS SPICATA STOLONIFERA, SALICORNIA VIRGINICA, JAUMEA CARNOSA, LIMONIUM CA. ALSO W/CASTILLEJA AMBIGUA HUMBOLDTIENSIS (ALSO RARE).

Threats:

POTENTIAL THREAT IS FUTURE HWY MAINTENANCE OR ENHANCEMENT.

General:

OVER 10,000 PLANTS IN 1987. AREA IS FENCED.

PLSS:	T05N, R01W, Sec. 15 (H)	**Accuracy:**	specific area	**Area (acres):**	10
UTM:	Zone-10 N4519041 E401869	**Latitude/Longitude:**	40.81653 / -124.16358	**Elevation (feet):**	7

County Summary:	**Quad Summary:**
Humboldt, Pacific Ocean	Eureka (4012472)

Sources:

GEL87F0009	GELDIN-MEYERS, C. - FIELD SURVEY FORM FOR CASTILLEJA AMBIGUA SSP. HUMBOLDTIENSIS & CORDYLANTHUS MARITIMUS SSP. PALUSTRIS 1987-08-11

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	23041	**EO Index:**	22462
Key Quad:	Eureka (4012472)	**Element Code:**	PDSCR0J0C3
Occurrence Number:	39	**Occurrence Last Updated:**	1993-04-14

Scientific Name: *Chloropyron maritimum ssp. palustre*

Common Name: Point Reyes salty bird's-beak

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.2

Other Lists: BLM_S-Sensitive

CNDDB Element Ranks: **Global:** G4?T2

State: S2

General Habitat:

COASTAL SALT MARSH.

Micro Habitat:

USUALLY IN COASTAL SALT MARSH WITH SALICORNIA, DISTICHLIS, JAUMEA, SPARTINA, ETC. 0-10 M.

Last Date Observed:	1987-07-15	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1987-07-15	**Occurrence Rank:**	Good
Owner/Manager:	CITY OF EUREKA	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

ELK RIVER SPIT, ON HUMBOLDT BAY SOUTH OF THE CITY OF EUREKA.

Detailed Location:

Ecological:

IN CLAY-PEAT SUBSTRATE WITH SPARTINA DENSIFLORA (EXOTIC), SALICORNIA VIRGINICA, DISTICHLIS SPICATA STOLONIFERA, CUSCUTA SALINA, AND TRIGLOCHIN MARITIMA. CASTILLEJA AMBIGUA HUMBOLDTIENSIS AND SNOWY PLOVER NEARBY (ALSO RARE).

Threats:

SITE RELATIVELY REMOTE; SOME USE BY WATERFOWL HUNTERS.

General:

ABOUT 250 PLANTS IN 1987.

PLSS:	T04N, R01W, Sec. 04 (H)	**Accuracy:**	specific area	**Area (acres):**	11
UTM:	Zone-10 N4512603 E398988	**Latitude/Longitude:**	40.75819 / -124.19669	**Elevation (feet):**	7

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472)

Sources:

GEL87F0011 GELDIN-MEYERS, C. - FIELD SURVEY FORM FOR CORDYLANTHUS MARITIMUS SSP. PALUSTRIS 1987-07-15

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	32648	**EO Index:**	9720
Key Quad:	Eureka (4012472)	**Element Code:**	PDVIO041G0
Occurrence Number:	3	**Occurrence Last Updated:**	2009-02-04

Scientific Name: *Viola palustris*

Common Name: alpine marsh violet

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 2B.2

Other Lists:

CNDDB Element Ranks: **Global:** G5

State: S1S2

General Habitat:

COASTAL SCRUB, BOGS AND FENS.

Micro Habitat:

SWAMPY, SHRUBBY PLACES IN COASTAL SCRUB OR COASTAL BOGS. 0-15M.

Last Date Observed:	1923-05-31	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1923-05-31	**Occurrence Rank:**	Unknown
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

EUREKA.

Detailed Location:

Ecological:

CARPETING THE GROUND IN SHADY WET PLACES BUT FLOWERING RARELY. GROWING AMONG CAREX. ALSO AMONG BRUSH AT EDGE OF SWAMP.

Threats:

General:

SITE REPORTED IN THREE COLLECTIONS BY TRACY IN 1901, 1904, AND 1923.

PLSS:	T05N, R01W, Sec. 22 (H)	**Accuracy:**	1 mile	**Area (acres):**	0
UTM:	Zone-10 N4517461 E401947	**Latitude/Longitude:**	40.80230 / -124.16241	**Elevation (feet):**	100

County Summary:	**Quad Summary:**
Humboldt, Pacific Ocean	Eureka (4012472)

Sources:

TRA01S0019	TRACY, J. - TRACY #1105 UC #164839 1901-05-30
TRA04S0002	TRACY, J.P. - TRACY #2126 UC #164807 1904-07-31
TRA23S0001	TRACY, J.P. - TRACY #6242 UC #275326, JEPS #50263 1923-05-31

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	32648	**EO Index:**	43373
Key Quad:	Eureka (4012472)	**Element Code:**	PMCYP030X0
Occurrence Number:	6	**Occurrence Last Updated:**	2009-02-11

Scientific Name: *Carex arcta*

Common Name: northern clustered sedge

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 2B.2

Other Lists:

CNDDB Element Ranks: **Global:** G5

State: S2

General Habitat:

BOGS AND FENS, NORTH COAST CONIFEROUS FOREST.

Micro Habitat:

MESIC SITES. 60-1400 M.

Last Date Observed:	1912-07-24	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1912-07-24	**Occurrence Rank:**	Unknown
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

EUREKA.

Detailed Location:

EXACT LOCATION UNKNOWN. MAPPED BY CNDDB IN GENERAL VICINITY OF EUREKA (N PART OF TOWN).

Ecological:

IN BEDS OF POOLS WHERE WATER REMAINS UNTIL LATE IN THE SEASON; "BEDS OF WINTER PONDS."

Threats:

General:

TRACY COLLECTIONS FROM "EUREKA" AND "IMMEDIATE VICINITY OF EUREKA" ATTRIBUTED TO THIS OCCURRENCE. NEEDS FIELDWORK TO GET MORE PRECISE LOCATION.

PLSS:	T05N, R01W, Sec. 22 (H)	**Accuracy:**	1 mile	**Area (acres):**	0
UTM:	Zone-10 N4517461 E401947	**Latitude/Longitude:**	40.80230 / -124.16241	**Elevation (feet):**	500

County Summary:	**Quad Summary:**
Humboldt, Pacific Ocean	Eureka (4012472)

Sources:

TRA01S0007	TRACY, J. - TRACY #1195 UC #50827 1901-06-30
TRA03S0009	TRACY, J. - TRACY #1931 UC #1103574 1903-08-09
TRA12S0009	TRACY, J. - TRACY #3806 UC #194807 1912-07-24

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	58540	**EO Index:**	45798
Key Quad:	Eureka (4012472)	**Element Code:**	PMCYP037Y0
Occurrence Number:	9	**Occurrence Last Updated:**	2005-07-07

Scientific Name: *Carex lyngbyei*

Common Name: Lyngbye's sedge

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 2B.2

Other Lists:

CNDDB Element Ranks: **Global:** G5

State: S2.2

General Habitat:

MARSHES AND SWAMPS (BRACKISH OR FRESHWATER).

Micro Habitat:

0M.

Last Date Observed:	2002-07-19	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2002-07-19	**Occurrence Rank:**	Good
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

SOUTH OF EUREKA, ALONG MARTIN SLOUGH AND SWAIN SLOUGH.

Detailed Location:

SCATTERED ALONG PORTIONS OF MARTIN SLOUGH AND SWAIN SLOUGH, WITH ONE OUTLYING SUBPOPULATION WEST OF HIGHWAY 101. MAPPED AS TWO POLYGONS EXTENDING FROM THE SW 1/4 OF SECTION 4 TO FAR NORTHERN SECTION 9 TO THE SW 1/4 OF SECTION 3.

Ecological:

SALT MARSH, FRESHWATER MARSH/STREAM, AND SLOW-MOVING BRACKISH WATER. ASSOCIATED WITH POTENTILLA ANSERINA SSP. PACIFICA, SPARTINA DENSIFLORA, TYPHA LATIFOLIA, GLYCERIA PAUCIFLORA, ALOPECURUS SACCATUS, DISTICHLIS SPICATA, ETC.

Threats:

GRAZING, NON-NATIVE SPARTINA DENSIFLORA.

General:

VERY LARGE NUMBER OF PLANTS SEEN IN 2002. HABITAT VARIES FROM EXCELLENT TO POOR. OLD COLLECTIONS FROM "NEAR MOUTH OF ELK RIVER" BY TRACY ALSO ATTRIBUTED HERE.

PLSS:	T04N, R01W, Sec. 04 (H)	**Accuracy:**	specific area	**Area (acres):**	38
UTM:	Zone-10 N4511952 E400236	**Latitude/Longitude:**	40.75248 / -124.18181	**Elevation (feet):**	10

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472)

Sources:

EIC99U0001	EICHER, R. & A. EICHER - EMAIL TO D. TIBOR REGARDING CAREX LYNGBYEI 1999-04-29
LOV02F0001	LOVELACE, B. - FIELD SURVEY FORM FOR CAREX LYNGBYEI WITH OBSERVATION OF CASTILLEJA AMBIGUA SSP. HUMBOLDTIENSIS 2002-07-19
TRA15S0003	TRACY, J. - TRACY #4646 UC #194811 1915-06-06
TRA27S0004	TRACY, J. - TRACY #8248 JEPS #79849, UC #562333 1927-07-16
TRA38S0012	TRACY, J.P. - TRACY #16069 JEPS #26004, UC #1115809 1938-07-15

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	45003	**EO Index:**	45799
Key Quad:	Eureka (4012472)	**Element Code:**	PMCYP037Y0
Occurrence Number:	10	**Occurrence Last Updated:**	2001-09-14

Scientific Name: *Carex lyngbyei*

Common Name: Lyngbye's sedge

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 2B.2

Other Lists:

CNDDB Element Ranks: **Global:** G5

State: S2.2

General Habitat:

MARSHES AND SWAMPS (BRACKISH OR FRESHWATER).

Micro Habitat:

0M.

Last Date Observed:	XXXX-XX-XX	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	XXXX-XX-XX	**Occurrence Rank:**	Unknown
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

NORTH SPIT OF HUMBOLDT BAY, SAMOA.

Detailed Location:

Ecological:

MARSH.

Threats:

General:

TYPE LOCALE, NEEDS FIELDWORK.

PLSS:	T05N, R01W, Sec. 16 (H)	**Accuracy:**	3/5 mile	**Area (acres):**	0
UTM:	Zone-10 N4519261 E399956	**Latitude/Longitude:**	40.81827 / -124.18629	**Elevation (feet):**	10

County Summary:	**Quad Summary:**
Humboldt, Pacific Ocean	Eureka (4012472)

Sources:

ANONDS0037	ANONYMOUS - ANONYMOUS SN UNK HERB (CITED IN EIC99U01) XXXX-XX-XX
EIC99U0001	EICHER, R. & A. EICHER - EMAIL TO D. TIBOR REGARDING CAREX LYNGBYEI 1999-04-29

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	71174	**EO Index:**	45800
Key Quad:	Eureka (4012472)	**Element Code:**	PMCYP037Y0
Occurrence Number:	11	**Occurrence Last Updated:**	2008-04-28

Scientific Name: *Carex lyngbyei*

Common Name: Lyngbye's sedge

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 2B.2

Other Lists:

CNDDB Element Ranks: **Global:** G5

State: S2.2

General Habitat:

MARSHES AND SWAMPS (BRACKISH OR FRESHWATER).

Micro Habitat:

0M.

Last Date Observed:	1987-04-27	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1987-04-27	**Occurrence Rank:**	Unknown
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

ALONG ESTUARY TO COOPER GULCH, SOUTH SIDE OF STREET CROSSING, EUREKA.

Detailed Location:

MAPPED AS BEST GUESS BY CNDDB ALONG COOPER CANYON.

Ecological:

BRACKISH SLOUGH/MARSH.

Threats:

General:

1927 TRACY COLLECTION FROM "EUREKA...IN BRACKISH SLOUGH" ALSO ATTRIBUTED TO THIS OCCURRENCE. NEEDS FIELDWORK.

PLSS:	T05N, R01W, Sec. 23 (H)	**Accuracy:**	nonspecific area	**Area (acres):**	86
UTM:	Zone-10 N4517255 E402781	**Latitude/Longitude:**	40.80054 / -124.15248	**Elevation (feet):**	5

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472)

Sources:

NEL87S0002	NELSON, T. & J. NELSON - NELSON #8435 CHSC #90270 1987-04-27
TRA27S0005	TRACY, J. - TRACY #8262 UC #562320 1927-07-16

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	61699	**EO Index:**	61735
Key Quad:	Eureka (4012472)	**Element Code:**	PMCYP037Y0
Occurrence Number:	23	**Occurrence Last Updated:**	2005-06-21

Scientific Name: *Carex lyngbyei*

Common Name: Lyngbye's sedge

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 2B.2

Other Lists:

CNDDB Element Ranks: **Global:** G5

State: S2.2

General Habitat:

MARSHES AND SWAMPS (BRACKISH OR FRESHWATER).

Micro Habitat:

0M.

Last Date Observed:	1994-05-18	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1994-05-18	**Occurrence Rank:**	Good
Owner/Manager:	BLM	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

SOUTH END OF NORTH SPIT OF HUMBOLDT BAY, ABOUT 0.3 MILES WEST OF COAST GUARD RESERVATION.

Detailed Location:

IN EPHEMERAL WETLAND IN COASTAL DUNES.

Ecological:

INTERMITTENT, EPHEMERAL WETLAND IN COAST DUNE ECOSYSTEM. ASSOCIATED WITH CAREX PANSA AND POTENTILLA ANSERINA SSP. PACIFICA.

Threats:

INVASIVE WEEDS (E.G. EUROPEAN BEACHGRASS, PAMPAS GRASS). ORV RECREATION AREA SURROUNDS, BUT COMPLIANCE GOOD AS OF 1994.

General:

1000 PLANTS SEEN IN 1994.

PLSS:	T05N, R01W, Sec. 31 (H)	**Accuracy:**	specific area	**Area (acres):**	8
UTM:	Zone-10 N4513700 E396693	**Latitude/Longitude:**	40.76778 / -124.22405	**Elevation (feet):**	20

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472)

Sources:

WHE94F0001 WHEELER, J. - FIELD SURVEY FORM FOR CAREX LYNGBYEI 1994-05-18

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	61700	**EO Index:**	61736
Key Quad:	Eureka (4012472)	**Element Code:**	PMCYP037Y0
Occurrence Number:	24	**Occurrence Last Updated:**	2005-06-21

Scientific Name: *Carex lyngbyei*

Common Name: Lyngbye's sedge

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 2B.2

Other Lists:

CNDDB Element Ranks: **Global:** G5

State: S2.2

General Habitat:

MARSHES AND SWAMPS (BRACKISH OR FRESHWATER).

Micro Habitat:

0M.

Last Date Observed:	2003-06-20	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2003-06-20	**Occurrence Rank:**	Excellent
Owner/Manager:	BLM-MANILA DUNES ACEC	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

ABOUT 1.1 MILES NORTH OF MANILLA, ABOUT 0.7 MILES WEST OF SAMOA ROAD BRIDGE OVER MAD RIVER SLOUGH.

Detailed Location:

PLANTS IN EPHEMERAL WETLAND JUST EAST OF PRIMARY FOREDUNES ON BLM MANILA DUNES ACEC.

Ecological:

PLANTS IN HERBACEOUS SWALE, SANDY EPHEMERAL WETLAND JUST EAST OF PRIMARY FOREDUNES. ASSOCIATED WITH SALIX, JUNCUS LESUERII, AND OTHER CAREX SP.

Threats:

OCCASIONAL VEHICLE TRESPASS INTO PARCEL, BUT UNLIKELY IN SWALE. NON-NATIVE PLANTS NOT A PROBLEM AS OF 2003.

General:

5,000 PLANTS SEEN IN 2003.

PLSS:	T06N, R01W, Sec. 34 (H)	**Accuracy:**	specific area	**Area (acres):**	1
UTM:	Zone-10 N4524648 E402007	**Latitude/Longitude:**	40.86704 / -124.16282	**Elevation (feet):**	20

County Summary:	**Quad Summary:**
Humboldt	Eureka (4012472)

Sources:

WHE03F0002 WHEELER, J. - FIELD SURVEY FORM FOR CAREX LYNGBYEI 2003-06-20

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	32648	**EO Index:**	31372
Key Quad:	Eureka (4012472)	**Element Code:**	PMCYP03B20
Occurrence Number:	6	**Occurrence Last Updated:**	1997-08-06

Scientific Name: *Carex praticola*

Common Name: northern meadow sedge

Listing Status: **Federal:** None

State: None

CNDDB Element Ranks: **Global:** G5

State: S2S3

Rare Plant Rank: 2B.2

Other Lists:

General Habitat:

MEADOWS.

Micro Habitat:

MOIST TO WET MEADOWS. 0-3200M.

Last Date Observed:	1915-06-06	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1915-06-06	**Occurrence Rank:**	Unknown
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

EUREKA.

Detailed Location:

COLLECTIONS MADE AT "EUREKA" AND "EUREKA AT STEPHEN HILL PLACE". EXACT LOCATION OF SITE NOT KNOWN. MAPPED BY CNDDB IN GENERAL VICINITY OF EUREKA (N PART OF TOWN).

Ecological:

WET GROUND.

Threats:

General:

ONLY SOURCES OF INFORMATION FOR THIS SITE ARE TWO COLLECTIONS BY TRACY: #4641 UC IN 1915 AND #4421 UC IN 1914.

PLSS:	T05N, R01W, Sec. 22 (H)	**Accuracy:**	1 mile	**Area (acres):**	0
UTM:	Zone-10 N4517461 E401947	**Latitude/Longitude:**	40.80230 / -124.16241	**Elevation (feet):**	200

County Summary:	**Quad Summary:**
Humboldt, Pacific Ocean	Eureka (4012472)

Sources:

TRA14S0002	TRACY, J.P. - TRACY #4421 UC #194809 1914-05-03
TRA15S0001	TRACY, J.P. - TRACY #4641 UC #303073 1915-06-06

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	32648	**EO Index:**	47185
Key Quad:	Eureka (4012472)	**Element Code:**	PMLIL0U0F0
Occurrence Number:	13	**Occurrence Last Updated:**	2002-02-06

Scientific Name: *Erythronium revolutum*

Common Name: coast fawn lily

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 2B.2

Other Lists:

CNDDB Element Ranks: **Global:** G4

State: S2S3

General Habitat:

BOGS AND FENS, BROADLEAFED UPLAND FOREST, NORTH COAST CONIFEROUS FOREST.

Micro Habitat:

0-1065M.

Last Date Observed:	1918-05-04	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	1918-05-04	**Occurrence Rank:**	Unknown
Owner/Manager:	UNKNOWN	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

EUREKA.

Detailed Location:

Ecological:

Threats:

General:

NEEDS FIELDWORK.

PLSS:	T05N, R01W, Sec. 22 (H)	**Accuracy:**	1 mile	**Area (acres):**	0
UTM:	Zone-10 N4517461 E401947	**Latitude/Longitude:**	40.80230 / -124.16241	**Elevation (feet):**	

County Summary:	**Quad Summary:**
Humboldt, Pacific Ocean	Eureka (4012472)

Sources:

TRA18S0008 TRACY, J. - TRACY SN JEPS #61873 1918-05-04

CEQA
Mitigation Monitoring and Reporting Program

CITY OF EUREKA

This Mitigation Monitoring and Reporting Program (MMRP) has been prepared for the project described below in conformance with Section 21081.6 of the California Environmental Quality Act (CEQA) and Section 15097 of the CEQA Guidelines.

SCH#: 2014022050

PROJECT TITLE: Eureka Waterfront Trail Phase C

PROJECT APPLICANT: City of Eureka **CASE NO**: C-14-0001

PROJECT LOCATION: Northeastern Eureka east of Waterfront Drive and the Samoa Bridge; adjacent to and paralleling the south coast of Humboldt Bay; adjacent to and paralleling the west bank of Eureka Slough; connecting to the existing trail at the rear of Target; underneath Highway 101; through the Shoreline RV Park's eastern edge; and connecting to Tydd Street behind the Eureka Community Health Center. APNs: 002-231-010; 002-231-002; 002-231-009; 002-231-012; 002-231-004; 002-231-021; 002-201-008; 002-252-028; 002-191-032; 002-191-035; 002-191-028; 002-231-008, and 002-191-025.

ZONING & GENERAL PLAN LAND USE DESIGNATION: Zoning: Waterfront Commercial (CW); Natural Resources (NR); Service Commercial (CS); Multi-Family Residential (RM-1000) and Public (P). General Plan Land Use Designations: Waterfront Commercial (WFC), Natural Resources (NR), General Service Commercial (GSC), High Density Residential (HDR), and Public/Quasi-Public (PQP).

PROJECT DESCRIPTION: As designated in the City of Eureka General Plan, the City of Eureka proposes to construct an approximately 1.17 mile multi-use trail between Tydd Street and Front Street. The trail will serve as both an important non-motorized transportation/commuter corridor and a recreational facility. The proposed project includes the construction of the following: a new Class I multi-use trail; boardwalk; three bridges; viewing areas and interpretive signs; drainage improvements; fencing; trailheads; lighting; and landscaped buffers. The trail alignment passes through public and private properties. Most of the trail is located within City right-of-way (ROW); however, the City will need to obtain ROW for areas within private property.

LEAD AGENCY: City of Eureka**,** 531 "K" Street, Eureka, CA 95501-1165

CONTACT PERSON: Brian Gerving, Interim Community Development Director; *phone*: (707) 441-4160; *fax*: (707) 441-4202; *e-mail*: bgerving@ci.eureka.ca.gov

INTRODUCTION: On March 28, 2014, a Mitigated Negative Declaration for the Eureka Waterfront Trail Phase C was adopted by the City of Eureka's City Manager and the project was approved. Mitigation measures were made a condition of project approval. The purpose of this MMRP is to ensure that the mitigation measures adopted in connection with project approval are effectively implemented. This MMRP establishes the framework that the City of Eureka and others will use to implement the adopted mitigation measures and the monitoring and/or reporting of such implementation.

CEQA provides that the City of Eureka may choose whether the MMRP will monitor mitigation, report on mitigation, or both. "Reporting" generally consists of a written compliance review that is presented to the decision making body or authorized staff person. A report may be required at various stages during project implementation or upon completion of the mitigation measure. "Monitoring" is generally an ongoing or periodic process of project oversight. There is often no clear distinction between monitoring and reporting and the program best suited to ensuring compliance in any given instance will usually involve elements of both. The choice of program may be guided by the following:

(1) Reporting is suited to projects which have readily measurable or quantitative mitigation measures or which already involve regular review. For example, a report may be required upon issuance of final occupancy to a project whose mitigation measures were confirmed by building inspection.

(2) Monitoring is suited to projects with complex mitigation measures, such as wetlands restoration or archeological protection, which may exceed the expertise of the City of Eureka to oversee; are expected to be implemented over a period of time; or, require careful implementation to assure compliance.

(3) Reporting and monitoring are suited to all but the most simple projects. Monitoring ensures that project compliance is checked on a regular basis during and, if necessary, after implementation. Reporting ensures that the City of Eureka is informed of compliance with mitigation requirements.

ENFORCEMENT: In accordance with CEQA, the primary responsibility for making a determination with respect to potential environmental effects rests with the City of Eureka rather than the monitor or preparer of the CEQA documents. As such, the City of Eureka is identified as the primary enforcement agency for this MMRP.

PROGRAM MODIFICATION: After adoption of this MMRP, minor changes to this MMRP are permitted but can only be made by the City of Eureka. The Director of Community Development, after consultation with affected Departments or Agencies, may make minor modifications to this MMRP. If, for any reason, any mitigation measure specified in this MMRP cannot be implemented due to factors beyond the control of the owner/developer and/or the City of Eureka, at a noticed public hearing before the City Council of the City of Eureka, substitution of another mitigation measure may be approved. In no case shall deviations from this MMRP be permitted unless this MMRP continues to satisfy the requirements of Section 21081.6 of CEQA, as determined by the City of Eureka.

SUMMARY OF POTENTIAL PROJECT IMPACTS: Below is a table that summarizes the impact potential for each category of impact as identified and analyzed in the Initial Study.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
I. Aesthetics		✓		
II. Agricultural Resources				✓
III. Air Quality			✓	
IV. Biological		✓		
V. Cultural		✓		
VI. Geology and Soils		✓		
VII. Greenhouse Gas Emissions			✓	
VIII. Hazards and Hazardous Materials		✓		
IX. Hydrology and Water Quality		✓		
X. Land Use and Planning			✓	
XI. Mineral Resources				✓
XII. Noise		✓		
XIII. Population and Housing				✓
XIV. Public Services			✓	
XV. Recreation			✓	
XVI. Transportation and Traffic			✓	
XVII. Utilities and Service Systems		✓		
XVIII. Mandatory Findings of Significance		✓		

MMRP IMPLEMENTATION TABLE: To assure that this MMRP is effectively implemented the table on the following pages establishes the framework that the City of Eureka and others will use to implement the adopted mitigation measures and the monitoring and/or reporting of such implementation. The following abbreviations will be used in the MMRP table:

AQMD ..... Air Quality Management District
BD ..... City of Eureka Building Department
BMP ..... Best Management Practice(s)
CCC ..... California Coastal Commission
CCR ..... California Code of Regulations
CDD ..... Community Development Department
CDFW ..... California Department of Fish & Wildlife
CEQA ..... California Environmental Quality Act
CGC ..... California Government Code
City ..... City of Eureka
ENG ..... City of Eureka Engineering Department
ESHA ..... Environmentally Sensitive Habitat Area
MND ..... Mitigated Negative Declaration
PRC ..... Public Resources Code
PW ..... City of Eureka Public Works Department
RWQCB ..... Regional Water Quality Control Board
THPOs ..... Tribal Historic Preservation Officers
USACE ..... US Army Corps of Engineers

Mitigation Measure	Responsible Agency and/or Party	Action Required	Monitoring Phase/ Reporting Requirements	Enforcement	Compliance Verification	Notes/ Comments
Aesthetics **Mitigation Measure I-1:** To avoid adverse impacts, new sources of light, including any outside night lighting associated with construction, will be designed to protect wildlife and nighttime views, including views of the night sky. This design goal will be satisfied using a variety of means as applicable, including fixture types, cut off angles, shields, lamp arm extensions, and pole heights. Specific design preferences include not directing light upward or to other properties, avoiding brightly illuminated vertical surfaces where feasible, such as walls and lamp poles, and not directing lighting toward ESHA. The Recommended Practices (RPs) of the Illuminating Engineering Society of North America (IES) should be consulted for lighting levels and quality of light.	▸ City ▸ Contractor ▸ BD	This measure and language facilitating and insuring compliance shall be incorporated into design and contract documents prepared by the City for the project.	Prior to project approval and during project implementation.	BD shall, on the basis of their observations or complaints to the City regarding lighting, be empowered to direct the contractor to undertake additional measures in the field if it appears that the contractor is not following this measure.		
Biological Resources **Mitigation Measure IV-1a** Impacts to special-status plants such as Lyngbye's sedge, Humboldt Bay owl's clover, and Point Reyes bird's beak shall be avoided to the extent practical, and if not practical, they shall be conserved through translocation and/or re-planting or re-seeding (by hand by a qualified Biologist) into appropriate habitat in the immediate project area. Special-status plants shall be restored at a level sufficient to ensure no net loss of the target species five years after the completion of construction.	▸ City ▸ Contractor	This measure and language facilitating and insuring compliance shall be incorporated into design and contract documents prepared by the City for the project. Active five year biological observations.	Throughout the duration of project construction and five years post construction.	A qualified biological monitor shall conduct field observations during the construction process to assure the appropriate implementation of this measure, and shall be empowered to direct the contractor to temporarily suspend construction activities if evidence is presented that the contractor is not in compliance with this measure, pending the development of specific actions to regain compliance.		

Mitigation Measure	Responsible Agency and/or Party	Action Required	Monitoring Phase/ Reporting Requirements	Enforcement	Compliance Verification	Notes/ Comments
Mitigation Measure IV-1b: Impacted USACE and CCC wetlands would be mitigated at a location agreed upon with the appropriate regulatory agencies and at the ratio specified in permit special conditions to ensure no net loss. Mitigation would include wetland areas that would be re-established, established, enhanced, and/or preserved. This measure would mitigate both the permanent onsite loss of wetlands as a result of the proposed project and also the temporary reduction in wetland area within Humboldt County that would result between the time of impact and the successful completion of mitigation. The wetland mitigation shall provide the same or similar ecological functions as the impacted wetlands. This would include re-establishing, establishing, enhancing, and preserving wetlands with a similar hydrologic regime, and similar vegetation types. The wetland mitigation shall be designed to function with the intact wetland features of the mitigation area. As a result, not all wetland mitigation sites may serve exactly the same function, but each area shall contribute to the diversity of the ecosystem as a whole. The northern portion of APN 002-231-012 has been analyzed for conformity with the above referenced conditions and determined to be a feasible mitigation site. APN 002-231-004 was also analyzed and determined to be a more suitable potential alternative site. The parcel is currently not owned by the City, but the City will be working to acquire the property for use as mitigation.	▸ City ▸ CCC ▸ USACE	This measure and language facilitating and insuring compliance shall be incorporated into design and contract documents prepared by the City for the project.	Prior to and during construction.	A qualified biological monitor shall conduct field observations during the construction process to assure the appropriate implementation of this measure, and shall be empowered to direct the contractor to temporarily suspend construction activities if evidence is presented to either department that the contractor is not in compliance with this measure, pending the development of specific actions to regain compliance.		
Mitigation Measure IV-1c: Temporary impacts to wetlands shall be reduced to the extent practicable through avoidance and minimization, and through restoration of pre-project conditions. Where feasible, temporary barriers to intrusion shall be placed at the edge of the verified wetland boundaries. Unavoidable temporary impacts to wetlands shall be mitigated through the reseeding of a native wetland seed mix at the manufacturer's	▸ City ▸ Contractor	This measure and language facilitating and insuring compliance shall be incorporated into design and contract documents prepared by the City for the project. Active	Throughout the duration of project construction and annually for five years.	A qualified biological monitor shall conduct field observations during the construction process to assure the appropriate implementation of this measure, and shall be		

Mitigation Measure	Responsible Agency and/or Party	Action Required	Monitoring Phase/ Reporting Requirements	Enforcement	Compliance Verification	Notes/ Comments
suggested application rate. All areas of disturbed soil within the verified wetland boundaries shall receive reseeding treatment. As appropriate based on the conditions, mulch and/or temporary irrigation shall be utilized to encourage plant survival. Disturbed areas that have not recovered to the density of surrounding undisturbed wetland habitat shall be reseeded annually until the wetland plant cover in disturbed areas is similar to the undisturbed areas.		five year biological observations.		empowered to direct the contractor to temporarily suspend construction activities if evidence is presented to either department that the contractor is not in compliance with this measure, pending the development of specific actions to regain compliance.		
Mitigation Measure IV-1d: • If possible, vegetation clearing activities shall take place between August 16 and March 13, outside of the active nesting season for migratory bird species (i.e., March 1 to August 15). • If work must be completed during the nesting season, a qualified biologist shall conduct preconstruction surveys of all ground disturbance areas to verify absence of nesting migratory birds in the project area prior to vegetation removal and the start of construction. These surveys shall be conducted within two weeks prior to start of vegetation removal or any construction activities. If nesting migratory birds are found in the project construction area during the preconstruction surveys, they would be avoided with an appropriate buffer area until the young birds have fledged. Buffers would be 250 feet for raptors, 100 feet for threatened and endangered species, 50 feet for other special-status bird species; however, buffers may be modified after consultation with and agreement by CDFW. If state listed California Endangered Species Act (CESA),	▸ City ▸ Contractor	This measure and language facilitating and insuring compliance shall be incorporated into design and contract documents prepared by the City for the project.	Prior to and during construction.	A qualified biological monitor shall conduct field observations during the construction process to assure the appropriate implementation of this measure, and shall be empowered to direct the contractor to temporarily suspend construction activities if evidence is presented to either department that the contractor is not in compliance with this measure, pending the development of specific actions to regain compliance.		

Mitigation Measure	Responsible Agency and/or Party	Action Required	Monitoring Phase/ Reporting Requirements	Enforcement	Compliance Verification	Notes/ Comments
federally listed Endangered Species Act (ESA), or raptors are found outside of the construction area but near the construction area, appropriate buffers will be implemented. If non-listed state CESA species and non-listed federal ESA species, including state species of special concern, are found near, but outside of the construction area, no buffers will be implemented.						
Cultural Resources **Mitigation Measure V-1:** If archaeological or paleontological resources are encountered during project subsurface construction activities or geotechnical testing, all work within 50 feet of the find shall be stopped, and a qualified archaeologist funded by the City of Eureka and approved by the City of Eureka shall be contacted to evaluate the find, determine its significance, and identify any required mitigation. The applicant shall be responsible for implementing the mitigation prior to construction activities being re-started at the discovery site.	▸ City ▸ Contractor	This measure and language facilitating and insuring compliance shall be incorporated into design and contract documents prepared by the City for the project.	Throughout the duration of geotechnical testing and project construction.	Cultural monitors shall be retained by the City to observe all ground disturbing activities. Said monitors shall have the authority to suspend all construction as described within the subject mitigation measure.		
Mitigation Measure V-2: If project related geotechnical excavations become necessary as a result of final design, and those excavations are to be more than one foot deep, then the THPOs of each local native American tribes, as noted above, shall be contacted and given the date and time of excavations so that a cultural monitor may be present to observe for the presence of buried archaeological materials.	▸ City ▸ Contractor ▸ THPOs	This measure and language facilitating and insuring compliance shall be incorporated into design and contract documents prepared by the City for the project.	Throughout the duration of geotechnical testing (if required as a result of final design).	Cultural monitors shall be retained by the City to observe all ground disturbing activities. Said monitors shall have the authority to suspend all construction as described within the subject mitigation measure.		
Mitigation Measure V-3: In accordance with California Health and Safety Code Section 7050.5 and California Public Resources Code Sections 5097.94 and 5097.98, if human remains are	▸ City ▸ Contractor	This measure and language facilitating and insuring compliance shall	Throughout the duration of project construction.	Notification by the CDD of the County Coroner, relevant Native American		

Mitigation Measure	Responsible Agency and/or Party	Action Required	Monitoring Phase/ Reporting Requirements	Enforcement	Compliance Verification	Notes/ Comments
uncovered during project construction activities, work within 50 feet of the remains shall be suspended immediately, and the City of Eureka Community Development Department (CDD) and Humboldt County Coroner shall be immediately notified. If the remains are determined by the Coroner to be Native American in origin, the Native American Heritage Commission (NAHC) shall be notified within 24 hours, and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains.		be incorporated into design and contract documents prepared by the City for the project.		representative, and NAHC if human remains are found.		
Geology and Soils **Mitigation Measure VI-1:** A California registered Geotechnical Engineer shall conduct a design-level geotechnical study for the project. The geotechnical study shall evaluate seismic hazards and provide recommendations to mitigate the effect of strong ground shaking; any unstable, liquefiable, or expansive soils; or settlement in adherence with current California Building Code (CBC) standards for earthquake resistant construction. The seismic criteria shall take into account the active faults in the Eureka area and beyond, and ground motions and shaking related to the faults shall be accounted. The geotechnical study shall include evaluation of unstable land in the project area, including areas susceptible to liquefaction, lateral spreading, or settlement, and areas containing expansive soils. The study shall provide measures to repair, stabilize, or avoid such soils, and include grading, drainage, paving, and foundation design recommendations. The project shall be designed and constructed in conformance with the specific recommendations contained in the design-level geotechnical study, including recommendations for grading, ground improvement, and foundation support. The recommendations made in the geotechnical study shall be incorporated into the final plans and specifications and implemented during construction. Professional inspection of	▸ City ▸ Contractor	This measure and language facilitating and insuring compliance shall be incorporated into design and contract documents prepared by the City for the project.	Prior to and during project construction.	ENG shall, ensure that the project shall be designed and constructed in conformance with the specific recommendations contained in the design-level geotechnical study.		

Mitigation Measure	Responsible Agency and/or Party	Action Required	Monitoring Phase/ Reporting Requirements	Enforcement	Compliance Verification	Notes/ Comments
foundation and excavation, earthwork and other geotechnical aspects of site development shall be performed during construction in accordance with the current version of the CBC.						
Hazards and Hazardous Materials **Mitigation Measure VIII-1:** In the event any hazardous, toxic, noxious, objectionable, or unknown chemicals are encountered during trail construction, construction shall be halted by the construction crew on duty and reported to the general contractor for the project and the City of Eureka. Prior to resuming any work the City shall be responsible for obtaining a soil sample contamination analysis. The findings of the analysis shall be submitted, as applicable, to the NCRWQCB and any other appropriate regulatory agencies. Work shall not continue until and unless written approval is obtained from these agencies. The applicant shall comply at all times with the requirements and regulations of the NCRWQCB and other appropriate regulatory agencies with regard to the handling, transport, and disposal of hazardous materials such as contaminated soils to the satisfaction of these agencies. Disposal of all hazardous materials will be in compliance with all applicable California hazardous waste disposal laws.	▸ City ▸ Contractor	Language assuring compliance shall be incorporated into design and contract documents prepared by the City for the project.	Throughout the duration of project construction and maintenance.	City shall conduct field observations during the construction process to assure the appropriate implementation of this measure, and shall be empowered to direct the contractor to temporarily suspend construction activities if evidence is presented to either department that the contractor is not in compliance with this measure, pending the development of specific actions to regain compliance.		
Mitigation Measure VIII-2: At least one pre-construction soil boring in each segment (excluding Segment 7 because it's paved) of the trail alignment shall be completed in order to characterize soil and groundwater in anticipation of implementation of construction activities. Laboratory analytical results of soil and groundwater samples collected from the borings will be utilized to ascertain whether health and safety concerns are present for construction workers and determine potential soil and/or groundwater handling and disposal options. Proposed soil borings and/or grab groundwater sample locations will be determined	▸ City ▸ Contractor	This measure and language facilitating and insuring compliance shall be incorporated into design and contract documents prepared by the City for the project.	Prior to construction.	City shall conduct field observations prior to the construction process to assure the appropriate implementation of this measure, and shall be empowered to direct the contractor to temporarily suspend construction activities if evidence is		

Mitigation Measure	Responsible Agency and/or Party	Action Required	Monitoring Phase/ Reporting Requirements	Enforcement	Compliance Verification	Notes/ Comments
following identification of the areas and depths of soil excavation and dewatering activities. A Construction Soil and Groundwater Management Plan (SGMP) shall also be prepared to proactively manage potentially impacted soil and groundwater within the project segments.				presented to either department that the contractor is not in compliance with this measure, pending the development of specific actions to regain compliance.		
Hydrology and Water Quality **Mitigation Measure IX-1:** To inform trail users of the potential of tsunami run-up inundating the trail area, each trailhead location shall have signage informing the public of what actions to take in the event of seismic activity. Said signage shall be posted to the satisfaction of the City of Eureka and prior to the trail being open to the general public.	▸ City	This measure and language facilitating and insuring compliance shall be incorporated into design and contract documents prepared by the City for the project.	Signage design shall be approved to the satisfaction of the Planning, and Public Works Departments. Said signage shall be located to the satisfaction of the aforementioned Departments, prior to opening the trail to public use.	Informational signage shall be provided at conspicuous locations along the trail for the economic life of the subject trail section.		
Noise **Mitigation Measure XII-1:** Construction activities will be limited to the hours of 7:00 AM to 7:00 PM on weekdays and 8:00 AM to 6:00 PM on Saturdays, Sundays, and Holidays, except in emergencies.	▸ City ▸ Contractor	This measure and language facilitating and insuring compliance shall be incorporated into design and contract documents prepared by the City for the project.	Once during plan check and ongoing during construction.	City of Eureka official will inspect and approve.		

A RESOLUTION OF THE CITY MANAGER OF THE CITY OF EUREKA ADOPTING A MITIGATED NEGATIVE DECLARATION, ADOPTING A MITIGATION MONITORING AND REPORTING PROGRAM, AND APPROVING CONSTRUCTION OF THE EUREKA WATERFRONT TRAIL PHASE C PROJECT

WHEREAS, GHD and the City of Eureka prepared an Initial Study/Mitigated Negative Declaration in accordance with the requirements of the California Environmental Quality Act (CEQA) and state guidelines implementing CEQA; and

WHEREAS, the project analyzed in the Initial Study/Mitigated Negative Declaration (Project) consisted of the development of a 1.17 mile multi-use trail between Tydd Street and Front Street in Eureka, CA that will serve as both an important non-motorized transportation/commuter corridor and a recreational facility, and includes the construction of a new Class I multi-use trail; boardwalk; three bridges; viewing areas and interpretive signs; drainage improvements; fencing; trailheads; lighting; and landscaped buffers within an alignment that passes through public and private properties mostly within City right-of-way, however, the City will need to obtain right-of-way for areas within private property; and

WHEREAS, the Initial Study/Mitigated Negative Declaration concluded that implementation of the Project could result in a number of significant effects on the environment and identified mitigation measures that would reduce the significant effects to a less-than-significant level; and

WHEREAS, in connection with the approval of a project involving the preparation of an initial study/mitigated negative declaration that identifies one or more significant environmental effects, CEQA requires the decision-making body of the lead agency to incorporate feasible mitigation measures that would reduce those significant environmental effects to a less-than-significant level; and

WHEREAS, whenever a lead agency approves a project requiring the implementation of measures to mitigate or avoid significant effects on the environment, CEQA also requires a lead agency to adopt a Mitigation Monitoring and Reporting Program to ensure compliance with the mitigation measures during project implementation; and

WHEREAS, the City of Eureka is the lead agency for the Project, and the City Manager is the decision-making body for the proposed Project; and

WHEREAS, the City Manager has reviewed and considered the Initial Study/Mitigated Negative Declaration and related Mitigation Monitoring and Reporting Program for the Project, together with comments received during the public review period, and intends to take action on the Project in compliance with CEQA and the CEQA Guidelines; and

WHEREAS, the Initial Study/Mitigated Negative Declaration and the Mitigation Monitoring and Reporting Program for the Project are, by this reference, incorporated into this Resolution as if fully set forth herein; and

WHEREAS, the Initial Study/Mitigated Negative Declaration and the Mitigation Monitoring and Reporting Program for the Project are, by this reference, incorporated into this Resolution as if fully set forth herein; and

WHEREAS, approval of the Project by the City Manager does not obviate the need to obtain all necessary approvals and entitlements from various local, state and federal agencies that may be required.

NOW THEREFORE, BE IT RESOLVED by the City Manager of the City of Eureka, that the City Manager hereby:

1. Finds that the City Manager has independently reviewed and analyzed the Initial Study/Mitigated Negative Declaration and other information in the record including comments received during the public comment period, and has considered the information contained therein, prior to acting upon or approving the Project.

2. Finds the Initial Study/Mitigated Negative Declaration prepared for the Project has been completed in compliance with CEQA and consistent with state guidelines implementing CEQA.

3. Finds the Initial Study/Mitigated Negative Declaration represents the independent judgment and analysis of the City as lead agency for the Project.

4. Designates the Parks and Recreation Director, whose office is located at the Adorni Center at 1011 Waterfront Drive in Eureka, CA, as the custodian of all documents and other materials which constitute the record of proceedings upon which the City Council's decision is based.

5. Adopts the Mitigated Negative Declaration (SCH#2014022050) prepared for the Project.

6. Adopts the Mitigation Monitoring and Reporting Program as a condition of approval of the Project.

7. Approves construction the Project.

PASSED, APPROVED AND ADOPTED by the City Manager of the City of Eureka in the County of Humboldt, State of California, on the 28th day of March, 2014.

Mike Knight, Interim City Manager

Attest:

Pamela J. Powell, City Clerk

WATER | ENERGY & RESOURCES | ENVIRONMENT | PROPERTY & BUILDINGS | TRANSPORTATION

City of Eureka

Eureka Waterfront Trail Project

Eureka, California

Mitigation and Monitoring Plan

November 2015

Exhibit 3: CEQA Documents

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1. Introduction

1.1 Summary

This Mitigation and Monitoring Plan (MMP) has been prepared for the Eureka Waterfront Trail for the U.S. Army Corps of Engineers (USACE), North Coast Regional Water Quality Control Board (NCRWQCB), California Department of Fish and Wildlife (CDFW), and California Coastal Commission. The MMP is patterned on Regulatory Program Regulation (33 CFR) guidance published by the USACE (2008), and expanded to include information identified in "procedural guidance for evaluating wetland mitigation projects in California's coastal zone" (CCC 2012).

1.2 Contacts

Questions regarding the Eureka Waterfront Trail Mitigation and Monitoring Plan should be directed to:

GHD, Inc.
718 Third Street, Eureka, CA 95501
Tel: 707.443.8326 | Fax: 707.444.8330

And:

Jessica Hall, Landscape Architect
GHD, Inc.
718 Third Street, Eureka, CA 95501
Tel: 707.443.8326 | Fax: 707.444.8330

General administrative questions regarding the Eureka Waterfront Trail Mitigation Package should be directed to:

Miles Slattery
Director, Department of Parks and Recreation
City of Eureka
1011 Waterfront Drive
Eureka, CA 95501
Tel: 707.441.4484

2. Eureka Waterfront Trail Description

2.1 Location

The Eureka Waterfront Trail spans from south Eureka to northeastern Eureka paralleling the coast of Humboldt Bay and the west bank of Eureka Slough. The project runs from Truesdale Street (southern terminus) to Tydd Street (northeastern terminus). The trail project passes through public and private properties, but it is mainly within City property, City right-of-way (ROW) and the North Coast Railroad Authority (NCRA) railroad corridor. The Salix hookeriana Shrubland Alliance Mitigation Area is located within the Phase A section of the trail, and the Saltmarsh Mitigation Area is located within the Phase C section of the trail (Figure 1).

2.2 Responsible Parties

The City of Eureka is the owner and operator of the Eureka Waterfront Trail, and will be responsible for financing and developing the trail project, obtaining permits, and implementing the mitigation and monitoring plan.

2.3 Project and Regulatory Background

The trail project is part of a larger effort of the City of Eureka to increase access to Humboldt Bay, and to encourage local and regional multi-modal connectivity in the city and to other destinations in the county. Development of the promenade and boardwalk from C to F Streets in Eureka's Old Town and the Hikshari' Trail from the Elk River to Truesdale Street precedes this phase of trail development.

An Initial Study/Mitigated Negative Declaration (State Clearinghouse Number 2014022050) was completed in February 2014, and a Notice of Determination filed on March 28, 2014.

Applications for the following permits are in development:

Permit	Status	Expected Approval Date
Army Corps 404	In Progress	February 2016
Regional Water Quality Control Board 401	In Progress	February 2016
Coastal Development Permit	In Progress	February 2016

2.4 Project Description

The City of Eureka (City) proposes to construct 3.75 miles of Class 1 multi-use trail (project) that will follow the Humboldt Bay and Eureka Slough coastline along the Eureka Waterfront. The trail alignment and impact areas can be seen in Figure 2.1-2.24. The trail project's purpose is to create opportunities for nature study, appreciation of the environment and historic uses of the area, increase opportunities for active living to improve public health, increase the safety of non-motorized transportation, improve public safety, decrease transportation related carbon dioxide (CO_2) output, and recover native vegetation community values where possible. A formalized public access will channel the public into designated trail areas with the intention of decreasing environmental damage caused by illegal/unauthorized trespassing, camping, squatting, littering and dumping. This trail project seeks to initiate a transition of uses along the Waterfront Drive corridor and to improve safety and cleanliness.

The trail project is an important piece of the statewide initiative to complete the California Coastal Trail (CCT). The Eureka Waterfront Trail System and associated coastal access improvements are key elements in the City's General Plan and Eureka City Council's Strategic Plan 2013-2018.

The trail project will generally consist of a paved section designed to accommodate emergency vehicle access and two unpaved shoulders. Project-specific improvements include the Class I multi-use trail, boardwalk, six bridges, construction of trailheads, installation of interpretive signs, playgrounds, outdoor workout equipment, parking, landscaping, street crossing(s), roadway/sidewalks, lighting, fencing, drainage improvements, invasive plant removal and revegetation, and landscaping to buffer environmentally sensitive habitats (ESHA). Improved safety

elements are integrated within the information below and would include improved trail surfaces (as deemed appropriate), American's with Disability Act (ADA) access, and signage.

Construction of the boardwalk will require equipment on the salt marsh plain. The design of the boardwalk reduces the impact on salt marsh plantings and soil through the use of small diameter helical piles that are screwed in to the soil, and have smaller diameters than driven piles. Tracked vehicles that distribute their weight over a larger area will reduce compaction, and be used to install the helical anchors for the boardwalk's structure. It is anticipated that, while some plants will be disturbed by the movement of construction equipment during this installation phase, the root systems will remain intact and plants will recover.

The trail prism and boardwalk intersects a range of wetland and environmentally sensitive upland habitats, totalling 0.364 acre of permanent impacts and 0.35 acres of temporary impacts.

2.5 Proposed Mitigation

The Mitigation Project ("Project") will mitigate for 0.364 acre of permanent impacts, primarily at a location adjacent to the Phase C reach of the trail. The site in its current condition consists of fill over former salt marsh. The mitigation project will re-establish salt marsh. A smaller area of willow shrubland habitat will be mitigated along the trail at a city-owned site known as Parcel 4 (Figure 1).

Installation of a boardwalk will result in temporary impacts. The boardwalk is designed to be at least four feet above the salt marsh plain, which allows adequate light for salt marsh vegetation to recover and persist beneath the structure. Therefore, the area beneath the boardwalk is not included as a permanent impact. The temporary impact area includes a zone around the boardwalk for construction equipment.

While this temporary impact area will be discussed in this Mitigation and Monitoring Plan, it is expected that this area will recover from construction-related impacts with minimal intervention.

3. Mitigation Goals and Objectives

3.1 Mitigation Goals

3.1.1 Approach

The trail project's prism crosses through a range of habitat types. Mitigation requirements of the habitats indicated varies according to the regulations that govern each agency's review process:

Corps Jurisdictional Wetlands

- Palustrine Emergent Ditch (PEM1C)
- Palustrine Emergent Wetland (PEM1C)
- Estuarine Channel/Ditch (E2US3)
- Estuarine Saltmarsh (E2EM1P)
- Estuarine Subtidal (E1UB3)

- Wetland Mixed[1] (PEM1C)(PF01) (E2EM1P)

Environmentally Sensitive Habitat Areas (ESHA)/One and Two Parameter Wetlands

- One Parameter Brackish Vegetation
- One Parameter Freshwater Vegetation
- Two Parameter Wetlands, Vegetation and Soil
- *Salix hookeriana* Shrubland Alliance

The linear trail prism intersects many different habitat areas that are not contiguous and represent an existing fragmented matrix. In Phase A of the trail, the project is designed to leverage existing disturbed areas to minimize new impacts to these remaining, mostly disturbed, habitats. Phase B is through a mostly urban matrix with no impact areas. Habitats are contiguous in Phase C where the trail traverses estuarine saltmarsh and estuarine subtidal areas with a boardwalk, which reduces impacts to the matrix of this habitat.

Much of the one and two-parameter wetland areas are limited in ecological values and function with poor habitat quality resulting from historic development. Some are part of degraded wetland patches that appear to be sustained by intermittent surface runoff rather than groundwater or permanent freshwater sources, and other habitat areas are ditches with sufficient hydrologic function to support limited colonization of wetland plants. The trail project does not substantially alter the design or function of these ditches, but does reduce plant density.

Land use activities over the past 130 years have resulted in significant alterations to the Humboldt Bay coastline. It is estimated that at least 90 percent of coastal salt marsh habitat has been converted to other uses or otherwise lost. (HSU/Pickart 2005).

This mitigation plan seeks to establish resilient habitats that respond to and are maintained by local ecological processes. Mitigation can also be used to benefit habitat quality by reducing habitat fragmentation, increasing the size of habitat patches, and creating connectivity. These considerations were factored into the articulation of mitigation goals and mitigation site selection. The proposed approach recognizes that mitigation of the many wetland types listed does not substantially benefit each wetland type due to the relatively small quantities of each wetland type, and the larger issues of fragmentation and disconnection affecting them. The project also recognizes the importance and sensitivity of coastal saltmarsh in Humboldt Bay. Therefore, the project proposes to aggregate the mitigation areas and provide a focused wetland re-establishment of estuarine saltmarsh. In addition to increasing saltmarsh acreage, the plan will increase the size, integrity, and interior habitat of saltmarsh in the area of the mitigation project. The project also proposes to mitigate for the loss of *Salix hookeriana* Shrubland Alliance with replanting Hooker's willow (*Salix hookeriana)* and related understory species in locations that enhance the buffer around existing wetlands.

[1] The Wetland Mixed category encompassed three Cowardin classification wetlands; however within the impact area, PF01 was not present and will not be shown on the Impacts table. Please note that delineations were conducted on each phase of trail planning separately. During mitigation planning, attempts were made to identify the various wetlands uniformly using Cowardin as applicable. As a result, there may be different nomenclatures in individual jurisdictional wetland delineation documents and final wetland impacts maps.

3.1.2 Mitigation Goal

The project shall compensate for impacts to 0.364 acre of wetland and ESHA habitats resulting from trail improvements along the Eureka waterfront and ensure that 0.35 acre of temporary impacts recover through planting, monitoring and if necessary, enhancement or adaptive management.

Additionally:

- Mitigation shall restore tidal saltmarsh functionality and habitat;
- Mitigation site selection shall enhance habitat quality and connectivity of an existing salt marsh;
- Mitigation shall establish or re-establish willow shrubland habitat through replanting of *Salix hookeriana* and related understory species.

3.2 Mitigation Objectives

Project objectives provide quantifiable targets for the mitigation plan, and form the basis of evaluating success.

The Eureka Waterfront Trails Mitigation Project shall:

- Result in a net increase in area of Estuarine Saltmarsh habitat;
- Reduce fragmentation and increase the amount of interior saltmarsh habitat; and,
- Increase the area of *Salix hookeriana* Shrubland Alliance

Target Habitats and Community Types

Table 1 General Mitigation Concepts and Targets

Current Use/ Existing Habitat	Proposed Habitat	Proposed Action	Location
Fill	Estuarine Saltmarsh	Remove fill; grade for tidal processes; replant with saltmarsh species	See Fig 3, Appendix A
Upland/Fill	*S. hookeriana* Shrubland Alliance	Plant appropriate species from the *S. hookeriana* Shrubland Alliance	See Fig 4, Appendix A

4. Determination of Credits

4.1 General

Impacts and mitigation credits are measured in acres, and mitigation will be applied at ratios agreed upon by the City of Eureka and the regulatory agencies. Ratios above 1:1 are intended to compensate for permanent impacts, temporal lag, uncertainty of success.

4.2 Mitigation Credits

Because Estuarine Saltmarsh is a high quality and rare habitat type, and because other wetland impacts to the project are relatively small, the project proposes to re-establish Estuarine Saltmarsh as mitigation for all permanent jurisdictional wetlands and one and two parameter wetland impacts. The project proposes a mitigation ratio of 4:1 for the total impact (0.324 ac) to these habitat types, including the non-USACE jurisdictional wetlands that are often mitigated at lower ratios. This mitigation ratio is intended to also compensate for temporal lag resulting from the date of impact in

the Phase A reach of the Waterfront Trail and the implementation of saltmarsh mitigation It is expected that both the Army Corps and Coastal Commission will have jurisdiction over this mitigation.

To mitigate for impacts to *Salix hookeriana* Shrubland Alliance plantings, the project proposes to replant Coastal Willow at a ratio of 2:1 for the total impact (0.04 ac) to this habitat type. It is expected that the Coastal Commission will have jurisidiction over this mitigation.

A small area of estuarine saltmarsh (0.35 ac) will also be impacted temporarily as a result of boardwalk construction. The project proposes to mitigate this in-kind, in-place. It is expected that both the Army Corps and Coastal Commission will have jurisdiction over this area.

Table 2 Proposed Mitigation to Meet Requirements

Permanent Impacts	Jurisdiction		Area	Aggregate Area (SF)	Aggregate Area (AC)	Mitigation Ratio	Mitigation Area (AC)	Mitigation Type
	USACE	CCC	(SF)					
1 Parameter, Brackish Vegetation		■	7,903.06	14,116.69	0.324	4:1	1.3	Estuarine Saltmarsh (E2EM1P)
1 Parameter, Freshwater Vegetation		■	692.21					
2 Parameter, Vegetation/Soils		■	170.41					
Estuarine Channel/Ditch (E2US3)	■	■	239.24					
Estuarine Saltmarsh (E2EM1P)	■	■	3,793.63					
Estuarine Subtidal (E1UB3)	■	■	286.03					
Palustrine Emergent Ditch (PEM1C)	■	■	1,024.63					
Palustrine Emergent Wetland (PEM1C)	■	■	7.48					
Salix hookeriana Shrubland Alliance		■	1,774.73	1,774.73	0.04	2:1	0.08	*S. hookeriana* Shrubland Alliance

Temporary Impacts	Area (AC)	Aggregate Area (AC)	Mitigation Ratio	Mitigation Area (AC)	Mitigation Type
Estuarine Saltmarsh (E2EM1P)	0.35	0.35	1:1	0.35	Estuarine Saltmarsh (E2EM1P)
Estuarine Channel/Ditch (E2US3)	0.003				

5. Mitigation Site Selection

5.1 Candidate Mitigation Site Descriptions and Analysis

Estuarine Saltmarsh exists as a narrow fringe along much of the Eureka waterfront. Fill, rock slope protection, dikes and habitat type conversion has reduced areas of salt marsh. Some of these fill areas have legacy uses such as trash dump or timber processing that could result in mobilizing hazardous materials if disturbed. Due to their narrow extents or problematic legacy uses, these sites are less desirable to meet the goal of not only increasing estuarine saltmarsh habitat but also creating greater interior habitat within a saltmarsh patch. The selected site is an area of fill near the Eureka Slough, with existing saltmarsh on three sides (Figure 3).

S. hookeriana Shrubland Alliance replanting poses social challenges as well as ecological ones. Much of the existing willow areas along the Eureka waterfront are used for squatting or unauthorized camping. Some areas of these camps have become settings for fires, shootings, or other problems. Illegal dumping including of human waste and toxic materials such as batteries is also common. *S. hookeriana Shrubland Alliance* plantings can benefit existing nearby palustrine wetland habitats by creating buffers, improving habitat interspersion and heterogeneity, or acting as dispersal corridors for wildlife between existing patches of woody vegetation. The selected site for planting provides for this while facilitating management of social concerns.

S. hookeriana plantings will be installed at upland locations within Parcel 4 near the waterfront trail (Figure 4).

5.2 Selected Mitigation Site

Image 1: Tall shrubs have created a visual screen for illegal dumping and encampments at Mitigation Site.

Image 2: Fill area is characterized by predominantly ruderal grasses and shrubs, with non-native and hybrid native trees along the north edge.

Image 3: View of existing saltmarsh adjacent to mitigation site.

5.2.1 Estuarine Saltmarsh Mitigation Site

The optimal estuarine saltmarsh mitigation location was identified between Stations 123+50 and 126+00 (Figure 3: Saltmarsh Mitigation Location Map and Appendix C) of the trail project's Phase C reach. A 1.5 acre area of fill juts into a plain of saltmarsh. The fill currently achieves elevations ranging from 8' to 12', approximately two- to six feet higher than adjacent salt marsh, and too high for the fill area to convert readily to salt marsh on its own. Non-native, hybrid native, and native upland trees and shrubs ring the fill area, with ruderal grasses and herbs constituting the majority of site vegetation.

5.2.2 *Salix hookeriana* Shrubland Alliance Planting Mitigation Site

Mitigation for Salix hookeriana Shrubland Alliance plantings will be within the City's "Parcel 4" property in the Phase A trail segment between Stations 21+00 – 24+00. (Figure 4: *S.hookeriana Shrubland Alliance* Mitigation Site Map and Appendix C). To minimize the occurrence of unauthorized camping and illegal dumping within willow stands while providing some wetland buffering, the replanting site will be a narrow upland band between the trail and existing wetland and upland habitats.

5.3 Reference Site

5.3.1 Estuarine saltmarsh Reference Site 1

Two tidal salt marsh sites were visited to inform estuarine saltmarsh design. These salt marsh sites are in close proximity to the Estuarine Saltmarsh site and thus provide realistic expectations of

saltmarsh development and disturbances at the project site. Reference Site 1 was selected for use for this project; Reference Site 2 was dominated by dense-flowered cordgrass (*Spartina densiflora*) and deemed an inappropriate target for mitigation.

Reference Site Description

A reference site has been established adjacent to the project footprint to calibrate monitoring results with other environmental variables. Reference sites focus on estuarine saltmarsh wetlands as this community type is the target site/habitat condition.

This reference area is located within an estuarine saltmarsh wetland (*Sarcocornia pacifica* Herbaceous Alliance). This reference site was located to document representative conditions of typical salt marsh around Humboldt Bay. This reference site is located within the city limits of Eureka, northwest of Second Street and west of the proposed project footprint. The reference site's overall slope is approximately ½% with an elevation of 7 ft (NAVD88). Where the reference site interfaces with a tidal channel, the slope drops down to an average slope of 11%. Saltmarsh is present from elevations 7.5 ft to 5ft (NAVD88).. The site has an undulating, uneven surface with variations of four to six inches.

Vegetation

The estuarine wetland is dominated by pickleweed (*Sarcocornia pacifica*[2]), 30 percent absolute cover), salt grass (*Distichlis spicata*, 20 percent cover) and the CAL-IPC, non-native dense-flowered cord grass (*Spartina densiflora*, 30 percent cover). The site has approximately five percent bare ground and 10 percent water due to the presence of shallow meandering channels. Small amounts of other halophytes are also present within the reference site and include Oregon gumplant (*Grindelia stricta* var. *platyphylla*), jaumea (*Jaumea carnosa*), western marsh-rosemary (*Limonium californicum*), and common arrow-grass (*Triglochin maritima*). In examining the species richness of the site, of the nine plant species observed only one non-native plant, dense-flowered cord grass, was identified. Point Reyes salty bird's-beak (*Chloropyron maritimum ssp. palustre*, CRPR List 1B.2) was noted in trace amounts.

[2] Also recognized as *Salicornia pacifica.*

Reference Site Photo Documentation

Photo 1: Reference Site, looking northwest

Photo 2: Reference Site, looking north.

5.3.2 *Salix hookeriana* Shrubland Alliance Plantings

Degraded willow shrublands and wetlands surround the project site. Reference characteristics for replanting of the *Salix hookeriana* Shrubland Alliance are therefore drawn from A Manual of California Vegetation (Sawyer et al 2009). The *S.hookeriana* Shrubland Alliance is characterized by greater than 50% relative cover of Hooker willow. Willow stands tend to grow in dense thickets, which can take on the appearance of a monoculture. It is commonly seen in disturbance-related areas such as roads, creeks, lagoons, and dunes. Observed related vegetation to this alliance

includes California blackberry (*Rubus ursinus),* salal (*Gaultheria shallon),* silk tassel (*Garrya elliptica),* Brewer's rush (*Juncus brewerii),* and false lily of the valley *(Maianthemum dilatatum).*

6. Site Protection Instrument

The City of Eureka is in the process of obtaining the mitigation site from Security National Properties, the current owner of the site. Appendix D, Mitigation Site Ownership Transfer Letter, demonstrates the intent of the current owner to complete a transfer of ownership to the City of Eureka. Upon completion of this transfer of ownership, the City will place the project site under a conservation easement in order to ensure that it will remain under protection in perpetuity.

7. Mitigation Site Environmental Baseline

7.1 Baseline Conditions

Estuarine Saltmarsh Mitigation Site

The Estuarine Saltmarsh site in its current condition is a relatively flat area with an average slope of 1.7% ranging in elevation from 8 feet to 12 feet (NAVD88). This includes approximately three to five feet of fill over former saltmarsh. Fill material includes discarded concrete, bricks, and rebar. Soil in test pits ranged from sand to fine sand and silt. Soil saturation was revealed at different test pits between 4 and 5' below ground surface (BGS). Vegetation is primarily ruderal grasses and non-native herbaceous perennials such as fennel *(Foeniculum vulgare*), sharp dock (*Rumex conglomeratus*), and orchard grass (*Dacytlis glomerata)*. The native coyote bush (*Baccharis pilularis)* and trees such as non-native Eucalyptus (*Eucalyptus spp.),* not locally native Monterey cypress *(Cupressus macrocarpa)*, hybrid bishop pines non-hybrid native bishop pines (*Pinus muricata*), Atlas cedar (*Cedrus atlantica*) and a dying young California redwood (*Sequoia sempervirens*)are also present in limited quantities along the edge of the fill area. The placement and assortment of species strongly suggests manmade plantings using nursery stock; these are not considered ESHA given these factors and minimal ecological role they play at the site.

The area is currently used informally and illegally for camping, squatting, and the discarding of rubbish related to the camping, posing a health and safety hazard to the community, wildlife, and adjacent waters. The area has also become frequented by off road 4x4 activity, disturbing soils and contributing to increased sediment in runoff.

Salix Hookeriana Shrubland Alliance Mitigation Site

The *Salix hookeriana* Shrubland Alliance Mitigation Site is characterized by ruderal herbaceous annuals and perennials, shrubs, and disturbed fill soils. The site parallels the planned trail and several different wetland categories.

8. Mitigation Work Plan

8.1 Mitigation Area

Estuarine saltmarsh will be mitigated at the area east of the trail alignment and north of the salt marsh wedge (adjacent to railroad), located near the Phase C trail (Figure 3).

S. hookeriana Shrubland Alliance plantings will be mitigated near the Phase A trail (Figure 4).

Temporary impacts to estuarine saltmarsh within the boardwalk area will be mitigated in-place, in-kind (Figure 3).

8.2 Work Plan

The Estuarine Saltmarsh mitigation concept is focused on removal of fill material to match grades of the existing adjacent salt marsh plain, and replanting or reseeding of salt marsh vegetation.

The *Salix hookeriana* Shrubland Alliance planting mitigation concept is focused on strategic replanting of Coastal willow species as transitional/upland buffer between palustrine wetland patches and adjacent land uses.

The temporarily impacted Estuarine Saltmarsh mitigation concept shall protect disturbed areas from invasive species colonization and replant or reseed salt marsh native species.

8.2.1 Construction Phases and Methods

Implementing the Estuarine Saltmarsh mitigation site plan will be in tandem with the in-place rehabilitation of any temporarily impacted saltmarsh in the boardwalk construction area as part of the Phase C trail construction project. As noted in Table 2, this mitigation proposes to mitigate for wetland impacts in all phases of the overall project. *S. hookeriana Shrubland Alliance* plantings is scheduled to occur with the Phase A construction project.

***Salix hookeriana* Shrubland Alliance Mitigation**

Prior to planting of *S.hookeriana shrubland alliance plantings*, test pits will be dug to confirm adequate groundwater.

Plants shall be of good health and sourced according to Section 8.2.5. At the *S. hookeriana* Shrubland Alliance plantings mitigation site(s), plantings will be installed according to a standard planting detail with an organic compost-native soil amendment backfill.

These plantings will be monitored for five years in accordance with Section 9.2.

Estuarine Saltmarsh Mitigation (Temporary Impact and Permanent Impact)

The temporary saltmarsh impact plan entails leaving approximately 50 percent of salt marsh plants *in situ* for post construction recovery, with post-construction re-planting and seeding to support that recovery. Approximately 50 percent of the salt marsh plants within the boardwalk area will be removed prior to construction for salvage and reuse within the Estuarine Saltmarsh mitigation site.

To attain adequate quantities of plantings for both the boardwalk area and the Estuarine Saltmarsh mitigation site, additional cuttings, seed, and plants will be collected from the larger salt marsh plain along the Eureka waterfront, and if needed, elsewhere within Humboldt Bay. These cuttings and seeds will be collected at rates that do not impact the size, health, reproduction or abundance of source plants, generally less than 30% of a given plant or of available seed.

The stormwater pollution prevention plan will also be implemented to protect adjacent Waters of the State and of the United States from runoff impacts. Erosion control measures will also be installed as fill is removed to prevent tidal action or rainfall from damaging grading and plantings.

The site will be cleared and grubbed using a combination of hand-held equipment and machinery. Removal of fill for the Estuarine Saltmarsh mitigation area will require the use of heavy equipment such as excavators and dump trucks. Equipment that distributes its weight over a larger surface

area, with tracks instead of tires, reduces compaction impacts and will be a preferred specification of equipment used on site. A stockpiling area will be situated so as to not impact the mitigation site. Dump truck movement shall be limited to moving between the stockpile location and dump site. The project will use the same access routes as the overall trail project for construction equipment.

Fill material will be removed to achieve elevations suitable for the establishment and maintenance of Estuarine Saltmarsh. It is understood that fill includes rubble and debris; only suitable soil will be used to achieve suitable grades, trash, rubble and debris will be removed. A mat of salt marsh vegetation and roots still exists under this fill material. To the extent that the project achieves appropriate grades, this material will be left in place for its erosion reduction properties. To prevent tides from entering the site prematurely, and to prevent any precipitation from washing rubble into the Bay, excavation will begin in the center of the site and work towards the edges, creating a temporary berm of the unremoved fill. When the interior of the site is graded, this berm will be breached, and equipment will begin to remove fill from this perimeter working towards the access roads. Planting and seeding will follow decompaction.

Plantings will be installed by hand using hand-held equipment.

Erosion control (coir logs spaced at 100 feet) will be installed. Environmental monitors will observe the growth and expanding coverage of salt marsh plantings. These erosion control measures will be removed when coverage of the mitigation area achieves ≥ 70 percent.

Upon completion of implementation, a five-year monitoring and adaptive management period will begin. Invasive species management at the temporarily impacted boardwalk area and at the Estuarine Saltmarsh mitigation site will be conducted in conjunction with quarterly inspections and management activities during the five year post-construction monitoring period.

8.2.2 Construction Timing and Sequence

The Eureka Waterfront Trail mitigation component is expected to commence in 2016. The schedule will generally occur in the following phases:

***Salix hookeriana* Shrubland Alliance Mitigation**

- Pre-construction surveys, invasive species removal, *S. hookeriana shrubland alliance test pit(s)*, April 2016 to August 2016.
- Equipment mobilization and site preparation: August 2016
- Construction: August 2016
- Clean up and demobilization: November 2016
- Implement mitigation: August 2016-June 2017
- Monitoring of restoration: June 2017 to June 2022
- Ongoing maintenance: June 2017 to June 2022, or as mandated by permit conditions. The City of Eureka will be responsible for maintenance through the monitoring period.

Estuarine Saltmarsh Mitigation

- Collection of seed and cuttings for propagation: January 2016-May 2016.
- Equipment mobilization and site preparation: October 2016.
- Construction: November 2016.
- Clean up and demobilization: November 2017
- Implement mitigation: November 2016-November 2017.

- Monitoring of restoration: November 2017 to November 2022
- Ongoing maintenance: November 2017 to November 2022, or as mandated by permit conditions. The City of Eureka will be responsible for maintenance through the monitoring period.

Construction activities will be conducted in compliance with applicable federal, state and local requirements and in a manner that minimizes disturbance to adjacent properties and disruption to traffic. Construction will occur between the hours of 7 AM and 6 PM, Monday through Friday, and 10 AM to 5 PM on Saturdays. No construction will be allowed on Sundays, except in an emergency. The number of construction workers present on the project site at any given time is anticipated to be up to 10. The number of motor vehicles is anticipated to be up to 10. Up to six pieces of heavy machinery are anticipated to be in use at any one time. The project will also require the delivery of equipment, workers and materials via public roads and an established access route.

Prior to ground disturbance, pre-construction surveys will be completed to identify any sensitive species presence. Occurrences of sensitive species will be flagged and then protected with exclusion fencing.

8.2.3 Sources of Water

Tidal cycles, groundwater movement, and precipitation will support the mitigation plantings.

8.2.4 Grading Plan

The grading plan is provided in Appendix C, shown at 50% completion. Critical elevations guiding grading are the Mean Higher High Water (MHHW) of 6.62 ft (NAVD88) and High Tide Line (HTL) of 8.51 (NAVD88). Estuarine Saltmarsh is observed to be present in abundance between these elevations. Reference tidal marsh includes natural changes in elevation +/- 6”; grading shall achieve similar irregularities.

8.2.5 Planting Plan

Plants will be installed in the species, quantities, and spacings as noted below. In the saltmarsh mitigation area, ten percent of the reference site area included open water, and five percent bare ground. The frequency and spacing in Table 3 reflects this, with plants totalling 85% of coverage. Estuarine Saltmarsh Planting Mix shall be applicable to both the mitigation site and, as needed, the ratio and species shall apply to the temporary impact area. Estuarine Saltmarsh Planting Mix plants shall be sourced from Humboldt Bay saltmarshes.

Within the *S. hookeriana* Shrubland Alliance mitigation area, a combination of canopy trees and understory shrubs will be planted, totalling 95% cover after five years. Sixty percent of that cover will be Hooker’s Willow. Willow shrub and groundcovers can be propagated from harvested local cuttings or seeds, or sourced from commercial nurseries that guarantee local (Humboldt, Del Norte, or Mendocino County) provenance of source material.

Table 3 Estuarine Saltmarsh Planting Mix

Overall Spacing (feet on center)	Quantity per acre	Frequency*	Species Name	Common Name	Unit	Notes	Spacing Type

5	3466	29%	*Distichlis spicata*	salt grass	4"/DP	Up to 30% direct transplant ok.	Cluster
5	3466	35%	*Sarcocornia pacifica***	pickleweed	4"/DP		
5	3466	24%	*Jaumea carnosa*	jaumea	4"/DP		
2	6162	6%	*Limonium californicum*	western marsh rosemary	4"/DP		
2	3550	6%	*Triglochin maritima*	common arrow grass	4"/DP		
		100	**= total**				

*Frequency describes the frequency of plantings in relation to total plantings. It does not describe the percent cover, which would also factor in bare ground or open water.

**Also identified as *Salicornia pacifica.*

Table 4: Salix hookeriana Shrubland Alliance Plantings

Overall spacing (feet on center)	Quantity per acre	Frequency*	Species Name	Common Name	Unit	
7	1075	10	*Garrya elliptica*	Silk tassel		
4	3293	11	*Gaultheria shallon*	Salal		
4	3293	16	*Rubus ursinus*	California blackberry		
8	823	63	*Salix hookeriana*	Hooker's Willow	Stake	
		100%				

*Frequency describes the frequency of plantings in relation to total plantings. It does not describe the percent cover, which would also factor in bare ground or open water.

8.2.6 Mitigation Cost Estimate

The mitigation project is estimated to cost $386,388. See Appendix B for a cost breakdown.

9. Maintenance Plan

9.1 Maintenance

The re-established habitats have been designed to be as self-sustaining as possible. However, natural ecosystems are dynamic and subject to change over time. This is especially true in modern fragmented preserves, where the vast landscapes and ecological processes which once maintained habitat mosaics have been partially or completed disrupted. Natural processes include flood, drought, fire, fog, wind, burrowing animal activity, and grazing. A well-established mitigation project will respond to these natural processes with similar levels of resilience as naturally-evolved ecosystems. Anthropogenic (human-caused) disturbances can interrupt the functioning of both naturally-evolved and manmade, mitigation ecosystems. Maintenance activities shall focus on

promoting plant establishment and intervention to limit anthropogenic impacts such as invasive species, trespass, and illegal dumping.

The construction contractor shall be under contract for one year of plant establishment and weed removal. The City of Eureka will be responsible for ongoing establishment, maintenance and monitoring thereafter. The term of establishment is typically five years, unless activities such as replanting are required, which re-sets the establishment timeframe.

9.2 Inspection Activities and Frequencies

Inspection will occur quarterly throughout the mitigation monitoring timeframe, or less as needed after year one if plant success exceeds targets. Field notes will document if conditions are normal or abnormal, and the annual monitoring report will recommend remedial adaptive management actions to address any significant issues, as deemed necessary. In addition to the annual monitoring criteria listed above, annual monitoring will also note whether the following conditions are observed:

1. Are planting areas exhibiting excessive water or drought stress?
2. Is there any presence of new or re-established populations of invasive or undesirable plants?
3. Is there a distinctive pattern of plant die-off?

Inspections shall be documented in a maintenance logbook as to the date, time, site conditions, general observations, type of work to be done, and equipment used or required for follow-up maintenance. Inspection frequency may be altered depending on ambient conditions or the amount of work required at the site and overall success. The logbook will be submitted on an annual basis with the annual monitoring report.

9.3 Maintenance Activities and Schedules

Maintenance shall be conducted throughout the five year monitoring period. Maintenance activities may include supplemental irrigation, supplemental planting, invasive plant control, and herbivory control.

Maintenance shall occur at the most seasonally appropriate time depending on the activity. For example if cordgrass is becoming established on site, the maintenance shall occur prior to the flowering and setting of seed.. Table 5 provides a guide for determining when to visit the mitigation sites for inspections and maintenance during the monitoring period.

Maintenance will be conducted to ensure revegetation out-planting is becoming established.

- In year one of the maintenance period, the Contractor shall establish an agreement with a native plant nursery to collect seed to propagate and germinate for supplemental and/or incidental planting in anticipation of long-term replanting efforts for the following year;
- Supplemental planting will occur in areas that have deficiencies in the seeding or planted material, when a plant becomes damaged or injured by maintenance activities, and to fill the niche for areas where target invasive plants are removed (may be in-kind, or if a particular species is not doing well at the sites, a suitable replacement species can be supplemented for original plant species);
- Supplemental irrigation for areas that are of higher elevations and not regularly subjected to tidal inundation.

Table 5 Schedule for Wetland Inspection and Maintenance During the Monitoring Period

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Revegetation Inspection and Maintenance	I, M			I	M*	M*	I,M*	M*		I		

I = Inspection, M = Maintenance.
*Maintenance will prioritize removal of invasive cordgrass flowers and seeds as they are first forming (May-August).

9.3.1 Invasive Species Management

Non-native and invasive plant competition is a major factor to consider throughout the mitigation timeframe and extending into long-term management timeframe. In order to allow the revegetation of native species to grow and persist, invasive species management and weed control are required to compete against the vigorous, quickly germinating, high-density non-natives. The main factors to establishing the native plants are to ensure that adequate sunlight, soil moisture, and nutrients are available for the native plants to mature, some of which require two to three years to become vigorous individuals. A majority of the mitigation will re-establish salt marsh habitat and therefore many of the invasive species observed along the trail corridor (Table 6) will not impact the success of the re-established salt marsh as most of the plants have low salinity tolerances. However, some of the plants have the ability to invade the restored willow habitat.

Invasive plant species along the proposed trail corridor are listed by the following groups:

- California Invasive Species Council (Cal-IPC)
- Humboldt County Weed Management Area (HWMA) Strategic Management Weed List
- Regional Strategy for the Northwest Del Norte & Humboldt (Cal-IPC and CalWeedMapper)

Table 6 below lists invasive plant species observed within trail phase C of the proposed trail project footprint; the list is based on the Special-Status Plant Species Survey and Mapping for Eureka Waterfront Trail Phase C-Tydd Street to Samoa Bridge (GHD 2015) and Trail Phase C Wetland Delineation Report (GHD 2014). Table 6 also describes plants that will be exempt from the mitigation success criteria. Exempt plants are plants that have naturalized in California and/or locally in Humboldt County and are not considered to impact the ecological function of the proposed restored habitats. The plants *not* listed as exempt should be controlled so that they do not hinder the successful re-establishment of the native salt marsh and willow habitat.

The willow mitigation areas will be void of invasive plants with the exception of the plants listed as exempt in Table 6. The salt marsh re-establishment will be guaranteed against target invasive plants (Table 7) during the mitigation timeframe. Weed management such as with a mower, weed whacker, weed wrench or extractigator (for removing woody stems in the willow restoration area), or hand pulling will be conducted. No herbicides are allowed during maintenance activities.

Invasive plant inspections and maintenance will be conducted quarterly. Cordgrass removal techniques vary with different equipment and levels of disturbance to adjacent plants and wetland soil. Techniques range from manual activities such as mowing, use of modified weed whackers, and hand removal; and mechanized equipment such as the Marshmaster. While herbicide application is also approved for use on a very limited basis within Humboldt Bay, it is not considered as a technique for this site. Managers will need to take into consideration access, the potential for

mobilizing wetland soil and need for repeat/follow-up removal when selecting an appropriate technique.

The following general principles apply to maintenance activities for invasive species management:

- Where invasive and weedy plants have been removed, maintenance activities shall ensure they do not readily re-propagate within the mitigated habitats by filling the open niche with supplemental planting. This must be balanced with the potential negative effects of over-planting.
- Target invasive plant removal includes manual and mechanical methods to the extent practicable.

Table 6 Invasive Plant Species Observed

Scientific Name	Common Name	Cal-IPC Rating	Humboldt WMA	Exempt
		TREES		
Eucalyptus sp.	gum tree	Limited	NL	X
		SHRUBS		
Cotoneaster franchetti	cotoneaster	Moderate	High	
Cytisus scoparius	scotch broom	High	High	
Genista monspessulana	french broom	High	High	
Ilex aquifolium	English holly	Moderate	High	
Lupinus arboreus	yellow bush lupine	Limited	high	
		HERBS		
Agrostis stolonifera	creeping bent grass	Limited	High	
Anthoxanthum odoratum	sweet vernal grass	Moderate	Naturalized/watch list	X
Atriplex prostrata	fat-hen	NL	Moderate	
Avena barbata	slender wild oat	Moderate		X
Bellis perennis	English daisy		NL	X
Briza major	large quaking grass	NL	High	
Bromus diandrus	ripgut grass	Moderate	High	
Bromus hordeaceus	soft chess	Limited	High	
Bromus madritensis	foxtail chess	High	High	
Cirsium vulgare	bull thistle	Moderate	High	
Conium maculatum	poison hemlock	Moderate	Moderate	
Cortaderia jubata	pampas grass	High	High	
Cynosurus echinatus	bristly dogtail grass	Moderate	Naturalized/watch list	X
Dactylis glomerata	orchard grass	Limited	NL	X
Dipsacus fullonum	teasel	Moderate	Moderate	
Festuca myuros	rattail six weeks grass	Moderate	NL	X

Scientific Name	Common Name	Cal-IPC Rating	Humboldt WMA	Exempt
Festuca perennis	rye grass	Moderate	Naturalized/watch list	X
Foeniculum vulgare	fennel	High	High	
Geranium dissectum	cranesbill	Limited	NL	X
Hedera helix	English ivy	High	High	
Helminthotheca echioides	bristly ox-tongue	Limited	Naturalized/watch list	X
Hirschfeldia incana	shortpod mustard	Moderate	Moderate	
Holcus lanatus	velvet grass	Moderate	Moderate	
Hordeum marinum ssp. *gussoneanum*	barley	Moderate	NL	X
Hypericum perforatum	Klamath weed	Moderate	Monitor/research	
Hypochaeris radicata	rough cat's-ear	Moderate	NL	X
Lotus corniculatus	bird's-foot trefoil	NL	Monitor/research	X
Medicago polymorpha	California burclover	Limited	NL	X
Mentha pulegium	pennyroyal	Moderate	NL	X
Parentucellia viscosa	parentucellia	Limited	Monitor/research	X
Plantago lanceolata	English plantain	Limited	NL	X
Ranunculus repens	buttercup	Limited	NL	X
Raphanus sativus	wild radish	Limited	NL	X
Rubus armeniacus	Himalayan blackberry	High	High	
Rumex acetosella	sheep sorrel	Moderate	Moderate	
Rumex crispus	curly dock	Limited	NL	X
Spartina densiflora	dense-flowered cord grass	High	High	
Vinca major	periwinkle	Moderate	High	

Salt Marsh Target Invasive Plant Species

This section outlines target invasive plants to be controlled at the salt marsh mitigation site. Target salt marsh invasive plants are identified as plants that are thought to impede the function and value salt marsh habitat. Table 7 below describes five species that have the ability to establish in low to high salt marsh habitats around Humboldt Bay and are thus a target for control if they are observed occupying restored habitat. Creeping bentgrass (*Agrostis stolonifera*), fat-hen (*Atriplex prostrata*) and common teasel (*Dipsacus fullonum*) were observed along the proposed trail corridor and are salt tolerant and therefore have been included on the list. The most likely invader of the high salt marsh habitat in Humboldt Bay is dense-flowered cordgrass (*Spartina densiflora)* making it a priority invasive species of concern within the mitigation project area. Dense flowered cordgrass is a perennial grass reproduced through seed and spreading of tillers. Cordgrass has the ability to quickly occupy bare soil/ bay mud and out complete natives plants. In addition, cordgrass (*Spartina*

alternaflora) remains on the HWMA watch list, as this species has been eradicated from the bay, but could potentially reappear and thus remains on the target list below.

Table 7 Target Invasive Plants for Salt Marsh Re-establishment

Scientific Name	Common Name
Agrostis stolonifera	creeping bent grass
Atriplex prostrata	fat-hen
Dipsacus fullonum	teasel
Spartina alternaflora	cordgrass
Spartina densiflora	dense-flowered cord grass

10. Performance Standards

10.1 Overview

Performance standards are based upon the mitigation project's goals and objectives for habitat function and abundance, as well as areas designated by mitigation ratios.

10.2 Mitigation Site

10.2.1 Hydrology Criteria

Estuarine Saltmarsh Mitigation Site

H1: Mitigation site soil surface elevations shall vary less than +/-6” compared to as built conditions, excluding areas affected by tidal channel, inlet migration, similar natural/non-anthropogenic hydrogeomorphic changes, or due to adaptive management to adjust grading to better reflect reference site conditions.

H2: Mitigation site elevations shall be within ranges that maintain suitable saltmarsh habitat. An observed target range is between the Mean Highest High Water (MHHW) of 6.62 ft (NAVD88) and High Tide Line (HTL) of 8.51 ft (NAVD88), plus or minus six (6) inches.

10.2.2 Vegetation Criteria

Estuarine Saltmarsh Mitigation Site and Temporary Impact Area

V1: Saltmarsh post-planting shall meet the annual criteria described in Table 9:

Table 8 Estuarine Saltmarsh Mitigation Site Success Criteria

Estuarine Saltmarsh Success Criteria	
Year 1	40 percent (≥) relative cover of native wetland species. No more than 50 percent absolute cover of target invasive plants.

Year 2	50 percent (≥) relative cover of native wetland species. No more than 45 percent absolute cover of target invasive plants.
Year 3	60 percent (≥) relative cover of native wetland species. No more than 40 percent absolute cover of target invasive plants.
Year 4	70 percent (≥) relative cover of native wetland species. No more than 30 percent absolute cover of target invasive plants.
Year 5	80 percent (≥) relative cover of native wetland species. No more than 20 percent absolute cover of target invasive plants.
All Years	• Native wetland species consist of OBL/FACW/FAC species. • No large non-vegetated bare spots (greater than 25 percent) or erosional area and no permanent inundation during five year monitoring period

Salix Hookeriana Shrubland Alliance Plantings

V2: Salix hookeriana Shrubland Alliance (Willow stakes and understory) post-planting shall meet the annual criteria described in Table 9:

Table 9 Salix hookeriana Shrubland Alliance Plantings Success Criteria

Salix hookeriana Shrubland Alliance Planting (Willow Staking) Success Criteria	
Year 1	≥ 70 percent sprouted stakes. 20 percent relative cover by staked willow. 15 percent relative cover by related understory plantings.
Year 2	30 percent relative cover by staked willow. 20 percent relative cover by related understory plantings.
Year 3	40 percent relative cover by staked willow. 25 percent relative cover by related understory plantings.
Year 4	50 percent relative cover by staked willow. 30 percent relative cover by related understory plantings.
Year 5	60 percent cover by staked willow. 35 percent relative cover by related understory plantings.
All Years	

11. Monitoring

11.1 Reference Sites

The mitigation project's saltmarsh reference site is described in Section 4.3.

11.2 Wetland Monitoring

The following wetland monitoring activities are applied to each of the mitigation areas in accordance with Table 10.

Table 10: Monitoring Activities by Mitigation Area

Monitoring Activity	Estuarine Saltmarsh		*Salix hookeriana* Shrubland Alliance Plantings
	Mitigation Site	Temporary Impact Area (Boardwalk)	

Wetland elevations	■		
Sample Size	■		■
Vegetative Cover	■	■	
Non-native Invasive Plant Monitoring	■	■	
Willow Stake Success			■
Additional Data Collection	■	■	■
Photo Monitoring Stations	■	■	■

11.2.1 Wetland elevations

Elevations will be monitored annually using hand held high resolution GPS devices capable of recording elevations within 1/10 foot, and/or traditional survey equipment. Elevations for the saltmarsh mitigation area will document overall elevations, and observe variations including tidal channel development. This data will be used to assess the success of the designed elevations in achieving saltmarsh establishment and any developing geomorphic trends.

11.2.2 Sample Size

Power analysis

A priori power analysis will be used to determine the monitoring effort required. We define the specific question to be addressed as follows:

Is the true value of the percent cover less than or equal to the percent cover requirement?

The allowable certainty for percent cover will be a margin of error of +/- 10 percent at the 95 percent confidence interval. The confidence interval is the probability that the true value will be encapsulated in the margin of error around the reported percentage; the lower the confidence interval, the smaller the margin of error. Margin of error (ME), confidence interval and required number of sampling points (n) are related by the following equation for the 95 percent confidence interval:

$$ME = 0.98/\text{sqrt}(n)$$

The number of sampling points required to evaluate percent cover will be calculated using this equation.

11.2.3 Vegetative Cover

Monitoring for wetlands at the Estuarine Saltmarsh site will use transects with quadrats. Transects will be located randomly within the salt marsh and each transect will run perpendicular to the waterfront trail. The location of the first quadrat will be randomized relative to the beginning of the baseline, with quadrats at set distances thereafter. Percent absolute vegetative cover, native cover, hydrophytic cover, and non-native or invasive cover will be estimated within each quadrat. Plant species present within each quadrat will be identified and noted.

A t-test will be used to evaluate whether or not percent cover is less than or equal to the interim or final success criteria. Trend analysis may be more informative than examining threshold exceedance because invasive plant species percent cover increases often are predictive of long-term ecological composition.

11.2.4 Non-native Invasive Plant Monitoring

During spring or early summer of years one to five, target invasive plant cover will be calculated from the data collected, as described above. In addition to this monitoring, areas with greater than five percent cover of the target non-native plant species will be mapped using GPS as long as areas are safely accessible. Maintenance activities to control non-native invasive species will be targeted in these areas. Each year the acreage of mapped highly invasive species will be compared.

A spring inspection in subsequent years comparing mapped non-native invasive cover from the prior year will be conducted to determine if a non-native invasive species population has spread or a new species has invaded. In either scenario, maintenance activities may be required.

11.2.5 Willow Stake Success

In the first three years, willow stakes at *S. hookeriana shrubland alliance* areas will be counted for mortality and survival. It is expected that willow will form dense canopies, preventing accurate counts, after year three, and that these dense thickets may cause some willow to outcompete others. Percent cover is a preferable measure of success as the willow matures.

11.2.6 Additional Data Collection

In addition to data collected along transects, quantitative and qualitative data will be collected each year of monitoring. These general site assessments are intended to help determine if data from sampling transects is an accurate representation of site conditions, to help assess the overall functioning of the site as a whole, and also to help identify localized or low-level trends such as new invasive species formations, localized changes in species abundance, and other changes that might be overlooked if only transect data are analyzed.

The following data will be collected during the site assessment:

- Species richness: this general site data will be used for calibrating similar data taken at transects, and is not intended for comparison with performance criteria. Data will also help to evaluate whether invasive or non-native species are outcompeting native plants, and whether more active management might be required.
- Other site characteristics, including patterns of plant die-offs, erosion, hydrological issues, trespass, herbivory or grazing pressure, or other land use issues. This information is intended for use in recommending management actions as necessary

11.2.7 Photo Monitoring Stations

Permanent photo-documentation points will be established within the project site. A minimum of one photopoint is required for each monitored re-established habitat unit. GPS coordinates will be obtained for the photopoint, and the point will be included on a GIS map of the sites.

Photographs will be taken throughout the monitoring period, during each monitoring event. Photographs will be taken from each monitoring point and cardinal directions recorded for repeatability. Photos will be taken with a digital camera with a moderate wide angle lens (approximately 35mm focal length if a full-frame sensor, approximately 24mm focal length if a DX

sensor, at the widest setting if a consumer-level digital camera with a built in zoom). The make and model of camera and type and focal length of lens will be noted in monitoring documentation. Photographs will be taken from about five feet in height, ideally from a tripod with the height noted, consistent from year to year.

11.3 Monitoring Schedule

Some flexibility to account for annual variation in weather conditions is acceptable. The results will be submitted in the annual report for a total of five monitoring reports over a five-year monitoring period.

11.3.1 Wetland Monitoring

In addition to quarterly inspections as noted in Section 9.3.1 above, wetland monitoring will be implemented annually for five years. The wetland vegetation communities will be monitored annually once in June or July. Some flexibility to account for annual variation in weather conditions is acceptable. The site will be inspected for general parameters including observations of target invasive plants, signs of erosion, illegal dumping or trespass, and vitality of plant survivorship.

12. Long Term Management

Long-term management is a strategy for managing the site once the performance standards are achieved (assumed to be after five years of monitoring) to ensure the long-term post monitoring viability of the resource. While the site has been designed to restore self-sustaining ecological processes and functions and to perform in perpetuity, there will still be a need to make occasional inspections and if necessary, perform maintenance tasks to assure the viability of the mitigation site. The site is City property and will remain under the management of the Department of Parks and Recreation.

Trail maintenance crews will attend to the state of the mitigation areas, including periodic trash removal, erosion of wetland areas, and observing invasions of non-native plants. Should failure of the wetlands or invasive species incursions occur, the City will refer to the Adaptive Management Plan to aid in formulating an approach forward. .

As noted in Section 6 Site Protection Instrument, the mitigation project will remain in City of Eureka ownership, protected in perpetuity through a conservation easement. Long term management will be conducted by the City of Eureka, or through contracted agents acting on behalf of the City. The schedule for ongoing management activities will be scheduled by the City at that time and are not expected to require reporting to agencies.

13. Adaptive Management Plan

13.1 Adaptive Management

Adaptive management is a tool used to cope with the inherent changes and instability fundamental to natural resources and the ecological processes that encompass them. It is a process derived from a collection of practical methods based in research and monitoring. As a philosophy, it holds that conservation and restoration programs should be designed in ways that accumulate knowledge as quickly and accurately as possible so that the management plan can be adapted promptly to

better management efforts. This approach allows managers to learn by experience within site specific environments and apply lessons learned to remedy deficiencies using a controlled and scientific approach.

Adaptive management procedures will be recommended on a case-by-case basis, to address any issues identified at the sites during monitoring or maintenance activities. Adaptive management actions could include one or more of the following activities (not exclusive) if success criteria are not met:

1. Adjusted weeding method to reduce weeds around the planted wetland or upland to decrease competition from non-native grasses and forbs;
2. Supplemental planting for areas that have deficiencies in the seeding or planted material stock (may be in-kind, or if a particular species is not doing well at the site, a suitable replacement species can be supplemented for original plant species);
3. Supplemental replacement (may be in-kind, or if a particular species is not doing well at the site, a suitable replacement species can be supplemented for original plant species);
4. Supplemental watering (for non-performing plants that required supplemental planting);
5. Additional erosion control; and/or
6. Hydrologic modification or minor regarding.

Unpredictable natural changes could alter the mitigation area and consequently necessitate changing the goals, objectives, strategies, and actions set forth in this plan. These changed conditions include but are not limited to:

- Unusual weather patterns, such as extended drought or excessive rainfall;
- Change in species composition, such as through invasion of a new invasive plant or wildlife species to the site, or increase in spread of existing non-native plants listed as listed in Table 6 Invasive Plant Species Observed, which exhibit similar adverse characteristics of a plant ranked moderate or high and wildlife species in this particular habitat setting, or a change in the ranking of invasive plants;
- Change in the listing of species status species that could occur or have potential to occur in the habitat mitigation area; or;
- Erosion or deposition of sediments.

13.2 Initiating Procedures

Adaptive management may be implemented if:

- The absolute percent cover in any monitoring year (averaged over sample plots) is 15 percent below the target level described under “Annual Success Criteria,” or if absolute cover of target invasive species is more than 15 percent over target in monitoring years three, four or five; or if additional final criteria are not met.
- The hydrology annual performance criteria exceed 6” in variation, or excessive erosion or sedimentation is noted during annual monitoring.
- Performance criteria are not met for three consecutive years, and monitoring indicates that conditions are not improving.

If adaptive management is determined to be necessary, a report shall be prepared analyzing the cause of failure and, if necessary, proposing remedial action. A meeting will then be scheduled with the appropriate resource agencies, depending on the specific issue(s), and consensus reached on the best method(s) to address the issue.

13.2.1 Revegetation

Vegetation monitoring surveys may reveal the poor survival rates of planted stock or inadequate natural recruitments. Replanting will be recommended if monitoring reveals that plant success is failing to meet target thresholds and it is the best procedure to attain success criteria. Recommended thresholds for replanting are:

- 15 percent below the target level of cover or
- 15 percent below performance criteria in years three, four, or five.

Replanting may also be deemed appropriate to replace dead plants. Plants should be replaced during the next rainy season. This should be considered throughout the monitoring period. If replanting is initiated and irrigation is required for those plants to become established then the monitoring period shall be extended by one year for each year of additional irrigation and the monitoring period will be reset to year one (in these specific locations) to ensure the plants are self-sustaining, based on Regional Water Quality Control Board recommendations.

Additional adaptive considerations include:

- If a particular species has poor success throughout the site it may be replaced with a different species better suited to actual conditions in the restoration habitats.
- If selected areas are receiving too much or too little water, the system may be modified accordingly.
- Use of weed mats or mulch as remedial action to reduce invasive plant recruitment.

13.2.2 Hydrologic Modification

Hydrologic modification by regrading or re-contouring could be recommended if it is deemed that no other procedure could be employed to restore the target habitat to meet monitoring success criteria.

- Re-grade if tidal and/or groundwater flows are not adequate to establish estuarine saltmarsh plantings.
- Re-grade if the target hydrologic regime is not met by year three, assuming normal precipitation (within NRCS WET tables).

13.2.2 Invasive Species Control

An early detection rapid response mechanism should be in place for weed management throughout the year. Reducing invasive plants should occur throughout the year as needed. No more than fifteen percent cover (above the allowable percent cover as described in the performance standards) of target invasive plants should occur during monitoring years one through five.

Machinery should not be used at the site during wet conditions. Invasive species control will likely require repeated effort for at least several years and possibly throughout the monitoring period. Specific needs will be identified based on each year of monitoring, and documented in annual reports. Appropriate control methods will be utilized depending on the species, the abundance and distribution of the species, and the location within the site and relative to wetlands or other sensitive resources. With dense-flowering cordgrass as the dominant invasive species, removal shall follow the procedures established in the Final Programmatic Environmental Impact Report for the Humboldt Bay Regional Spartina Eradication Plan and related Mitigation and Monitoring Plan.

- Reducing non-native annuals and target invasive plants should occur throughout the year if needed.

- When any new plant is listed or if a ranking status has been revised by the California Invasive Plant Council (Cal-PC) as medium or high priority, and it has been identified during monitoring it should be removed according to the most recent up to date methods.
- When new control methods are released that are more effective than a previously employed method for control and removal the plan should accommodate the new techniques for the remainder of the monitoring period.
- Target invasive plants will be removed extending three to five feet into areas surrounding the re-established habitat.
- Routine weeding will be implemented as part of the maintenance.

14. Financial Assurances

The City is committed to ensuring the success of the mitigation projects described herein, and has successfully demonstrated its commitment to environmental mitigation in its prior trail projects, including the Hikshari' Trail. The City manages its funds to adequately cover costs of the mitigation and monitoring period, which come from the Parks and Recreation Department's Environmental Program Division.

Given its track record, the City requests that no financial assurances, such as a performance bonds, irrevocable trusts, escrow accounts, letters of credit, etc. be required as a part of this project.

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16. List of Preparers

Prepared by:

Jessica Hall, GHD, Inc., Eureka, CA

Gary Davidson, GHD, Inc., Eureka, CA

Stephanie Klein, GHD, Inc., Eureka, CA

Cara Scott, GHD, Inc., Eureka, CA

Reviewed by:

Ken Mierzwa, Senior Scientist, GHD, Inc., Eureka CA

Misha Schwarz, Project Manager, GHD Inc., Eureka CA

Miles Slattery, Director Parks and Recreation, City of Eureka, Eureka, CA

Jesse Willor, Project Manager, GHD Inc., Eureka, CA

17. Scope and limitations

This report: has been prepared by GHD for the City of Eureka and *may only be used and relied on for the purpose agreed between GHD and the City of Eureka as set out in this report.*

GHD otherwise disclaims responsibility to any entity other than the City of Eureka arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this report on the basis of information provided by the City of Eureka and others who provided information to GHD (including Government agencies), which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

GHD Inc

718 Third Street

Eureka CA 95501

T: 1 707 443 8326 F: 1 707 444 8330 E: eureka@ghd.com

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Document Status

Rev No.	Author	Reviewer	
		Name	Signature
	JH	MS, KSM, JW	

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Appendices

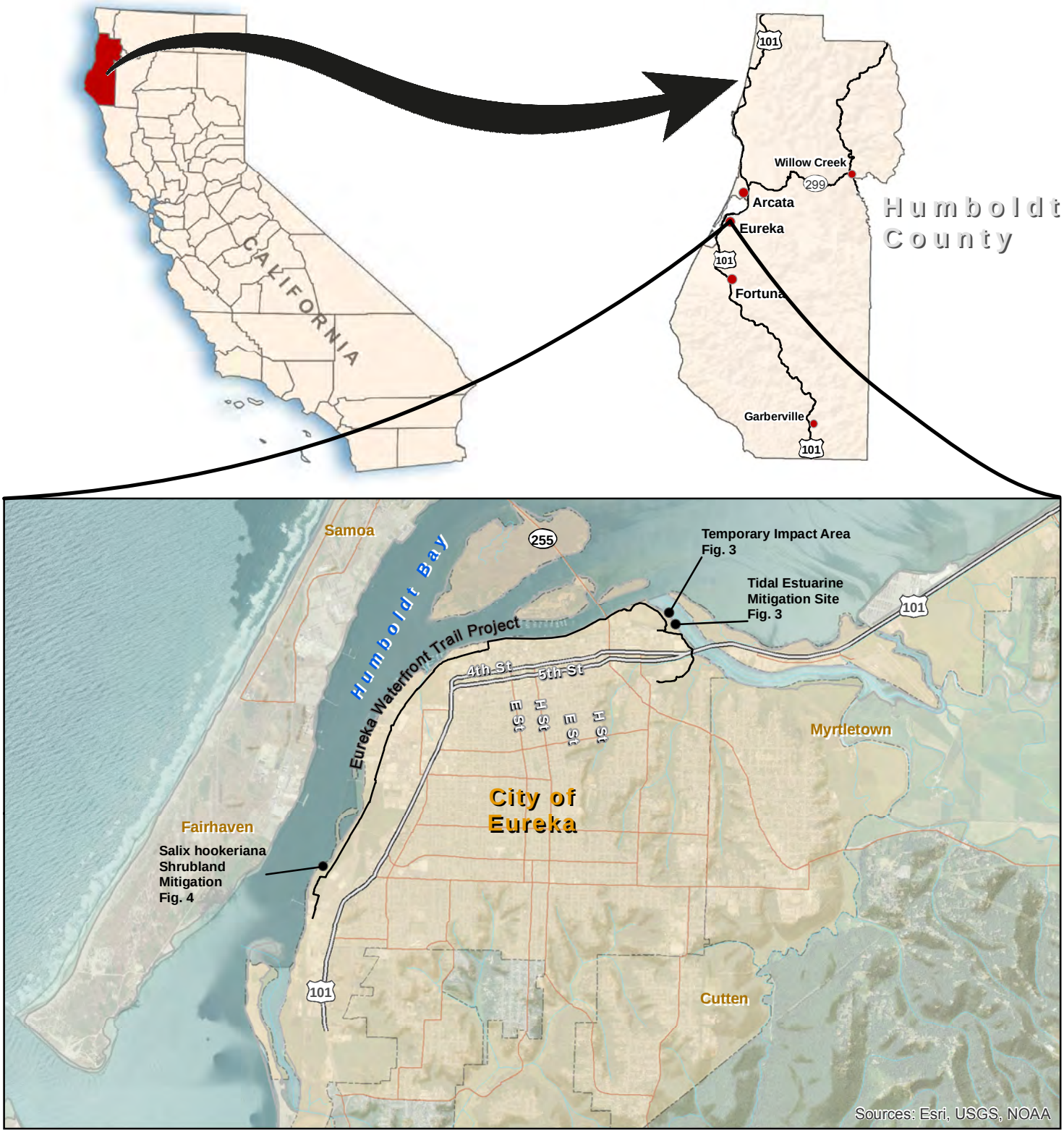
Appendix A - Figures

Figure 1 Vicinity map

Figure 2 Wetland Impacts

Figure 3 Estuarine Saltmarsh Reference Site and Mitigation Site

Figure 4 Salix hookeriana Shrubland Alliance Mitigation Site



Eureka Waterfront Trail
Mitigation Sites
Highway
Major Road
Streams
City Limits
Humboldt County
Counties

1: 72,000 @ 8.5' X 11' (ANSI A)

0 2,000 4,000 6,000 8,000

Feet

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

N

City of Eureka
Eureka Waterfront Trail

Job Number 8411641.13
Revision B
Date 05 Oct 2015

Vicinity and Location

Figure 1

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718 Third Street Eureka, CA 95501 T 707 443 8326 F 707 444 8330 E eureka@ghd.com W www.ghd.com

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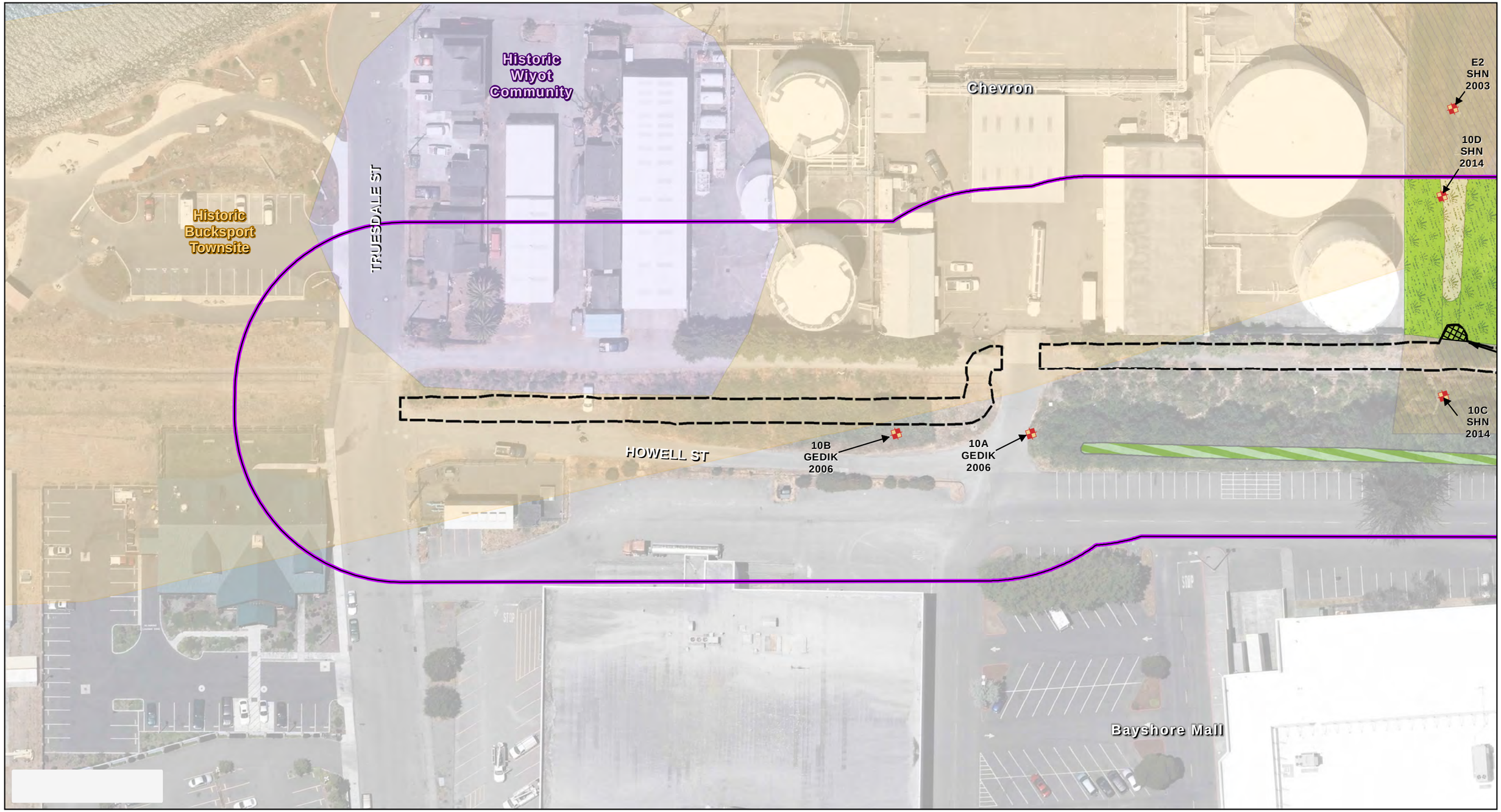
Data source: ESRI: Street Map USA; Humboldt County GIS: hydrology, boundaries, and orthoimagery (2009); USGS and NOAA: terrain; GHD: project boundary. Created by:JClark2



Paper Size 11" x 17" (ANSI B)

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Feet

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

Sample Point
Wetland Study Boundary
Trail Footprint
Wetland Impacts
Temporary Construction Impacts

Eureka Holmes Lumber Mill Site
Historic Wiyot Community
Historic Bucksport Townsite
Historic Eureka Dump (CA-HUM-857)

** Salix hookeriana Shrubland Alliance
** 1 Parameter, Brackish Vegetation
** 1-parameter (Freshwater Vegetation)
** 2 Parameter Vegetation/Soils

Estuarine Saltmarsh/Ditch (E2EM1P)
Estuarine Channel/Ditch (E2US3)
Estuarine Subtidal (E1UB3)
Palustrine Emergent Ditch (PEM1C)

Palustrine Emergent Wetland (PEM1C)
Palutrine Forested Wetland (PFO1)
Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction

City of Eureka
Waterfront Trails
Phases A, B and C

Job Number	8411641
Revision	A
Date	01 Oct 2015

Wetland Impacts

Figure 2.1

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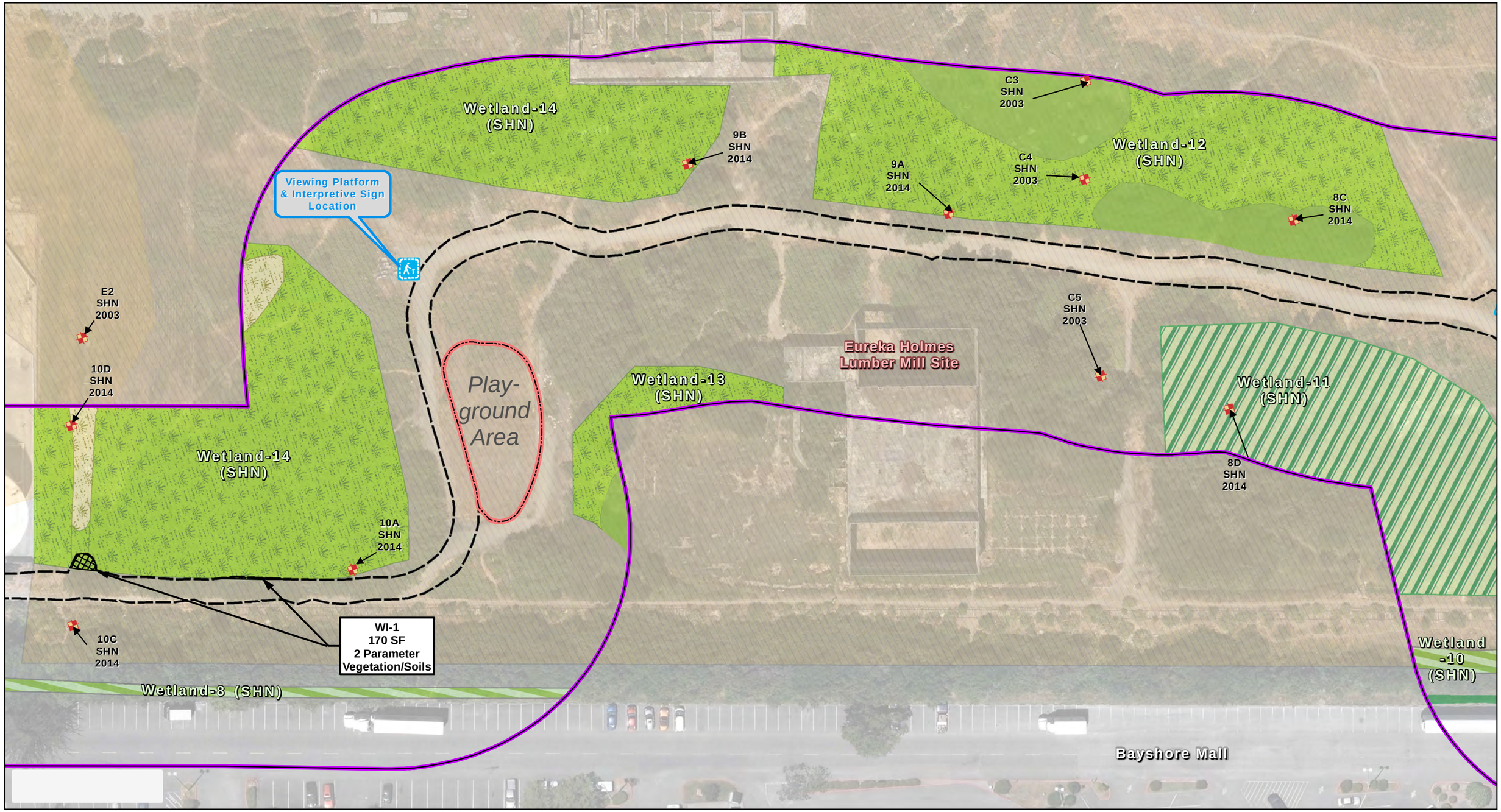

Paper Size 11" x 17" (ANSI B)

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Feet

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

Sample Point
Wetland Study Boundary
Trail Footprint
Wetland Impacts
Temporary Construction Impacts

Eureka Holmes Lumber Mill Site
Historic Wiyot Community
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Historic Eureka Dump (CA-HUM-857)

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** 1 Parameter, Brackish Vegetation
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Palustrine Emergent Ditch (PEM1C)

Palustrine Emergent Wetland (PEM1C)
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Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction

City of Eureka
Waterfront Trails
Phases A, B and C

Job Number	8411641
Revision	A
Date	09 Nov 2015

Wetland Impacts

Figure 2.2

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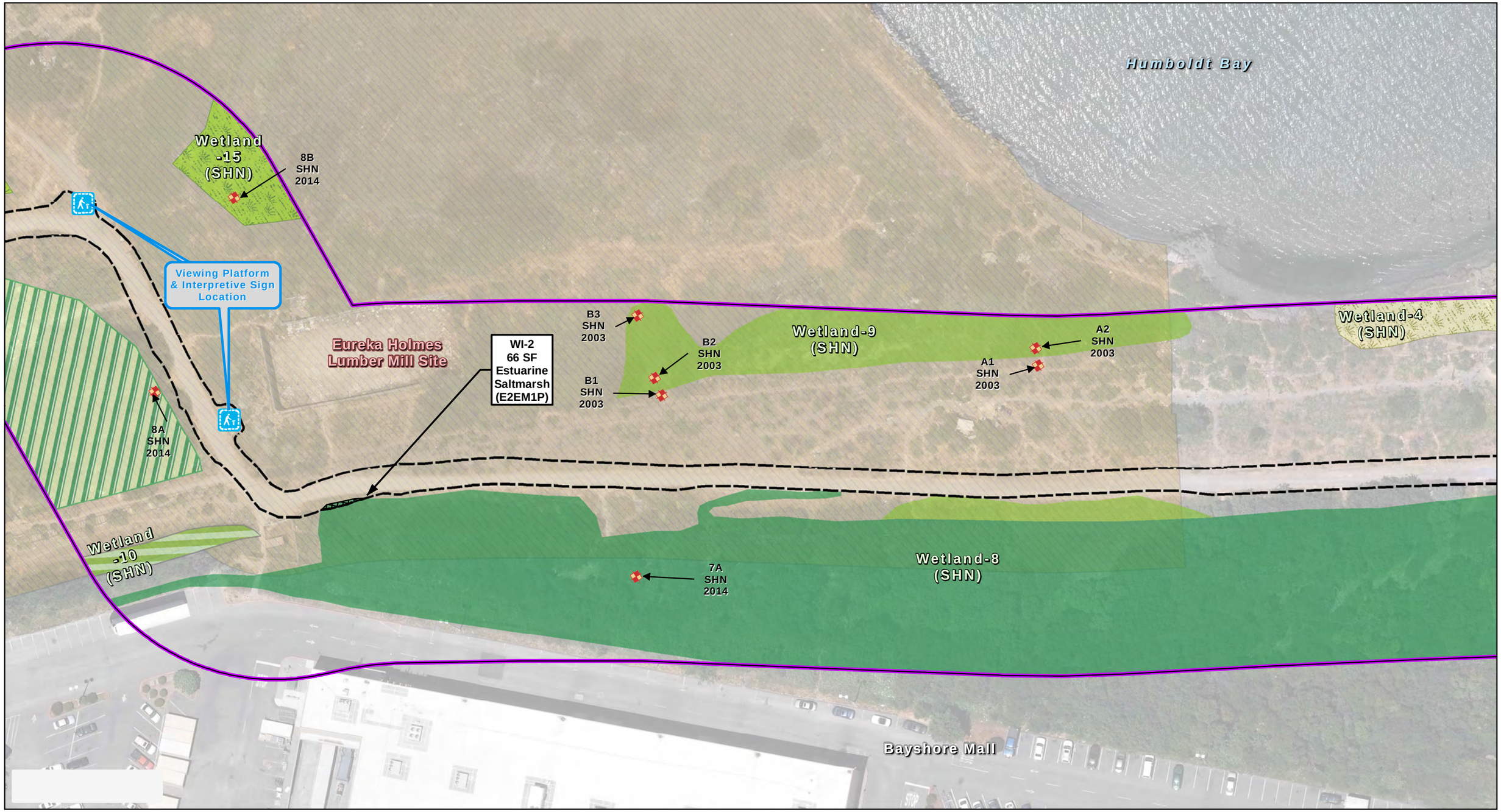

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Feet

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

- Sample Point
- Wetland Study Boundary
- Trail Footprint
- Wetland Impacts
- Temporary Construction Impacts
- Eureka Holmes Lumber Mill Site
- Historic Wiyot Community
- Historic Bucksport Townsite
- Historic Eureka Dump (CA-HUM-857)
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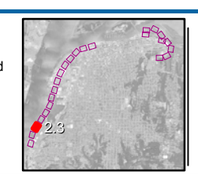
- Palutrine Forested Wetland (PFO1)
- Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction



City of Eureka
Waterfront Trails
Phases A, B and C

Job Number	8411641
Revision	A
Date	01 Oct 2015

Wetland Impacts

Figure 2.3

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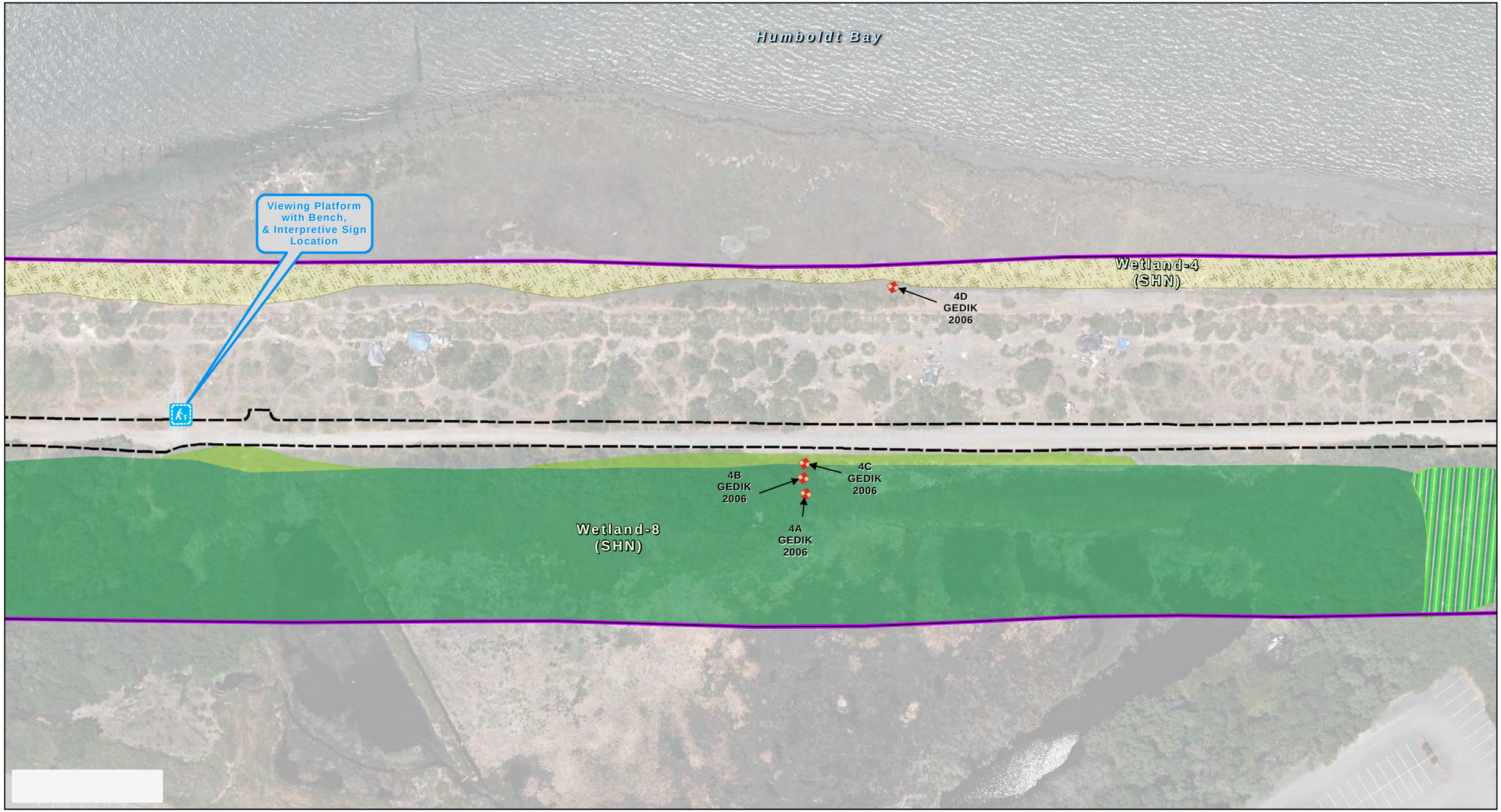

Paper Size 11" x 17" (ANSI B)

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Feet

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

Sample Point
Wetland Study Boundary
Trail Footprint
Wetland Impacts
Temporary Construction Impacts

Eureka Holmes Lumber Mill Site
Historic Wiyot Community
Historic Bucksport Townsite
Historic Eureka Dump (CA-HUM-857)

** Salix hookeriana Shrubland Alliance
** 1 Parameter, Brackish Vegetation
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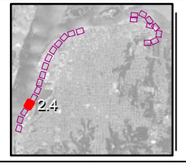
Estuarine Subtidal (E1UB3)
Palustrine Emergent Ditch (PEM1C)

Palustrine Emergent Wetland (PEM1C)
Palutrine Forested Wetland (PFO1)
Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction



City of Eureka
Waterfront Trails
Phases A, B and C

Job Number	8411641
Revision	A
Date	01 Oct 2015

Wetland Impacts

Figure 2.4

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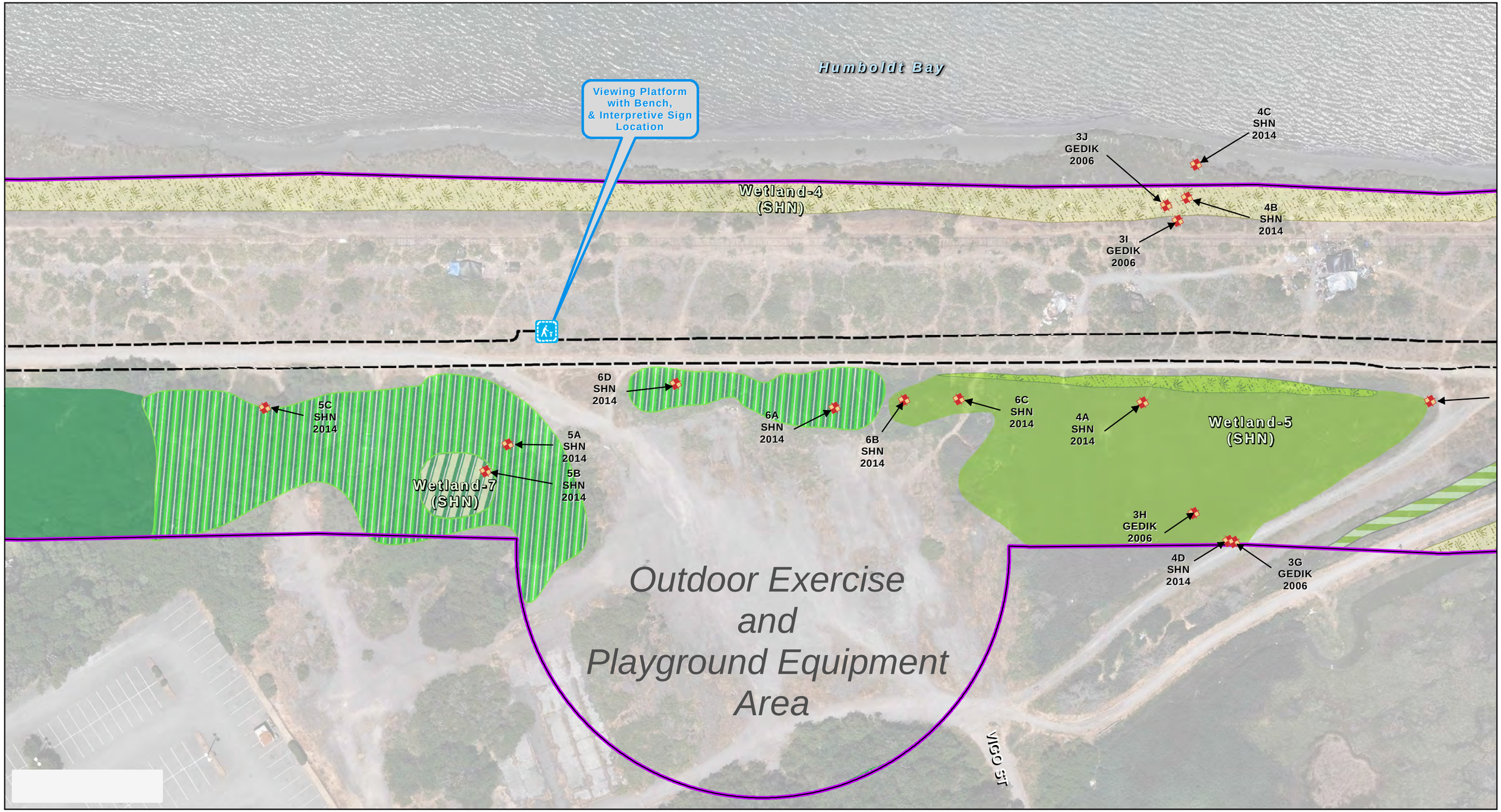

Paper Size 11" x 17" (ANSI B)

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Feet

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

- Sample Point
- Wetland Study Boundary
- Trail Footprint
- Wetland Impacts
- Temporary Construction Impacts
- Eureka Holmes Lumber Mill Site
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- Palustrine Emergent Wetland (PEM1C)
- Palutrine Forested Wetland (PFO1)
- Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction

City of Eureka
Waterfront Trails
Phases A, B and C

Job Number	8411641
Revision	A
Date	01 Oct 2015

Wetland Impacts

Figure 2.5

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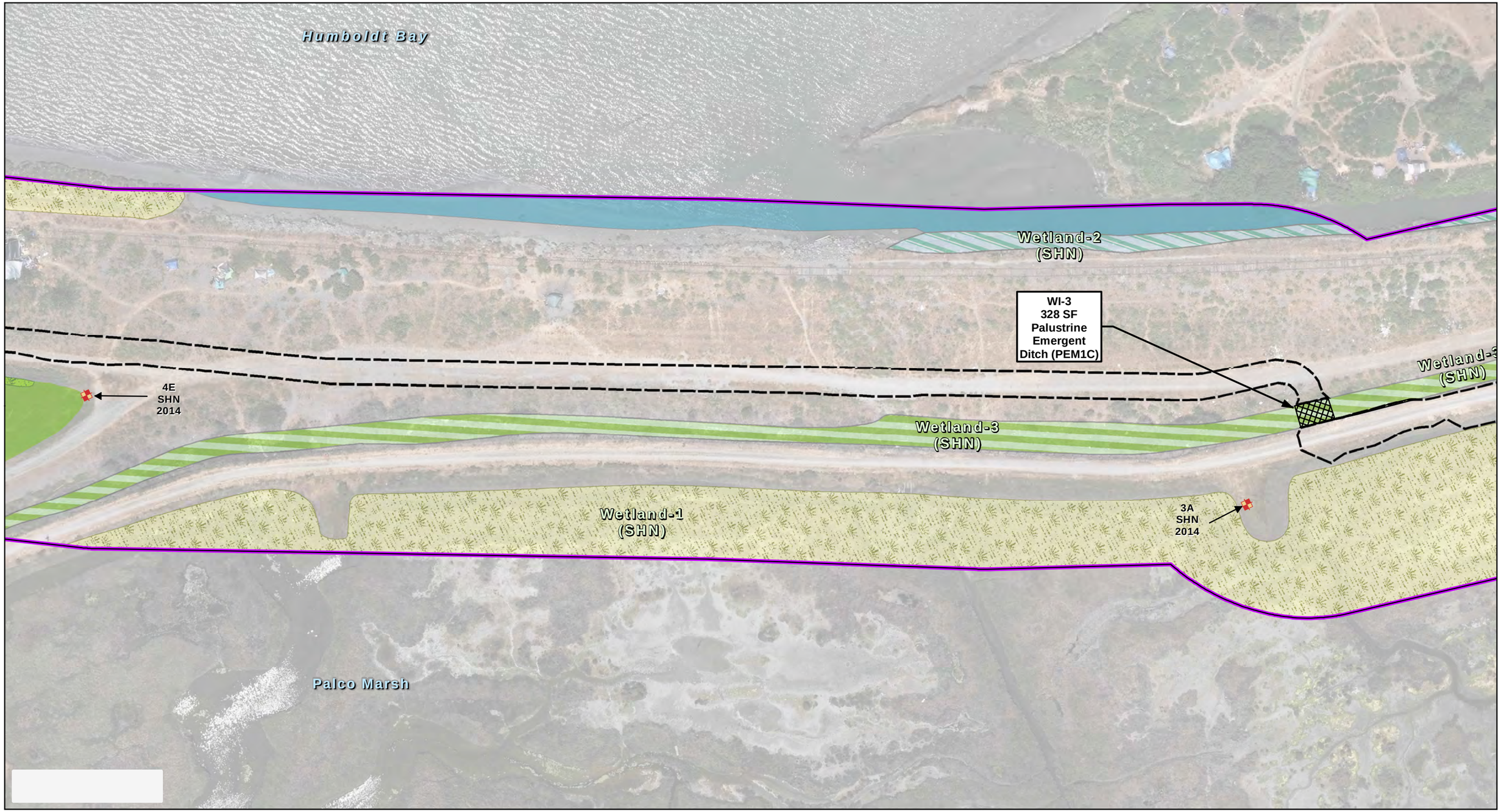

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Feet

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

Sample Point
Wetland Study Boundary
Trail Footprint
Wetland Impacts
Temporary Construction Impacts

Eureka Holmes Lumber Mill Site
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Palutrine Forested Wetland (PFO1)
Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction

City of Eureka
Waterfront Trails
Phases A, B and C

Job Number	8411641
Revision	A
Date	01 Oct 2015

Wetland Impacts

Figure 2.6

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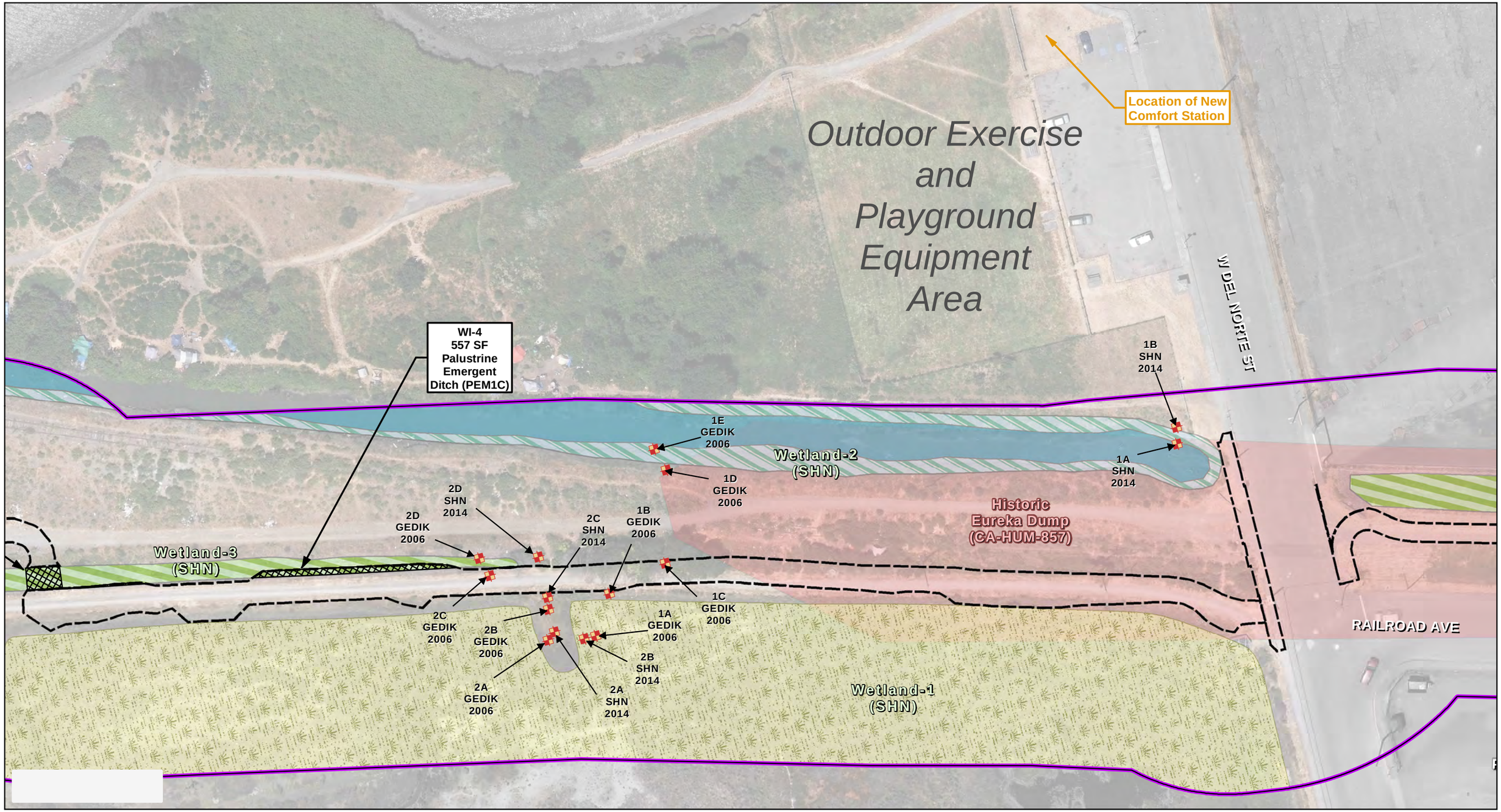

Paper Size 11" x 17" (ANSI B)

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Feet

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

- Sample Point
- Wetland Study Boundary
- Trail Footprint
- Wetland Impacts
- Temporary Construction Impacts
- Eureka Holmes Lumber Mill Site
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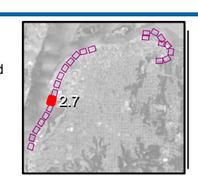
- Palutrine Forested Wetland (PFO1)
- Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction



City of Eureka
Waterfront Trails
Phases A, B and C

Job Number	8411641
Revision	A
Date	01 Oct 2015

Wetland Impacts

Figure 2.7

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Feet

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

Sample Point
Wetland Study Boundary
Trail Footprint
Wetland Impacts
Temporary Construction Impacts

Eureka Holmes Lumber Mill Site
Historic Wiyot Community
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Palutrine Forested Wetland (PFO1)
Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction

City of Eureka
Waterfront Trails
Phases A, B and C

Job Number	8411641
Revision	A
Date	01 Oct 2015

Wetland Impacts

Figure 2.8

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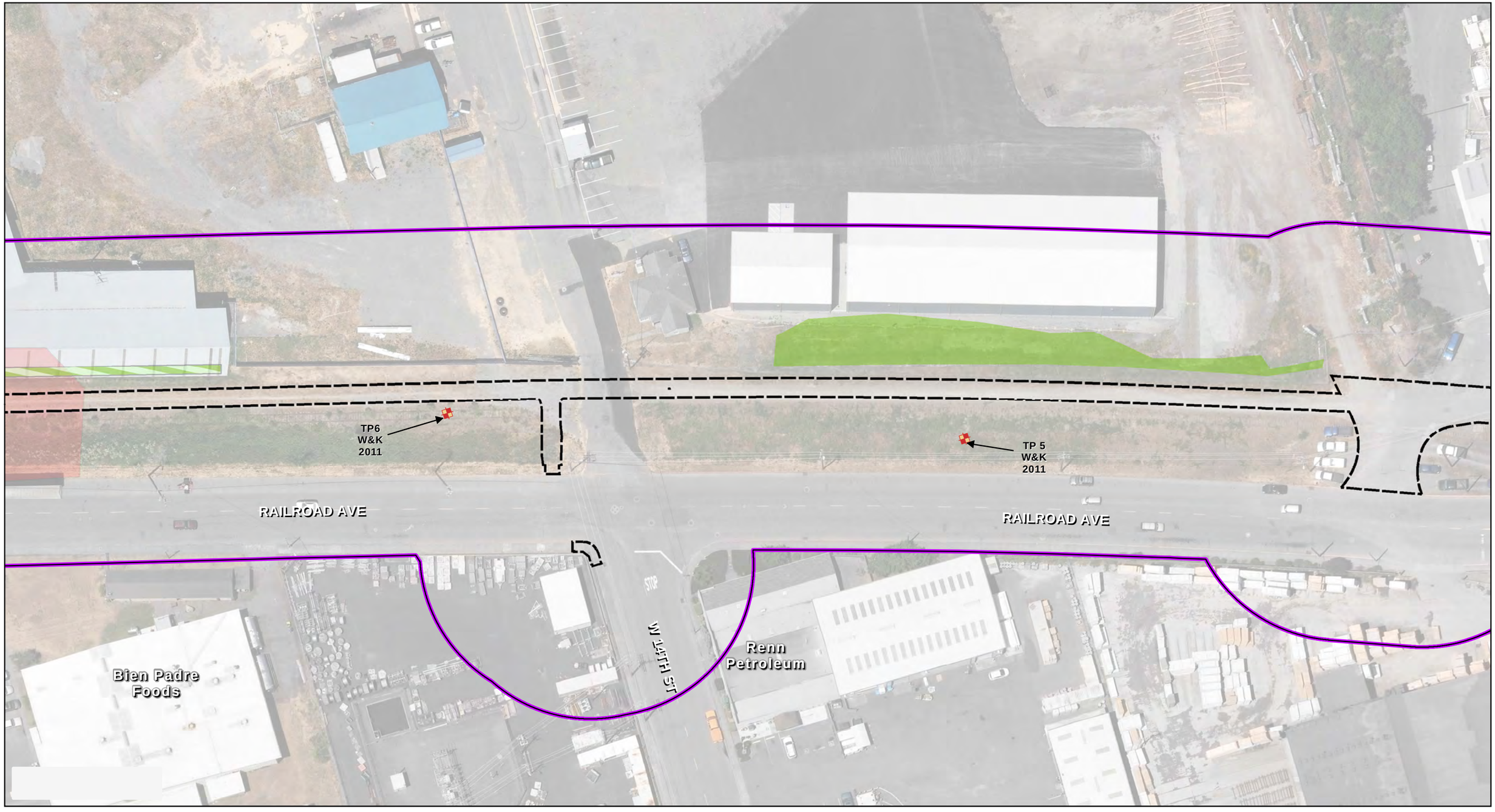

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Feet

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

Sample Point
Wetland Study Boundary
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Eureka Holmes Lumber Mill Site
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** Coastal Commission (CC) Jurisdiction

City of Eureka
Waterfront Trails
Phases A, B and C

Job Number	8411641
Revision	A
Date	01 Oct 2015

Wetland Impacts

Figure 2.9

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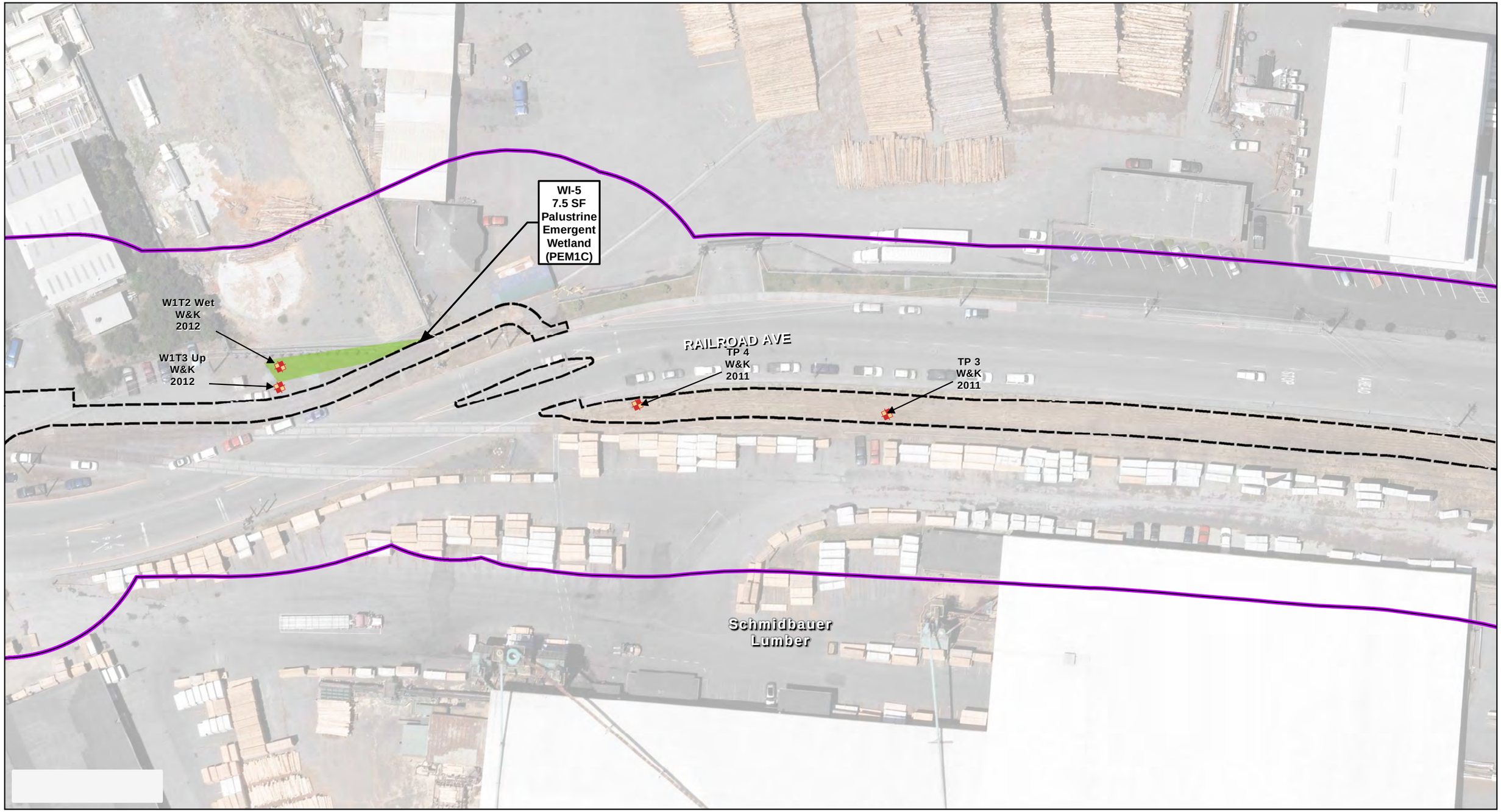

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Feet

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

Sample Point
Wetland Study Boundary
Trail Footprint
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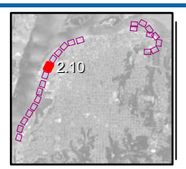
** Coastal Commission (CC) Jurisdiction



City of Eureka
Waterfront Trails
Phases A, B and C

Job Number	8411641
Revision	A
Date	01 Oct 2015

Wetland Impacts Figure 2.10

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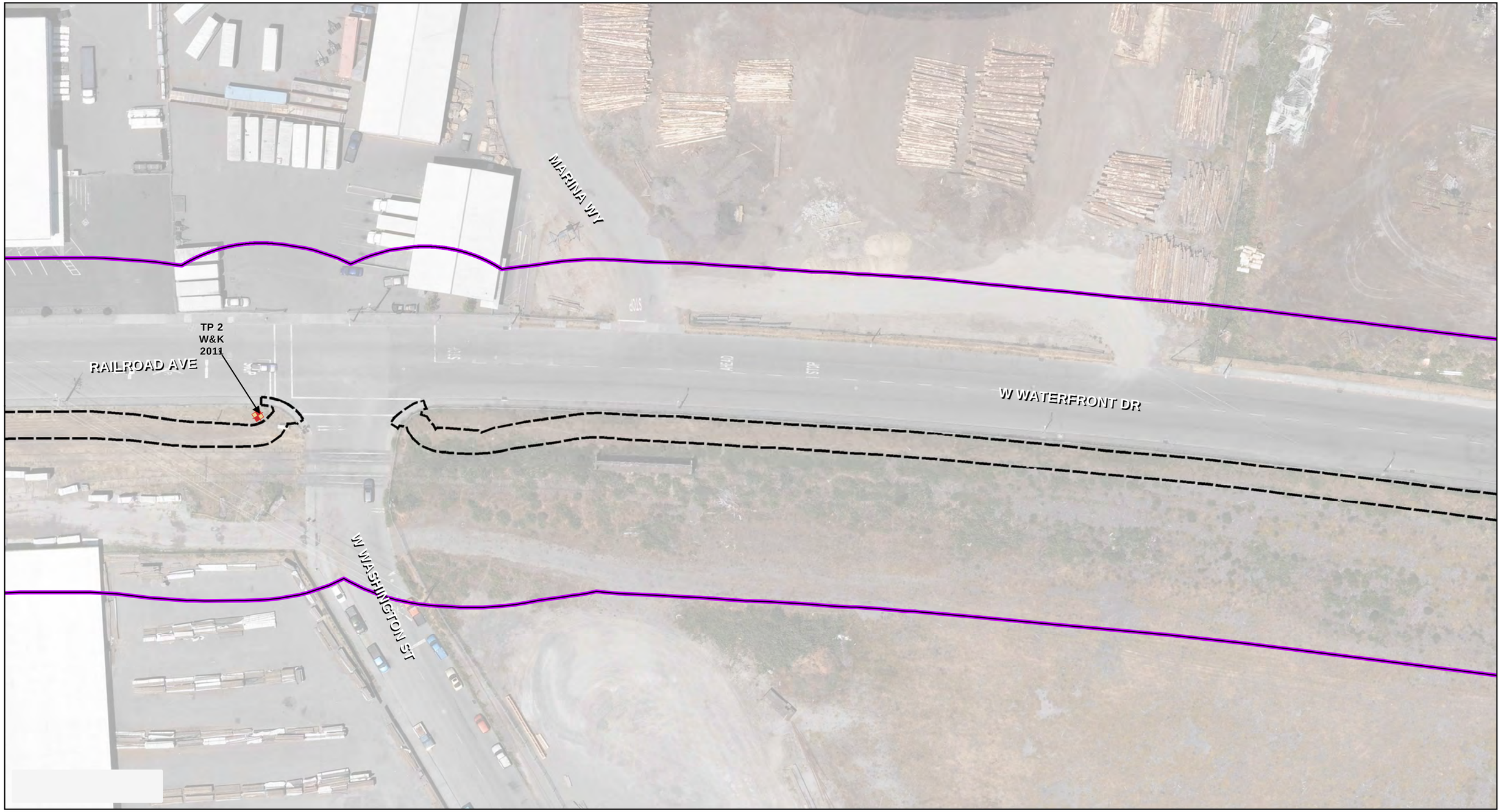

Paper Size 11" x 17" (ANSI B)

0 25 50 75 100

Feet

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

Sample Point
Wetland Study Boundary
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Wetland Impacts
Temporary Construction Impacts

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Historic Bucksport Townsite
Historic Eureka Dump (CA-HUM-857)

** Salix hookeriana Shrubland Alliance
** 1 Parameter, Brackish Vegetation
** 1-parameter (Freshwater Vegetation)
** 2 Parameter Vegetation/Soils

Estuarine Saltmarsh/Ditch (E2EM1P)
Estuarine Channel/Ditch (E2US3)
Estuarine Subtidal (E1UB3)
Palustrine Emergent Ditch (PEM1C)

Palustrine Emergent Wetland (PEM1C)
Palutrine Forested Wetland (PFO1)
Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction

2.11

City of Eureka
Waterfront Trails
Phases A, B and C

Job Number	8411641
Revision	A
Date	01 Oct 2015

Wetland Impacts Figure 2.11

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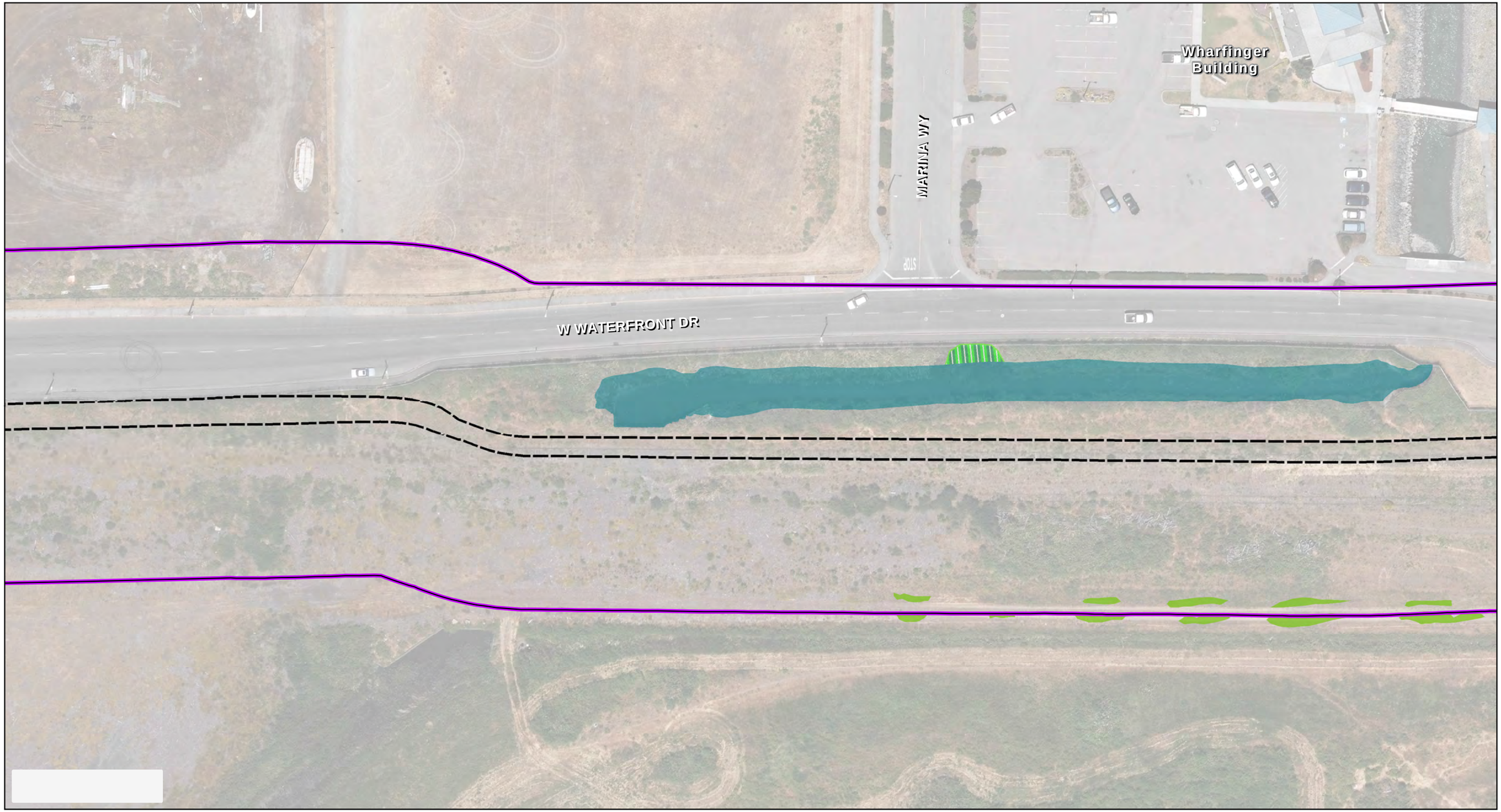

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Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

- Sample Point
- Wetland Study Boundary
- Trail Footprint
- Wetland Impacts
- Temporary Construction Impacts
- Eureka Holmes Lumber Mill Site
- Historic Wiyot Community
- Historic Bucksport Townsite
- Historic Eureka Dump (CA-HUM-857)
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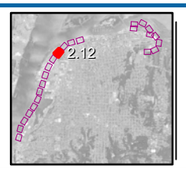
- Palutrine Forested Wetland (PFO1)
- Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction



City of Eureka
Waterfront Trails
Phases A, B and C

Job Number	8411641
Revision	A
Date	01 Oct 2015

Wetland Impacts Figure 2.12

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Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

Sample Point
Wetland Study Boundary
Trail Footprint
Wetland Impacts
Temporary Construction Impacts

Eureka Holmes Lumber Mill Site
Historic Wiyot Community
Historic Bucksport Townsite
Historic Eureka Dump (CA-HUM-857)

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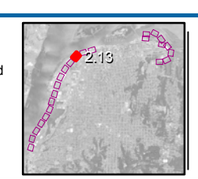
Palustrine Emergent Wetland (PEM1C)
Palutrine Forested Wetland (PFO1)
Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction



City of Eureka
Waterfront Trails
Phases A, B and C

Job Number	8411641
Revision	A
Date	01 Oct 2015

Wetland Impacts Figure 2.13

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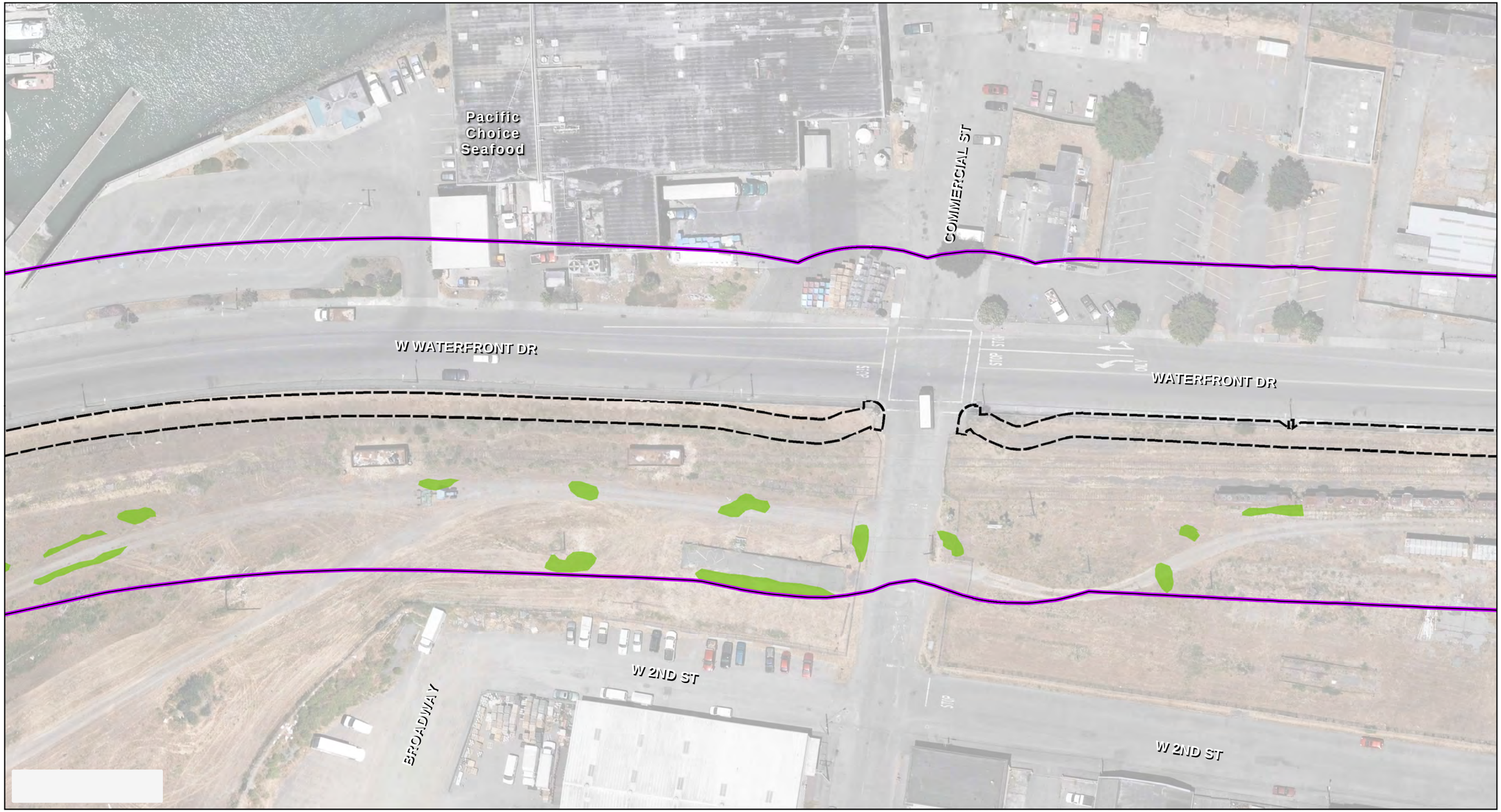

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Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

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- Trail Footprint
- Wetland Impacts
- Temporary Construction Impacts
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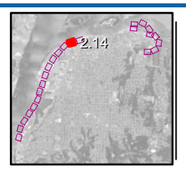
- Palutrine Forested Wetland (PFO1)
- Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction



City of Eureka
Waterfront Trails
Phases A, B and C

Job Number	8411641
Revision	A
Date	01 Oct 2015

Wetland Impacts Figure 2.14

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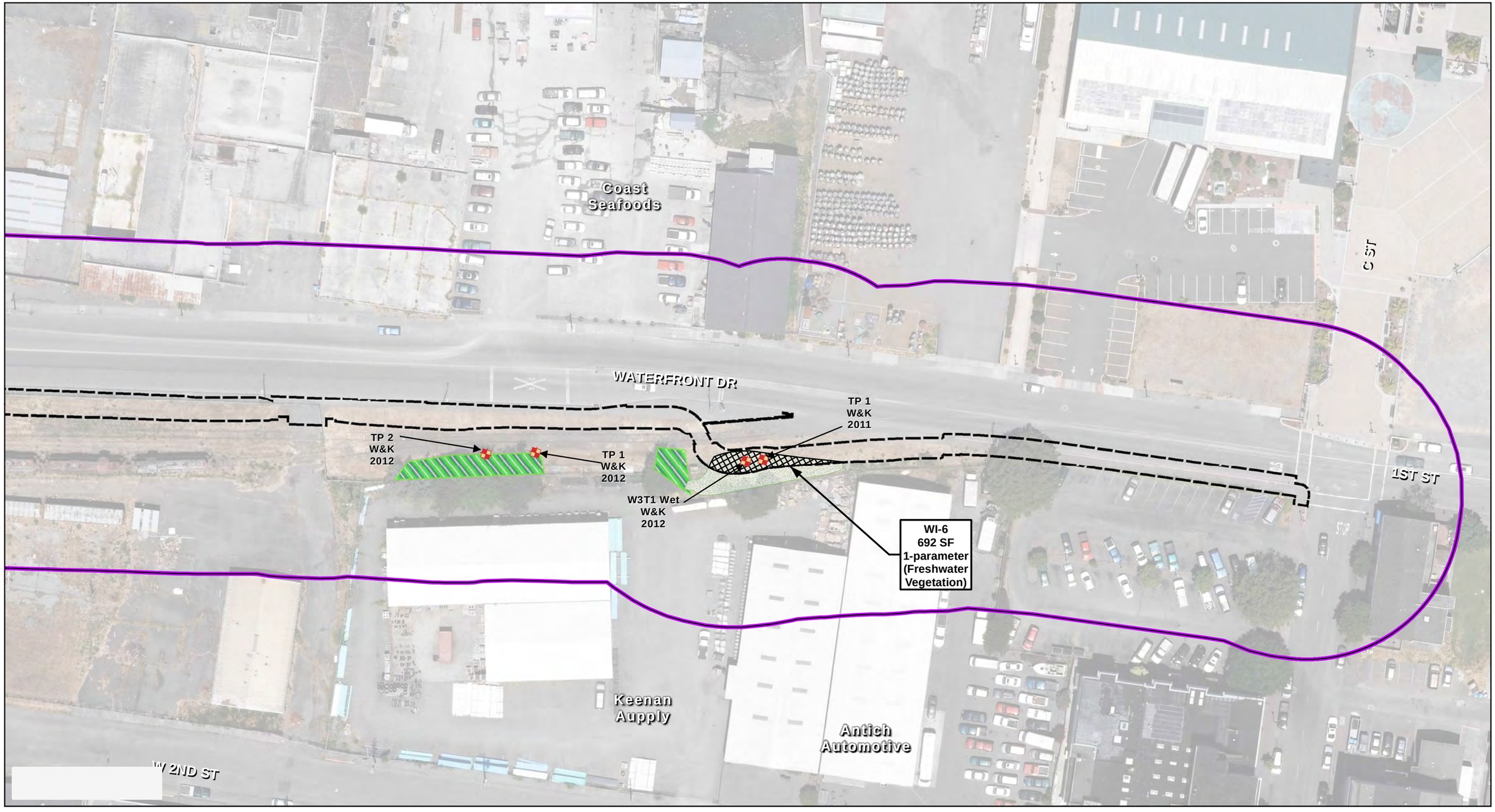

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Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

Sample Point
Wetland Study Boundary
Trail Footprint
Wetland Impacts
Temporary Construction Impacts

Eureka Holmes Lumber Mill Site
Historic Wiyot Community
Historic Bucksport Townsite
Historic Eureka Dump (CA-HUM-857)

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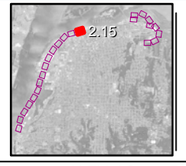
Palutrine Forested Wetland (PFO1)
Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction



City of Eureka
Waterfront Trails
Phases A, B and C

Job Number	8411641
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Wetland Impacts Figure 2.15

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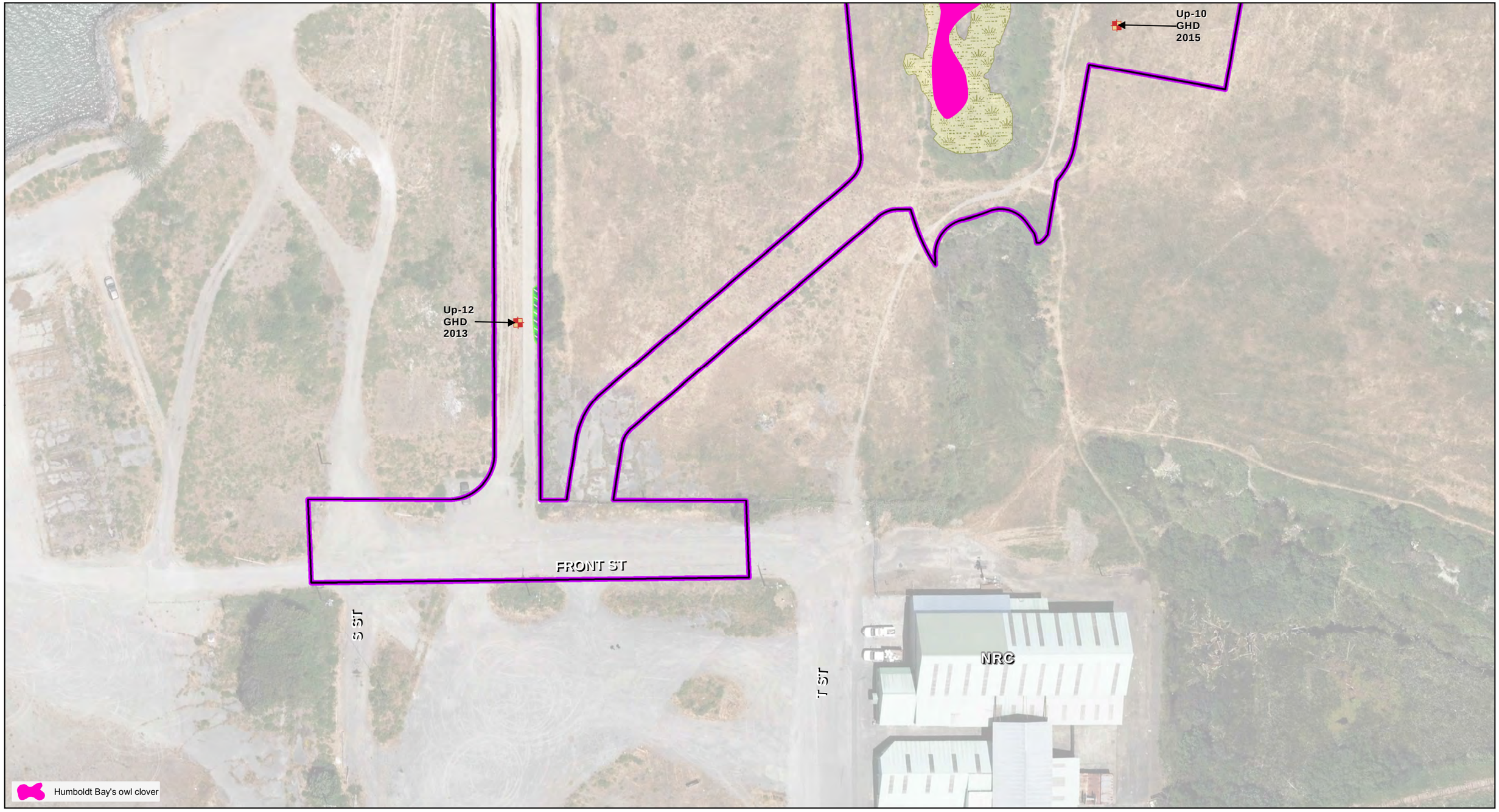

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Map Projection: Lambert Conformal Conic
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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

- Sample Point
- Wetland Study Boundary
- Trail Footprint
- Wetland Impacts
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- Eureka Holmes Lumber Mill Site
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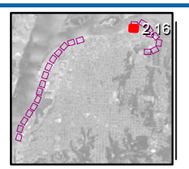
- Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction



City of Eureka
Waterfront Trails
Phases A, B and C

Job Number	8411641
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Wetland Impacts Figure 2.16

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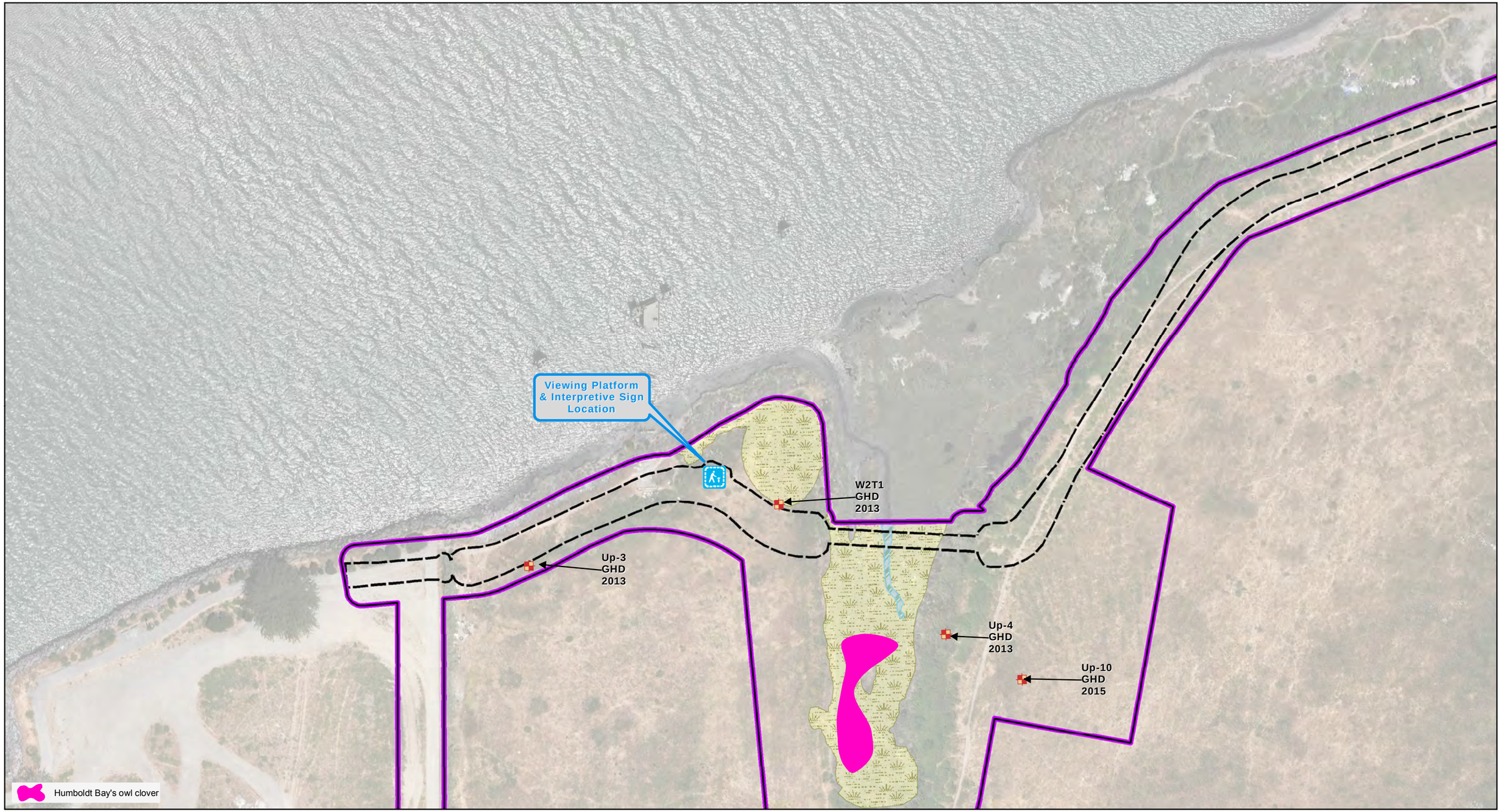

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Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

- Sample Point
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** Coastal Commission (CC) Jurisdiction

City of Eureka
Waterfront Trails
Phases A, B and C

Job Number	8411641
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Wetland Impacts Figure 2.17

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

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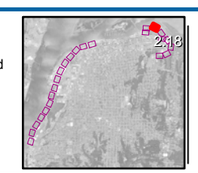
- Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction



City of Eureka
Waterfront Trails
Phases A, B and C

Job Number	8411641
Revision	A
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Wetland Impacts Figure 2.18

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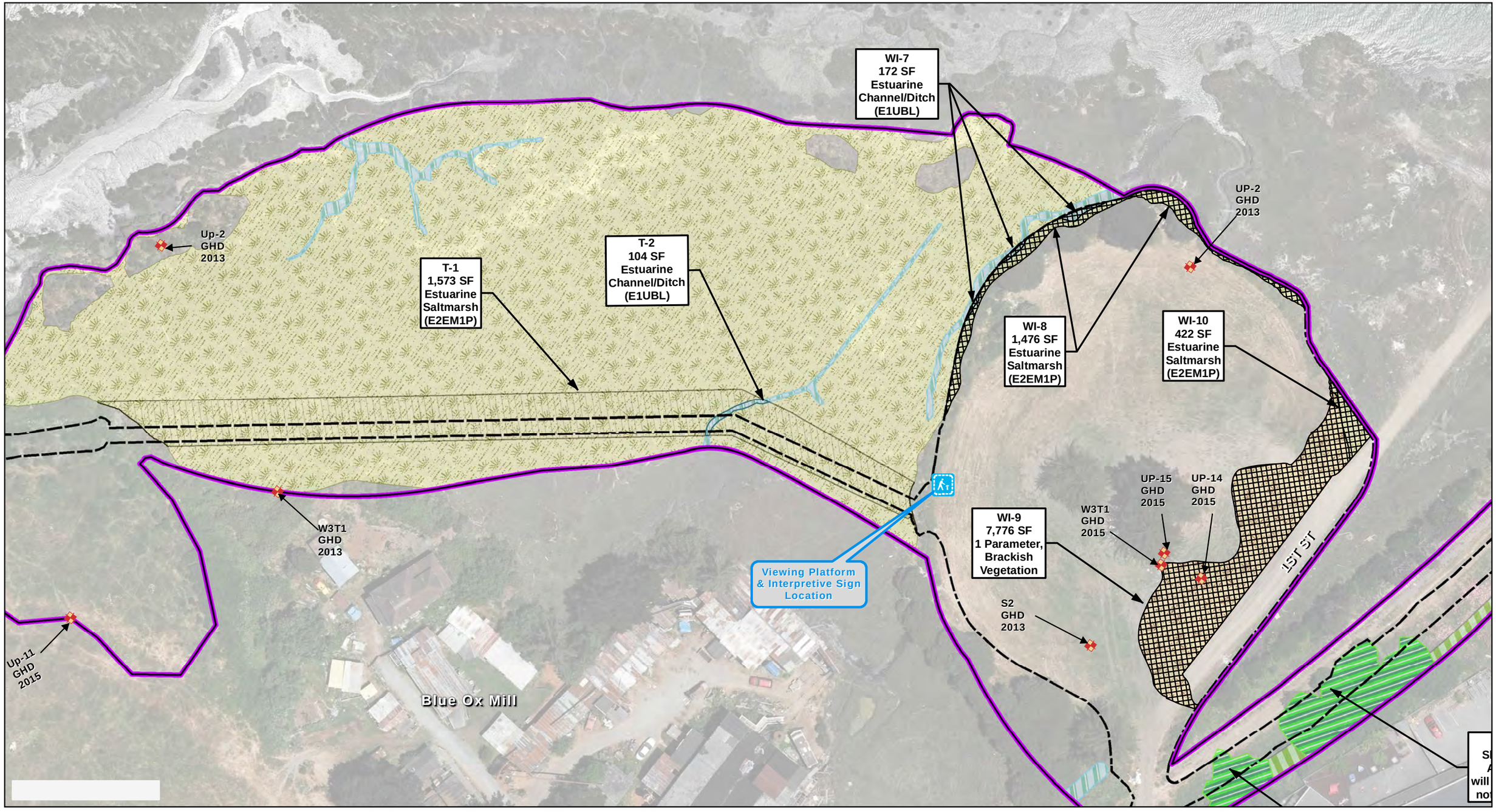

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Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

Sample Point
Wetland Study Boundary
Trail Footprint
Wetland Impacts
Temporary Construction Impacts

Eureka Holmes Lumber Mill Site
Historic Wiyot Community
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Palustrine Emergent Wetland (PEM1C)
Palutrine Forested Wetland (PFO1)
Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction

City of Eureka
Waterfront Trails
Phases A, B and C

Job Number	8411641
Revision	A
Date	01 Oct 2015

Wetland Impacts Figure 2.19

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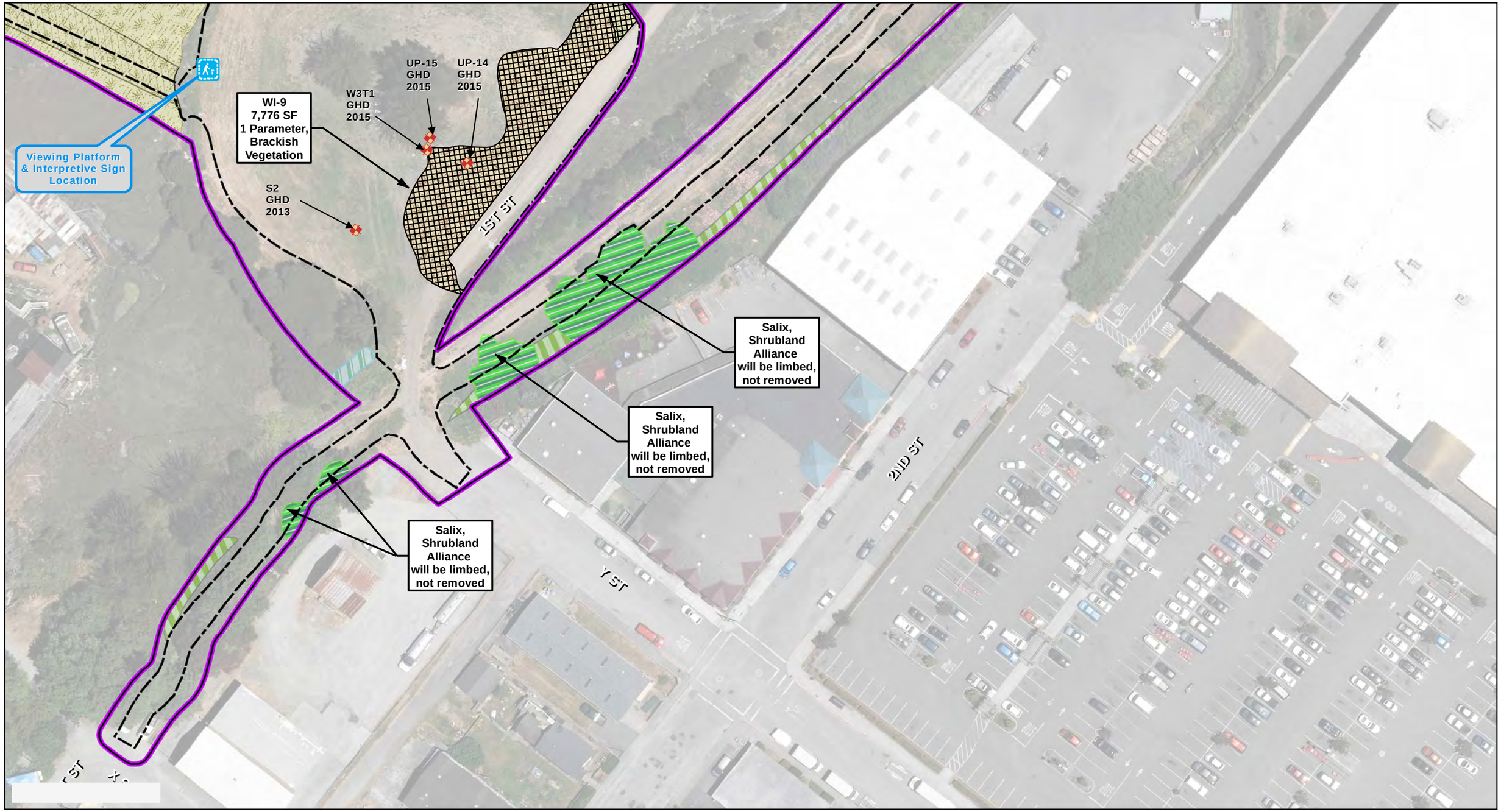

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Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

Sample Point
Wetland Study Boundary
Trail Footprint
Wetland Impacts
Temporary Construction Impacts

Eureka Holmes Lumber Mill Site
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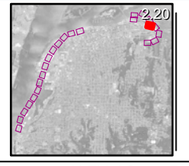
** Coastal Commission (CC) Jurisdiction



City of Eureka
Waterfront Trails
Phases A, B and C

Job Number	8411641
Revision	A
Date	01 Oct 2015

Wetland Impacts Figure 2.20

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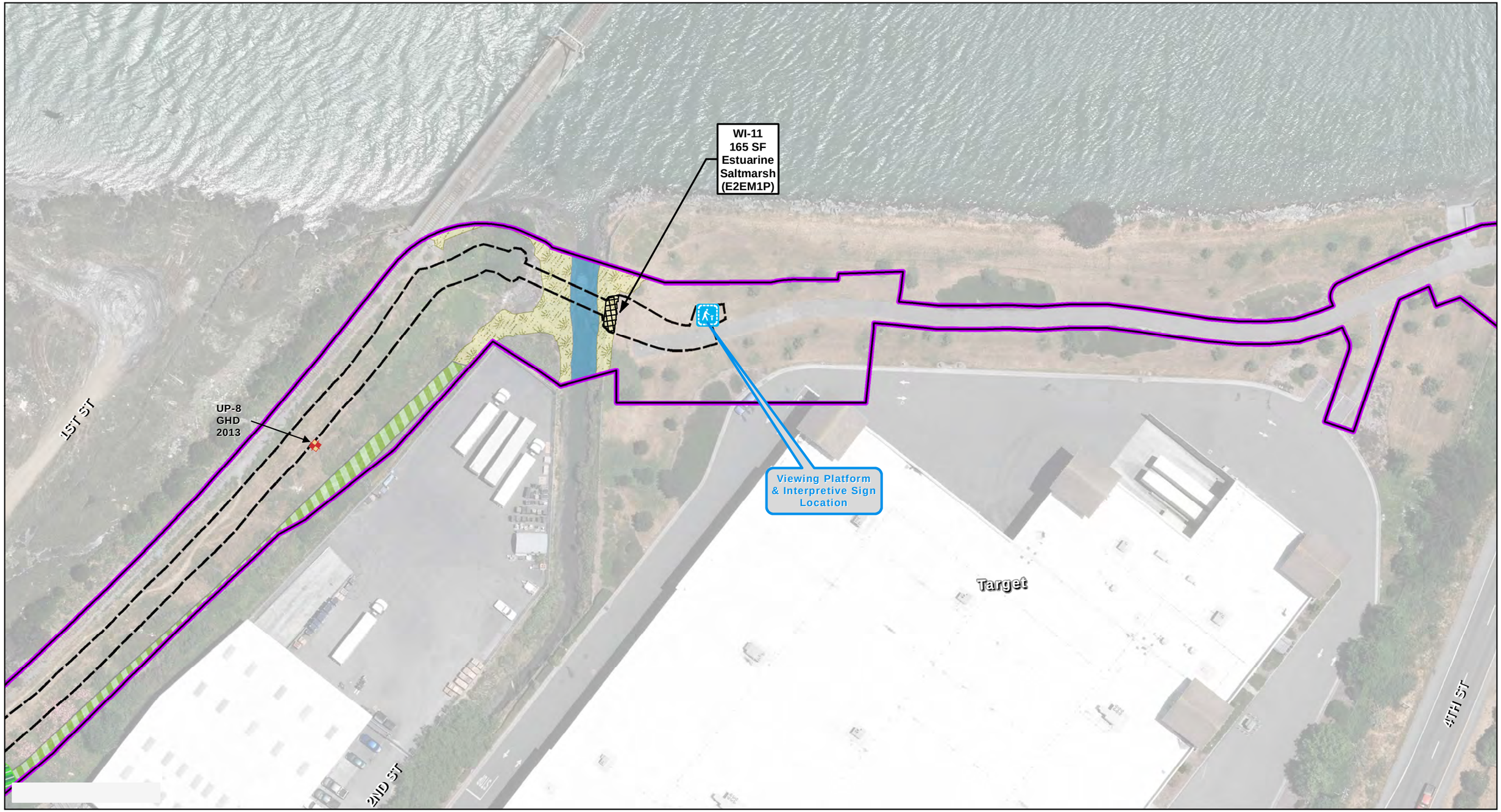

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Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

Sample Point
Wetland Study Boundary
Trail Footprint
Wetland Impacts
Temporary Construction Impacts

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** Coastal Commission (CC) Jurisdiction

2.21

City of Eureka
Waterfront Trails
Phases A, B and C

Job Number	8411641
Revision	A
Date	01 Oct 2015

Wetland Impacts Figure 2.21

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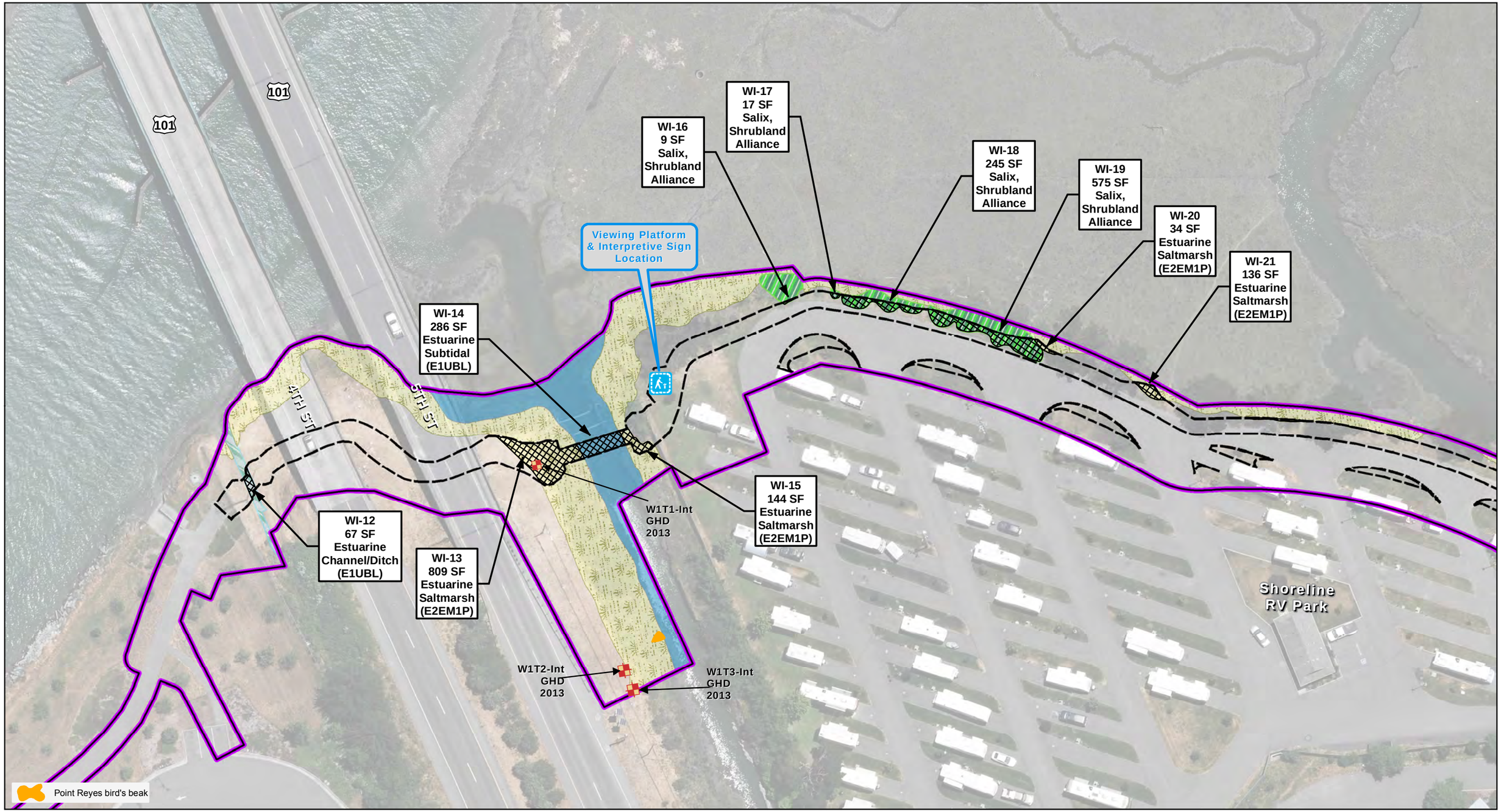

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Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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- Sample Point
- Wetland Study Boundary
- Trail Footprint
- Wetland Impacts
- Temporary Construction Impacts
- Eureka Holmes Lumber Mill Site
- Historic Wiyot Community
- Historic Bucksport Townsite
- Historic Eureka Dump (CA-HUM-857)
- ** Salix hookeriana Shrubland Alliance
- ** 1 Parameter, Brackish Vegetation
- ** 1-parameter (Freshwater Vegetation)
- ** 2 Parameter Vegetation/Soils
- Estuarine Saltmarsh/Ditch (E2EM1P)
- Estuarine Channel/Ditch (E2US3)
- Estuarine Subtidal (E1UB3)
- Palustrine Emergent Ditch (PEM1C)
- Palustrine Emergent Wetland (PEM1C)
- Palutrine Forested Wetland (PFO1)
- Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction

City of Eureka
Waterfront Trails
Phases A, B and C

Job Number	8411641
Revision	A
Date	01 Oct 2015

Wetland Impacts Figure 2.22

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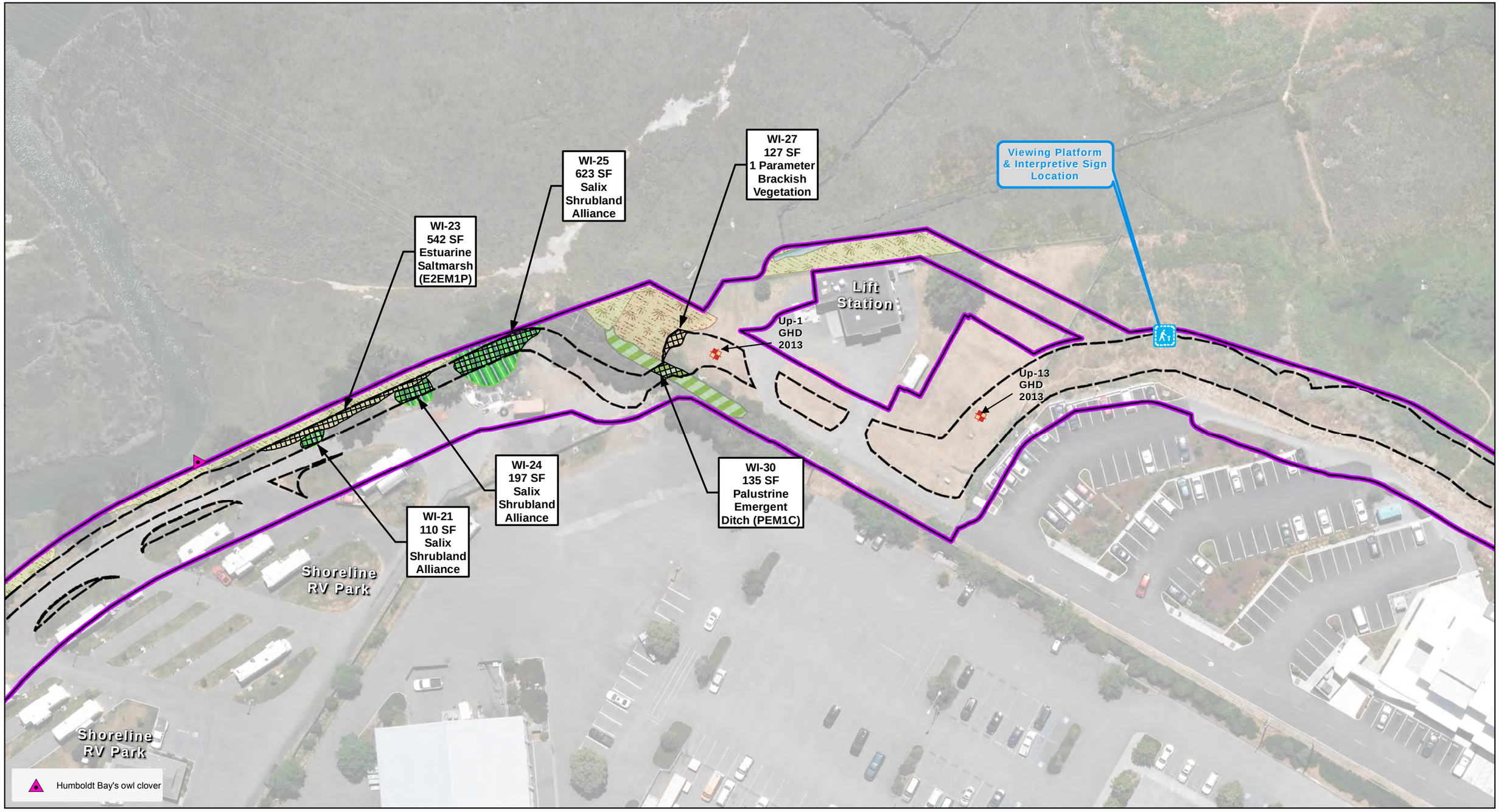

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Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

Sample Point
Wetland Study Boundary
Trail Footprint
Wetland Impacts
Temporary Construction Impacts

Eureka Holmes Lumber Mill Site
Historic Wiyot Community
Historic Bucksport Townsite
Historic Eureka Dump (CA-HUM-857)

** Salix hookeriana Shrubland Alliance
** 1 Parameter, Brackish Vegetation
** 1-parameter (Freshwater Vegetation)
** 2 Parameter Vegetation/Soils

Estuarine Saltmarsh/Ditch (E2EM1P)
Estuarine Channel/Ditch (E2US3)
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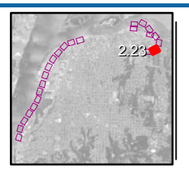
Palustrine Emergent Ditch (PEM1C)

Palustrine Emergent Wetland (PEM1C)
Palutrine Forested Wetland (PFO1)
Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction



City of Eureka
Waterfront Trails
Phases A, B and C

Job Number	8411641
Revision	A
Date	01 Oct 2015

Wetland Impacts Figure 2.23

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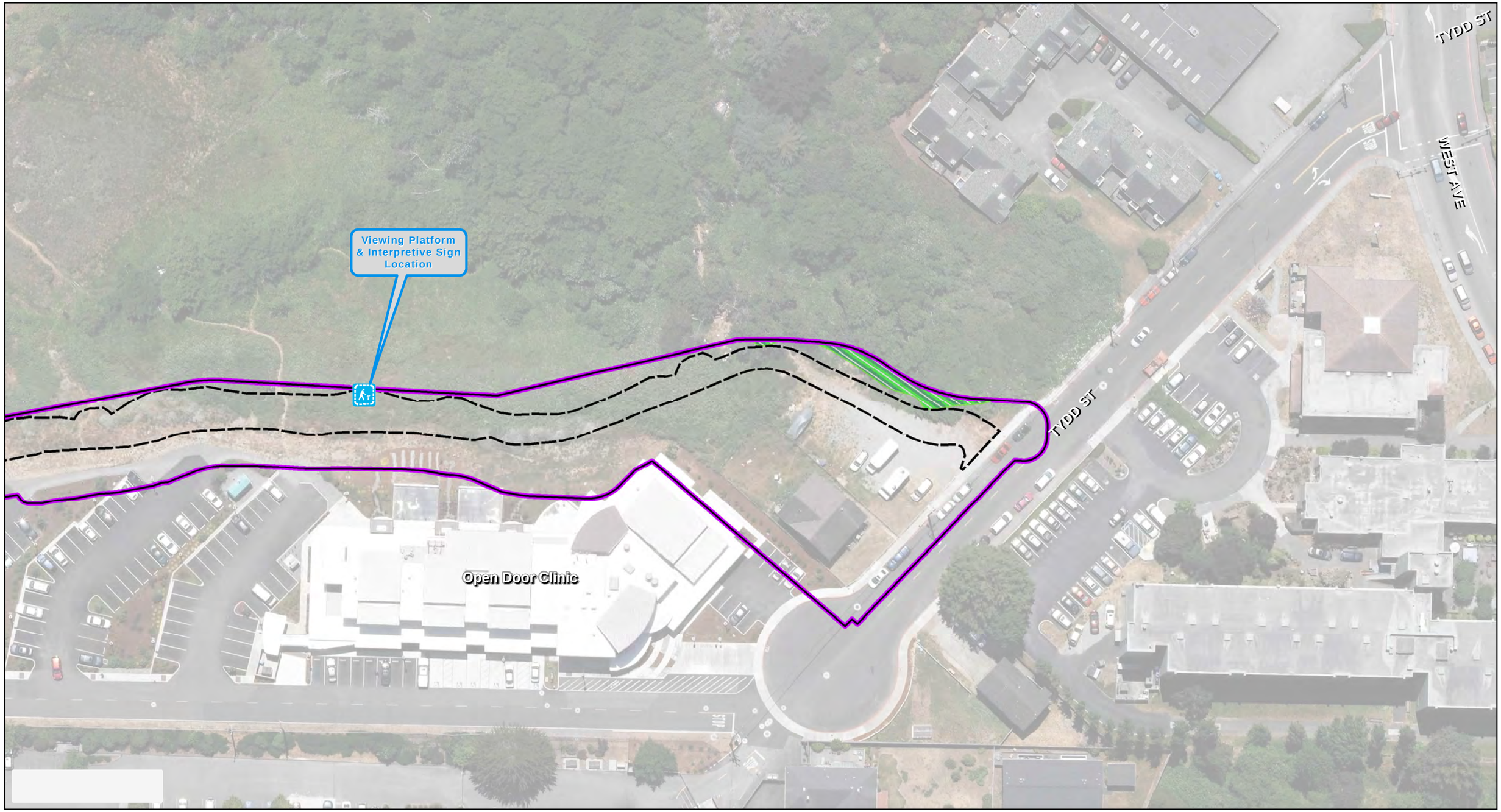

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Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

N

- Sample Point
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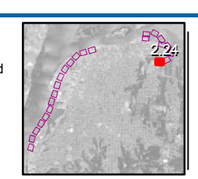
- Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction



City of Eureka
Waterfront Trails
Phases A, B and C

Job Number	8411641
Revision	A
Date	16 Oct 2015

Wetland Impacts Figure 2.24

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

Wetland Study Boundary
Limits of Disturbance
Wetland Impacts
Temporary Construction Impacts
Edge of Paved Trail
Boardwalk Outline
Mitigation Area
Reference Site 1
** Salix hookeriana Shrubland Alliance
** 1 Parameter, Brackish Vegetation
Estuarine Saltmarsh/Ditch (E2EM1P)
Estuarine Channel/Ditch (E2US3)
Palustrine Emergent Ditch (PEM1C)
** Coastal Commission (CC) Jurisdiction

City of Eureka
Waterfront Trails Phases A, B and C

Job Number	8411641
Revision	A
Date	02 Oct 2015

Estuarine Saltmarsh Reference Site and Mitigation Site

Figure 3

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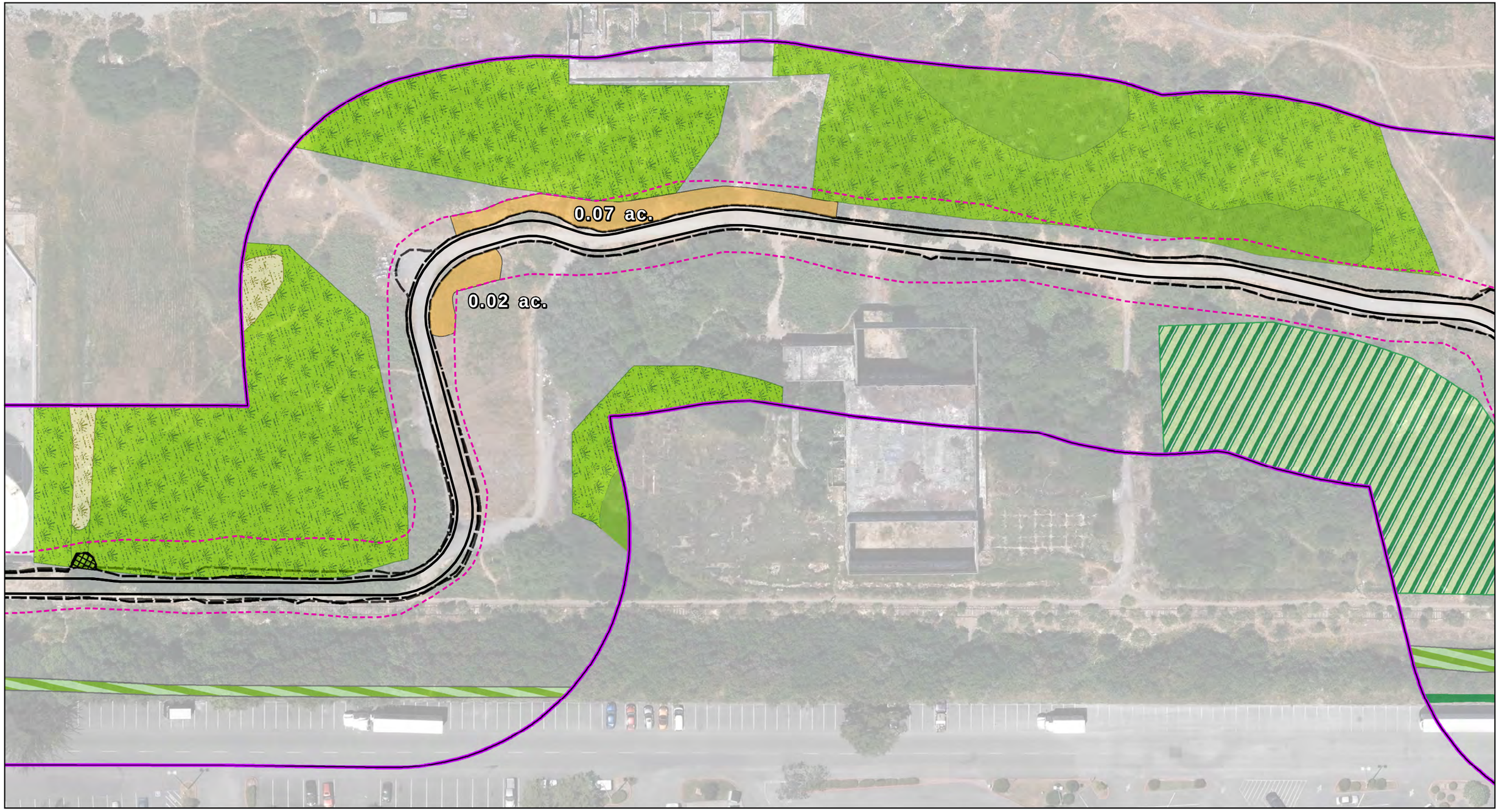

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Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

Wetland Study Boundary
Limits of Disturbance
Wetland Impacts
Temporary Construction Impacts
Edge of Paved Trail
APE Boundary
Salix hookeriana Shrubland Alliance Mitigation Area
** 2 Parameter Vegetation/Soils
Estuarine Saltmarsh/Ditch (E2EM1P)
Palustrine Emergent Ditch (PEM1C)
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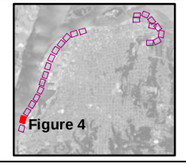
Palutrine Forested Wetland (PFO1)
Wetland Mixed (PEM1C) (PF01) (E2EM1P)

** Coastal Commission (CC) Jurisdiction



City of Eureka
Waterfront Trails Phases A, B and C

Job Number	8411641
Revision	A
Date	02 Oct 2015

Salix hookeriana Shrubland Alliance Mitigation Site

Figure 4

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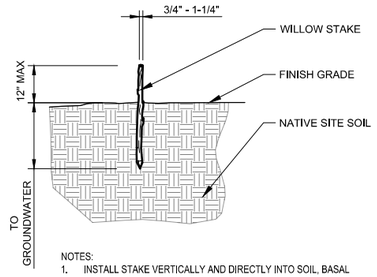
Appendix B – Cost Estimate

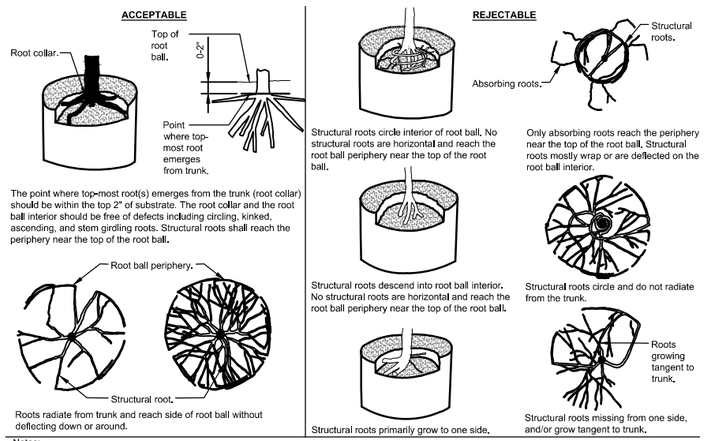
MITIGATION AREA	QTY	UNIT	UNIT COST	COST
Estuarine Saltmarsh Mitigation Area				
Mobilization		LS	$14,375	$14,375
Mitigation Area Excavation and material disposal	6000	CY	$35.00	$210,000
Earthwork/Swale Excavation		LS		$4,000
Rock Slope Protection	1200	SF	$25.00	$30,000
Osprey Nesting Platform	1	EA	$5,000.00	$5,000
Straw Wattles	2200	LF	$4.00	$8,800
Salt Marsh Restoration	1.5	AC	$18,000.00	$27,000
Replacement Plantings	0.15	AC	$18,000.00	$2,700
Contingency (10%)				$30,188
Construction Engineering (10%)				$30,188
				$362,250
Salix Hookeriana Shrubland Alliance Mitigation Area				
Mobilization		LS	$1,800.00	$1,800
S. hookeriana understory Soil Amendment (Compost)	8	CY	$18.00	$144
Vegetation Restoration - Willow Plantings	3162	SF	$3.50	$11,069
Vegetation restoration - S. hookeriana understory	1629	SF	$3.50	$5,702
Replacement Plantings	480	SF	$3.50	$1,680
Contingency (10%)				$1,871
Construction Engineering (10%)				$1,871
				$24,138
Total				**$386,388**

Appendix C – Grading and Landscape Plans



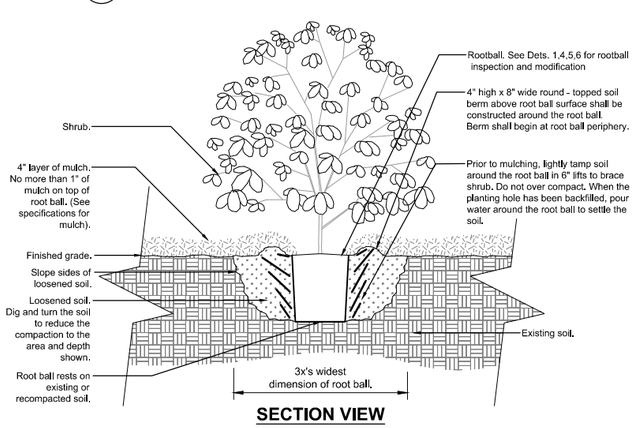
NOTES:
1. INSTALL STAKE VERTICALLY AND DIRECTLY INTO SOIL, BASAL END DOWN, WITH TWO-THIRDS (2/3) OF THE STAKE BELOW FINISH GRADE.
2. STAKES SHALL BE FROM HEALTHY SALIX HOOKERIANA WILLOW, 3/4-2" Ø, STRAIGHT AND FREE OF BENDS OR DEFICITS, AND OF SUFFICIENT LENGTH TO REACH GROUNDWATER

1 STAKE INSTALLATION DETAIL



Notes:
1- Observations of roots shall occur prior to acceptance. Roots and substrate may be removed during the observation process; substrate/soil shall be replaced after observation has been completed.
2- Small roots (¼" or less) that grow around, up, or down the root ball periphery are considered a normal condition in container production and are acceptable however they should be eliminated at the time of planting. Roots on the periperhy can be removed at the time of planting. (See root ball shaving container detail).
3- See specifications for observation process and requirements.

2 ROOT OBSERVATIONS DETAIL - CONTAINER

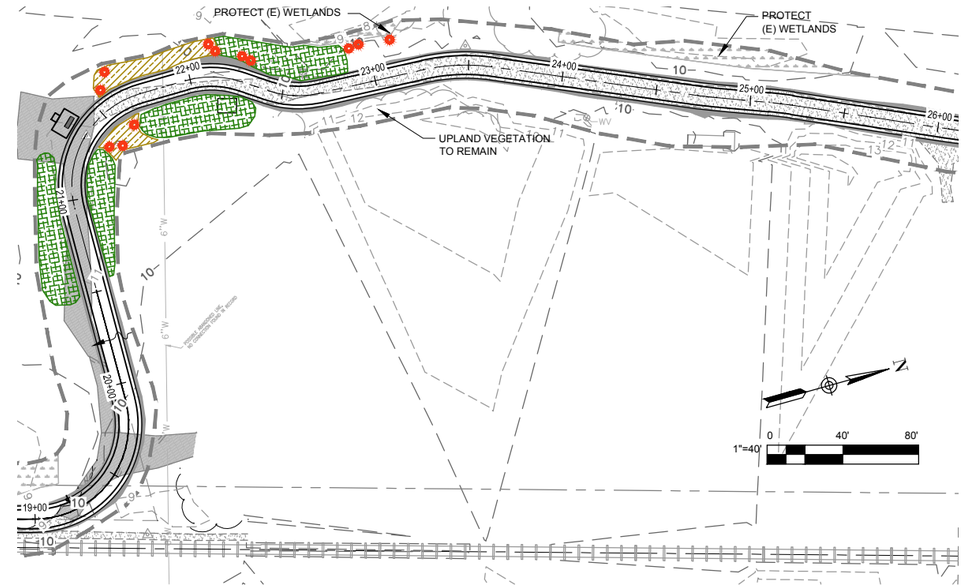


SECTION VIEW

Notes:
1- Shrubs shall be of quality prescribed in the root observations detail and specifications.

2- See specifications for further requirements related to this detail.

3 SHRUB PLANTING - UNMODIFIED SOIL DETAIL



WATERFRONT TRAIL - MITIGATION PLAN - PHASE A - STA 20+50 TO 23+50

PLANT SCHEDULE						
SYMBOL	SCI NAME	COMMON NAME	CONTAINER SIZE	QTY	NOTES	SPACING
	SALIX-HOOKERIANA	HOOKER'S WLLOW	1 GAL	44	SEE DETAILS 2,3,4	8' OC
	GARRYA ELLIPTICA	SILK TASSEL	1 GAL	9	SEE DETAILS 2, 3, 4	7' OC
UNDERSTORY MIX						
SYMBOL	SCI NAME	COMMON NAME	CONTAINER SIZE	QTY	NOTES	SPACING
	GAULTHERIA SHALLON	SALAL	1 GAL	29	SEE DETAILS 2, 3, 4	4' OC
	RUBUS URSINIUS	CA BLACKBERRY	1 GAL	43	SEE DETAILS 2, 3, 4	6' OC

LANDSCAPING NOTES:

SEE SHEET G-4.0

DRAFT 50% PLAN

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W www.ghd.com

SUBCONSULTANT

LICENSED LANDSCAPE ARCHITECT
JEFFREY A. STRAIT
CAL. No. 5760
STATE OF CALIFORNIA

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0 1"

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City of Eureka
Eureka Waterfront Trail
Phase A

ENVIRONMENTAL
MITITGATION DETAILS - 1 OF 1

PROJ NO: 8411641
DRWN: OFG CHKD: JJW

ENV-1.0

SHEET 25 OF 29

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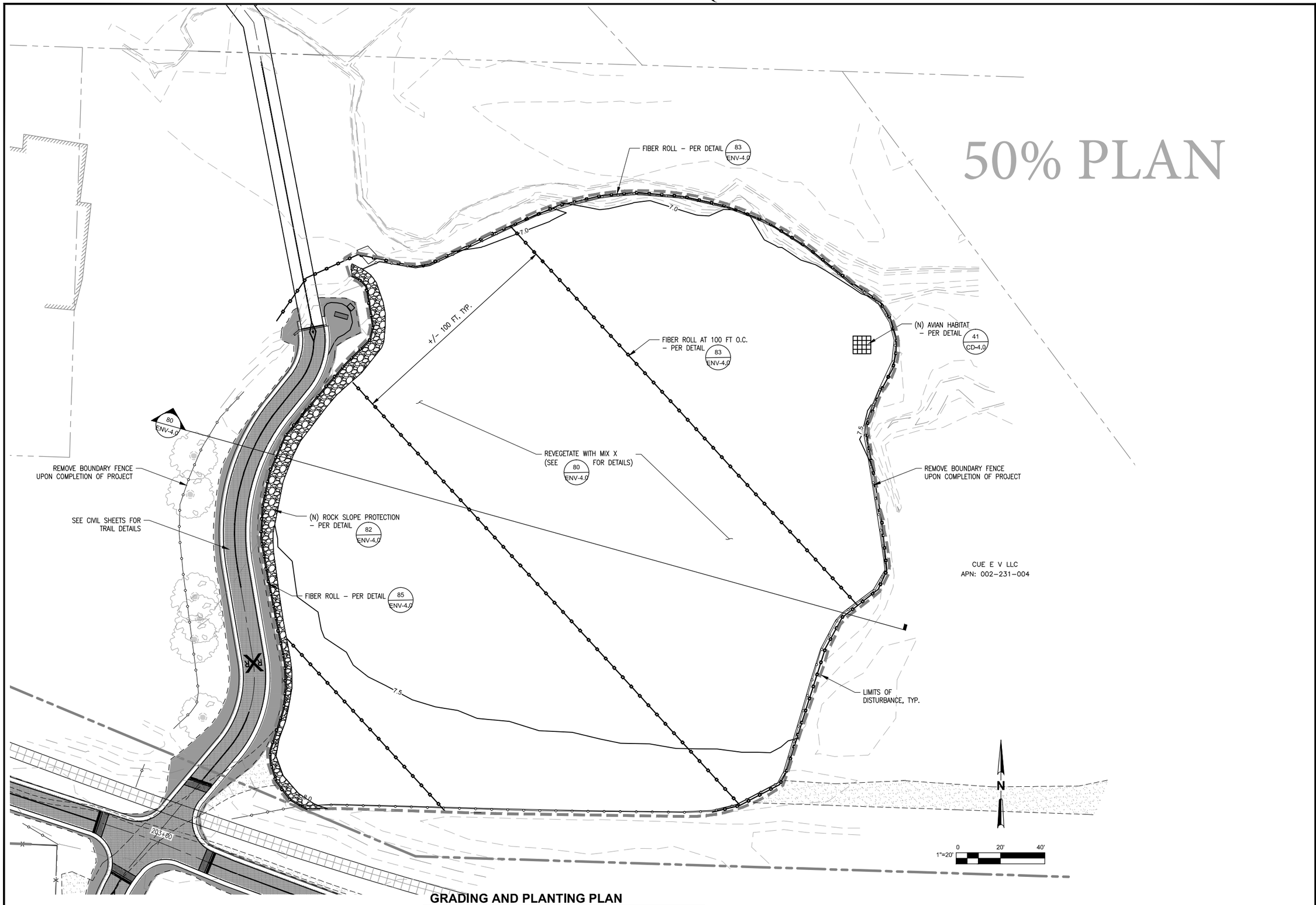

GRADING AND PLANTING PLAN

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SUBCONSULTANT

REGISTERED PROFESSIONAL ENGINEER
JOHN J. WILCOX
No. C067[illegible]
CIVIL
STATE OF CALIFORNIA

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ISSUE

City of Eureka
Eureka Waterfront Trail
Phase C

ENVIRONMENTAL
MITIGATION SITE
GRADING & PLANTING PLAN

PROJ NO: 8411641
DRWN: SDG CHKD: JJW

ENV-3.0

SHEET 45 OF 48

Appendix D – Mitigation Site Ownership Transfer Letter

SECURITY NATIONAL PROPERTIES

323 Fifth Street
P.O. Box 1028
Eureka, CA 95502
707-476-2702

October 30, 2015

To Whom It May Concern:

I am writing in regards to the City of Eureka's Waterfront Trail Coastal Development Permit application. Security National has been an advocate and collaborative supporter of The City of Eureka and the Waterfront Trail Project as it has continued to develop over the years.

Security National Properties is a willing party and is in the middle of negotiations to transfer ownership of APN 002-231-004 to the City of Eureka for the Eureka Waterfront Trail. The transfer of ownership should be complete by January 2016.

The Eureka Waterfront Trail is a critical segment of the California Coastal Trail and will provide a large number of people with a wonderful opportunity to enjoy our magnificent outdoor environment.

Sincerely,

Mike Willcutt
Vice President of Real Estate