Samoa Peninsula Waterline Right-of-Way Maintenance Project

Draft Environmental Impact Report
SCH# 2023100565

Humboldt Bay Municipal Water District

19 August 2026



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1. Introduction and Summary

1.1 California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires that discretionary decisions by public agencies be subject to environmental review. CEQA requires an Environmental Impact Report (EIR) to be prepared when it can be determined that substantial evidence supports a fair argument that significant environmental impacts may result from a project. The purpose of an EIR is to identify the significant effects of the project on the environment, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided (Public Resources Code [PRC] 13, Section 21002.1[a]). Each public agency is required to mitigate or avoid the significant effects on the environment of projects it approves or carries out whenever feasible. The environmental effects of a project that must be addressed include the significant effects of the project, growth-inducing effects of the project, and significant cumulative effects.

The purpose of an EIR is not to recommend either approval or denial of a project. Rather, CEQA requires decision-makers to balance the benefits of a project against its unavoidable environmental effects in deciding whether to carry out a project. The Lead Agency will consider the analysis in the Draft EIR, comments received on the Draft EIR, and responses to those comments before making a final decision. If significant environmental effects are identified, the Lead Agency must adopt "Findings" indicating whether feasible mitigation measures or alternatives exist that can avoid or reduce those effects. If environmental impacts are identified as significant and unavoidable after proposed mitigation, the Lead Agency may still approve the project if it determines that the social, economic, or other benefits outweigh the unavoidable impacts. The Lead Agency would then be required to prepare a "Statement of Overriding Considerations" that discusses the specific reasons for approving a project, based on information in the Draft EIR, comments received on the Draft EIR, and other information in the administrative record.

This Draft EIR has been prepared by the Humboldt Bay Municipal Water District (HBMWD or District) for the proposed Samoa Peninsula Waterline Right-of-Way Maintenance Project (Project) pursuant to CEQA (PRC Section 21000 et seq.) and the CEQA Guidelines (Title 14 California Code of Regulations [CCR] Section 15000 et seq.).

1.2 Type of Environmental Impact Report

This Draft EIR is a Program EIR, as opposed to a Project EIR, pursuant to CEQA Guidelines Section 15168. A Program EIR examines the environmental impacts on a series of actions that can be characterized as one large project and are related. This type of EIR focuses on the changes in the environment that would result from a series of actions considered as one project that are geographically related, logical parts in the chain of contemplated actions, in connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program, or as individual activities carried out under the same authority and having generally similar environmental effects which can be mitigated in similar ways.

1.3 Intended Uses of the EIR

The purpose of an EIR is to provide a clear understanding of the environmental impacts associated with the construction and operation of a project that is proposed by a public agency or private interest. EIRs are prepared to meet the requirements of CEQA when a proposed project may have a potential "significant" impact on the physical environment. An EIR is defined by the CEQA Guidelines as "… a detailed statement prepared to describe and analyze significant environmental effects of a project and discuss ways to mitigate or avoid the effects" (Title 14 CCR Section 15362). An EIR must include a description of the physical environmental conditions in the vicinity of a project, as they exist at the time the Notice of Preparation (NOP) is published, from both a local and regional perspective. This environmental setting normally constitutes the baseline physical conditions by which the Lead Agency determines

whether an impact is significant. The EIR is used by decision-makers, Responsible and Trustee Agencies, and the public to understand and evaluate project proposals and assist in making decisions on project approvals and required permits.

EIRs are prepared under the direction of a Lead Agency. The Lead Agency is the decision-making body that would ultimately certify the adequacy of the EIR and approve the implementation of a project. The Lead Agency for the proposed Project is the HBMWD.

In addition to the Lead Agency, other Responsible and Trustee Agencies may use this document in approving permits or providing recommendations for the Project. For this Project, these agencies and permits may include:

– North Coast Regional Water Quality Control Board Clean Water Act Section 401 Water Quality Certification
– California Endangered Species Act consultation and Incidental Take Permit from the California Department of Fish and Wildlife.
– Humboldt County Coastal Development Permit

1.4 Public Scoping Process

On October 20, 2023, the District issued an NOP for the Project. The NOP was issued in accordance with the CEQA Guidelines (Title 14 CCR Section 15082) with the intent of informing agencies and interested parties that an EIR would be prepared for the Project. A copy of the NOP can be found in Appendix B. The NOP was circulated between October 20, 2023, and November 20, 2023. A scoping meeting for the Project was held on November 3, 2023. NOP comments received are included as Appendix C (Scoping Comments).

The NOP contemplated replacement of water pipelines, but the Project has been revised such that it no longer includes this project component.

1.5 Effects Found Not to be Significant

To provide more meaningful public disclosure, reduce the time and cost required to prepare an EIR, and focus on potentially significant effects on the environment of a proposed project, Lead Agencies can focus the discussion in the EIR on those potential effects of a project which the Lead Agency has determined are or may be significant. Lead agencies may limit discussion on other effects to a brief explanation as to why those effects are not potentially significant (PRC Section 21002.1 (e); CEQA Guidelines Sections 15128 and 15143). Effects related to Agricultural and Forest Resources and Mineral Resources were found not to be significant. These resource categories are further discussed in Chapter 5 of this EIR. Information used to determine which impacts would be potentially significant was derived from a review of the Project in the preparation and public review of the Initial Study, feedback from agency consultation and input, and comments received on the NOP.

1.6 Availability of the Draft EIR and Public Comment Period

The Draft EIR will be circulated from August 19, 2026 to October 3, 2026, to allow interested individuals and public agencies to review and comment on the document. Document files will be made available for viewing upon request at Humboldt Bay Municipal Water District, 828 7th Street, Eureka, California 95501 and online at **www.hbmwd.com**. Comments may be submitted in writing via the United States Postal Service or via email. Written comments on the Draft EIR will be accepted by October 3, 2026 until 5:00 pm. Public agencies, interested organizations and individuals are encouraged to submit comments on the Draft EIR for consideration by the District. All written comments should be addressed to:

Michiko Mares, General Manager
Humboldt Bay Municipal Water District
828 7th Street

Eureka, CA 95501
707-443-5018
gm@hbmwd.com

To facilitate understanding of the comments, please provide a separate sentence or paragraph for each comment and note the page and Chapter/Section of the Draft EIR to which the comment is directed. This approach to commenting will help the District provide a clear and meaningful response to each comment.

1.7 Areas of Controversy and Key Issues to be Resolved

Section 15123 of the CEQA Guidelines requires an EIR to identify areas of controversy known to the Lead Agency, including issues raised by agencies and the public. The following provides a brief summary of the comments and issues identified during the scoping process for the EIR. Comments received on the NOP are included and summarized in Appendix C of this document.

Comments indicative of areas of controversy on environmental issues germane to CEQA included:

- Potential impacts to recreation.
- Potential impacts to special status plant species and habitats.
- Potential impacts to cultural resources.
- Determination of the Project alternative to select during EIR certification.

1.8 Summary of Impacts and Mitigation Measures

Table 1.8-1 identifies, by resource category, the significant Project impacts, proposed mitigation measures, and post-mitigation significance. Additional information about the impacts and mitigation measures can be found in Chapter 3 of this Draft EIR, as referenced for each resource category.

Table 1.8-1 Summary of Impacts and Mitigation Measures

Impact	Project Significance	Mitigation Measure	After-Mitigation Significance
Aesthetics			
Impact AES-a: Would the Project have a substantial adverse effect on a scenic vista?	Less than Significant	No mitigation proposed	Not Applicable
Impact AES-b: Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	No Impact	No mitigation proposed	Not Applicable
Impact AES-c: In a non-urbanized area, would the Project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point).	Less than Significant	mitigation proposed	Not Applicable
Impact AES-d: Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	No Impact	No mitigation proposed	Not Applicable
Impact AES-C-1: Would the Project contribute to a cumulatively significant impact to visual resources?	Less than Significant	No mitigation proposed	Not Applicable
Air Quality			
Impact AQ-a: Would the Project conflict with or obstruct implementation of the applicable air quality plan?	Less than Significant	No mitigation proposed	Not Applicable
Impact AQ-b: Would the Project 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?	Less than Significant	No mitigation proposed	Not Applicable
Impact AQ-c: Would the Project expose sensitive receptors to substantial pollutant concentrations?	Less than Significant	No mitigation proposed	Not Applicable
Impact AQ-d: Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Less than Significant	No mitigation proposed	Not Applicable
Impact AQ-C-1: Would the Project contribute to a cumulatively significant impact to air quality?	Less than Significant	No mitigation proposed	Not Applicable

Impact	Project Significance	Mitigation Measure	After-Mitigation Significance
Biological Resources			
Impact BIO-a: Would the Project have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW, USFWS or NMFS?	Potentially Significant	**Mitigation Measure BIO-1: Seasonal Avoidance to Protect Beach Layia and Annual Rare Plants** To avoid impacts to ESA/CESA-listed beach layia and CRPR 1B.1 listed black eyed gila plants, HBMWD shall conduct the following Project activities only between July 15 and February 1 to avoid germination and blooming periods: vegetation maintenance, sand movement from the sand borrow area, and access road grading. **Mitigation Measure BIO-2: Protect Beach Layia Seedbank in Sand Borrow Area** During sand borrow operations, HBMWD shall scrape and stockpile the upper 3-6 inches of sand (containing the seed bank) before excavating underlying sand for infrastructure burial. Following completion, stockpiled sand shall be spread over the disturbed area to restore natural contours and preserve the seed bank. **Mitigation Measure BIO-3: Offset Impacts to Special Status Plants through Dune Mat and Seaside Woolly Sunflower – Seaside Daisy – Buckwheat Patches Habitat Restoration** HBMWD shall mitigate impacts to special status plant species by enhancing and restoring the habitats these species depend on as described in the full mitigation measure description (Section 3.15.5) Restoration will involve invasive species removal, recontouring and revegetation with native Dune Mat species. Enhancement will involve invasive species removal and only passive revegetation. Mitigation will occur within one of the identified restoration sites or similar habitat on the Samoa Peninsula (**Appendix A, Figure 2-7**). Invasive species to be removed include European beachgrass, ice plant, yellow bush lupine, and other CAL-IPC moderate/high-ranked species. Invasive species removal methods will include mechanical removal, manual removal, herbicide application, and/or prescribed burning. **Mitigation Measure BIO-4: Offset Impacts to Menzies' Wallflower** HBMWD shall mitigate impacts to Menzies' wallflower through active replanting of the species in dune mat habitat areas established under	Less than Significant with Mitigation

Impact	Project Significance	Mitigation Measure	After-Mitigation Significance
		Mitigation Measure BIO-3. Mitigation ratios shall be 4:1 for impacts based on number of individual plants impacted. Seeds shall be collected from Ma-le'l Dunes in coordination with BLM and USFWS, propagated in a nursery, and planted in mitigation areas. Monitoring shall occur for five years or until success criteria are met. **Mitigation Measure BIO-5: Protect Nesting Birds** Ground disturbance and vegetation clearing shall occur outside the nesting season (March 15 through August 15) when feasible. When nesting-season work is unavoidable, a qualified biologist shall conduct pre-construction surveys within seven days prior to work, including nest searches within 50 feet of work areas and raptor surveys within 500 feet. If active nests are detected, species-appropriate no-work buffers shall be established in consultation with CDFW until young have fledged. **Mitigation Measure BIO-6: Protect Special-Status Bats** Removal of mature trees with sloughing bark or snags shall occur during bat activity periods (March 1-April 15 or September 1-October 15) when bats can actively leave roosts. If tree removal during these periods is infeasible, a qualified biologist shall conduct pre-disturbance surveys. If bats are detected or assumed present, trees shall be removed in phases over multiple days following initial disturbance to allow bats to relocate. **Mitigation Measure BIO-7: Protect Obscure and Western Bumble Bees** Prior to ground-disturbing activities, a qualified biologist shall conduct a pre-disturbance survey within potential habitat for bumble bee nests within seven days of work. For western bumble bee, surveys shall be conducted by or coordinated with CDFW. If nests or overwintering queens are detected, a no-work buffer shall be maintained until the nest becomes inactive. Herbicide application shall be limited to imazapyr, applied directly to target plants when not in bloom. **Mitigation Measure BIO-8: Protect Northern Red-legged Frogs** Project work in wetlands with standing water shall occur outside the northern red-legged frog breeding season (November 1 through March	

Impact	Project Significance	Mitigation Measure	After-Mitigation Significance
		31) when feasible. If breeding-season work is unavoidable, a qualified biologist shall survey for egg masses during January-February and relocate them to undisturbed suitable habitat in coordination with CDFW. Prior to ground-disturbing work, standing water areas shall be surveyed for individuals, which shall be captured and relocated outside the work area.	
Impact BIO-b: Would the Project have a substantial adverse effect on any riparian habitat or other Sensitive Natural Community identified in local or regional plans, policies, regulations or by the CDFW or USFWS?	Potentially Significant	**Mitigation Measure BIO-9: Enhance Dune Mat, Coastal Willow Thickets, and Seaside Woolly Sunflower–Seaside Daisy–Buckwheat Patches SNC Habitat for Vegetation Maintenance Impacts** For temporary, recoverable impacts from vegetation maintenance, HBMWD shall mitigate impacts to dune mat alliance (0.06 acres) and seaside woolly sunflower–seaside daisy–buckwheat patches alliance (0.17 acres) at a 1:1 ratio, and coastal willow thickets alliance (0.01 acres) at a 1.5:1 ratio, through habitat enhancement consisting of invasive species removal within designated Mitigation Areas (Appendix A, Figure 2-7) or similar suitable areas on the Samoa Peninsula. The elevated 1.5:1 ratio for Coastal Willow Thickets reflects the higher structural value and longer recovery period of willow communities relative to herbaceous dune vegetation. Enhancement shall include removal of invasive Ammophila arenaria, Carpobrotus spp., and other Cal-IPC moderate/high-ranked species using methods specified in the Invasive Species Removal Methods section, which will reduce invasive competition and facilitate native species recolonization. Total enhancement under this measure is 0.242 acres. **Mitigation Measure BIO-10: Restore Dune Mat, Shore Pine, Coastal Willow Thickets, and Seaside Woolly Sunflower–Seaside Daisy–Buckwheat Patches SNC Habitat for Road Grading and Sand Redistribution Impacts** For higher-intensity impacts from road grading and sand sourcing, HBMWD shall mitigate impacts through off-site restoration as follows: dune mat road grading at 3:1 (0.81 acres); Shore pine alliance road grading at 3:1 (0.01 acres); coastal willow thickets alliance road grading at 3:1 (0.03 acres); and seaside woolly sunflower–seaside daisy–buckwheat patches alliance road grading at 2:1 (0.75 acres)	Less than Significant with Mitigation

Impact	Project Significance	Mitigation Measure	After-Mitigation Significance
		and sand redistribution at 1.5:1 (0.12 acres). Restoration shall consist of invasive species removal coupled with active native planting of species characteristic of each impacted community, including shore pine seedlings, native willow stakes or container stock, dune mat flora, and native forbs and subshrubs such as seaside woolly sunflower (Eriophyllum staechadifolium), seaside daisy (Erigeron glaucus), and coast buckwheat (Eriogonum latifolium). Topographic preparation to restore natural dune microtopography shall be conducted where appropriate. The higher ratios for road grading (2:1 to 3:1) reflect the greater ground disturbance, soil compaction, and extended recovery times associated with this activity relative to vegetation maintenance. Total restoration under this measure is 1.72 acres. **Mitigation Measure BIO-11: Restore Brambles Alliance Habitat for Electrical Line Installation Impacts** HBMWD shall mitigate impacts to brambles alliance (0.02 acres) from the one-time electrical line installation at a 1:1 ratio through on-site restoration. The installation area shall be backfilled and restored to pre-project conditions upon completion, including replanting with native bramble species (Rubus spp.) as needed to reestablish pre-project vegetation cover and structure. Annual monitoring shall occur for five years or until success criteria are met.	
Impact BIO-c: Would implementation of the Project have a substantial adverse effect on state or federally protected wetlands through direct removal, filling, hydrological interruption, or other means?	Potentially Significant	**Mitigation Measure BIO-12: Mitigate Impacts to Three-Parameter Wetlands** HBMWD shall mitigate impacts to three-parameter wetlands through enhancement at 1.5:1 for vegetation maintenance impacts and off-site restoration at 3:1 for road grading impacts, consisting of enhancement of existing three-parameter wetlands (preferred) or creation of new three-parameter wetlands within designated Mitigation Areas or similar suitable areas on the Samoa Peninsula. Enhancement shall include invasive species removal, monitoring and maintenance. Electrical line installation impacts shall be mitigated at 1:1 through on-site restoration to pre-project conditions. HBMWD shall avoid permanent onsite impacts when feasible by restoring pre-work topography. Success criteria shall be specified in a Wetland Mitigation and Monitoring Plan.	Less than Significant with Mitigation

Impact	Project Significance	Mitigation Measure	After-Mitigation Significance
		Mitigation Measure BIO-13: Mitigate Impacts to One-Parameter Wetlands HBMWD shall mitigate impacts to one-parameter wetlands through enhancement at 1:1 for vegetation maintenance impacts and off-site restoration at 2:1 for road grading impacts within designated Mitigation Areas or similar suitable areas on the Samoa Peninsula. Electrical line installation impacts shall be mitigated at 1:1 through on-site restoration to pre-project conditions. Enhancement methods, restoration specifications, and success criteria shall be specified in the Wetland Mitigation and Monitoring Plan.	
Impact BIO-d: Would implementation of the Project 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?	Potentially Significant	**Mitigation Measure BIO-14: Protect Wildlife from Overnight Excavations** No steep-sided excavations shall be left open overnight. If excavations cannot be covered, a ramp at least 12 inches wide shall be placed at a 3:1 slope or gentler to allow trapped wildlife to escape.	Less than Significant with Mitigation
Impact BIO-e: Would implementation of the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Potentially Significant	**Mitigation Bio-9**, **Bio-10** and **Bio-11** above.	Less than Significant with Mitigation
Impact BIO-f: Would implementation of the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	Less than Significant	No mitigation proposed	Not Applicable
Impact BIO-C-1: Would the Project contribute to a cumulatively significant impact to biological resources?	Less than Significant	No mitigation proposed	Not Applicable
Cultural Resources			
Impact CR-a: Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	Potentially Significant	**CR-1: Protect Historical Resources** HBMWD shall ensure that the electrical wiring and associated conduit beneath the segment of Hammond Lumber Railroad located approximately 800 feet north of Bay Street, is installed using methods that would not modify, remove or alter the railroad tracks. Methods could include horizontal directionally drilling, trenching, or other means.	Less than Significant with Mitigation
Impact CR-b: Would the Project cause a substantial adverse change in the significance of a archaeological resource pursuant to Section 15064.5?	Potentially Significant	**CR-2: Cultural Resource Monitoring Plan** HBMWD shall prepare a Cultural Resource Monitoring Plan in consultation with the Wiyot Tribe, Blue Lake Rancheria, and Bear	Less than Significant with Mitigation

Impact	Project Significance	Mitigation Measure	After-Mitigation Significance
		River Band of Rohnerville Rancheria, to guide cultural resource monitoring during ground disturbing activities in the Project Area. Cultural resource monitoring shall be implemented during ground disturbing activities that occur within the Project Area. The Plan shall include the following: – Minimum qualifications of the Tribal Cultural Monitor; – Notification process from HBWMD to each tribe of when and where ground-breaking activities would occur to provide opportunity for cultural monitoring or pre-ground disturbance assessment of the area; – Avoidance procedures for potentially identified archaeological resources; – Discovery protocols (how discovery of cultural resources would be addressed): • Stop work procedures; • Monitoring recording requirements and documentation; • How discovered resources would be curated or reburied. **CR-3: Inadvertent Discovery of Archeological Resources** If significant archaeological materials, such as chipped or ground stone, historic debris, building foundations, or bone, are discovered during ground-disturbance activities in the Project Area or Mitigation Areas, all work within 66 feet (20 meters) of the discovery shall be halted, in accordance with CEQA guidelines (Title 14 CCR 15064.5 (f), January 1999 Revised Guidelines). Work near the archaeological finds shall not resume until a professional archaeologist and or Tribal Monitor who meets the Secretary of the Interior's Standards and Guidelines, has evaluated the materials and provided recommendations for further action. **CR-4: Inadvertent Discovery of Human Remains** If human remains are discovered during Project activities in the Project Area or Mitigation Areas, all work will cease at the discovery location and within 66 feet (20 meters) of the site, as well as any nearby areas reasonably suspected to contain adjacent human remains, in accordance with Public Resources Code Section 7050.5. The Humboldt County Coroner will be contacted to determine if an investigation into the cause of death is required. If the Coroner determines that the remains are of Native American origin, compliance with state laws related to the disposition of Native American burials,	

Impact	Project Significance	Mitigation Measure	After-Mitigation Significance
		which fall under the jurisdiction of the Native American Heritage Commission (NAHC), will be necessary (Public Resources Code Section 5097). The Coroner will notify the NAHC, who will then contact the descendants or the most likely descendants of the deceased. Work will not resume until the descendants have provided a recommendation to the landowner or the person responsible for the excavation on how to treat and dispose of the human remains and any associated grave goods with appropriate dignity, as specified in Public Resources Code Section 5097.98. **CR-5: Avoidance of Archaeological Resources in Mitigation Areas 1 and 5.** Mitigation activities shall not occur within 66 feet (20 meters) of identified archaeological resources in Mitigation Areas-1 and -5, according to the locations recorded in BLM 2024 and BLM 2002. Specifically, the following restrictions to mitigation activities in identified archaeological resources shall be implemented: – Excavation shall not occur within 66 feet (20 meters) of recorded cultural sites; – Hand pulling of invasive species or use of hand tools may occur within recorded cultural sites; – Use of fire shall not occur within 66 feet (20 meters) of recorded cultural sites; – No herbicide shall occur within or within 66 feet (20 meters) of recorded cultural sites. **CR-6: Cultural Resources Report Prior to Ground Disturbance** Prior to any ground disturbance in Mitigation Areas 2, 3 or 4, a cultural resources survey and report shall be prepared. Ground disturbing work is defined to include excavation by heavy equipment. The report shall be prepared by a professional archaeologist who meets the Secretary of the Interior's Standards and Guidelines. Preparation of the report shall be funded by HBMWD unless another party is volunteering to fund the effort. The findings of this report on Mitigation Areas-2, -3 and -4, as well as the findings of the BLM 2024 and BLM 2002 cultural resources reports on Mitigation Areas -1 and -5 shall be incorporated into design of activities within the Mitigation Areas, including: – Excavation shall not occur within or within 66 feet (20 meters) of recorded cultural sites;	

Impact	Project Significance	Mitigation Measure	After-Mitigation Significance
		– Hand pulling of invasive species or use of hand tools may occur within recorded cultural sites; – Use of fire shall not occur within 66 feet (20 meters) of recorded cultural sites; – No herbicide shall occur within or within 66 feet (20 meters) of recorded cultural sites/ **CR-7. Archeological Monitoring on BLM Lands** Ground disturbing work on BLM-owned or -managed lands shall be monitored by an archaeological monitor that meets the Secretary of Interior's Standards and Guidelines. If archaeological materials are discovered during ground-disturbance activities, all work within 66 feet (20 meters) of the discovery shall be halted. Project activities within this halt-work area shall not resume until the archaeological monitor has evaluated the materials and provided recommendations for further action.	
Impact CR-c: Would the Project disturb any human remains, including those interred outside of formal cemeteries?	Potentially Significant	**CR-4: Inadvertent Discovery of Human Remains**	Less than Significant with Mitigation
Impact CR-C-1: Would the Project contribute to a cumulatively significant impact to cultural resources?	No Impact	No mitigation proposed	Not Applicable
Energy Resources			
Impact ER-a: Would the Project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?	Less than Significant	No mitigation proposed	Not Applicable
Impact ER-b: Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	No Impact	No mitigation proposed	Not Applicable
Impact ER-C-1: Would the Project contribute to a cumulatively significant impact to energy resources?	Less than Significant	No mitigation proposed	Not Applicable
Geology and Soils			
Impact GEO-a.i: Would the Project directly or indirectly cause potential substantial adverse effects including the risk of loss, injury, or death involving 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	No Impact	No mitigation proposed	Not Applicable

Impact	Project Significance	Mitigation Measure	After-Mitigation Significance
other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?			
Impact GEO-a.ii: Would the Project directly or indirectly cause potential substantial adverse effects including the risk of loss, injury, or death involving strong seismic ground shaking?	No Impact	No mitigation proposed	Not Applicable
Impact GEO-a.iii,iv, c, d: Would the Project directly or indirectly cause potential substantial adverse effects including the risk of loss, injury, or death involving liquefaction, landslides, or otherwise unstable soils?	No Impact	No mitigation proposed	Not Applicable
Impact GEO-b: Would the Project result in substantial soil erosion or the loss of topsoil?	Less than Significant	No mitigation proposed	Not Applicable
Impact GEO-e: Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	No Impact	No mitigation proposed	Not Applicable
Impact GEO-f: Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Potentially Significant	**GEO-1: Inadvertent Discovery of Paleontological Resources** If potential 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 District 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.	Less than Significant with Mitigation
Impact GEO-C-1: Would the Project contribute to a cumulatively significant impact to geology and soils?	No Impact	No mitigation proposed	Not Applicable
Greenhouse Gas Emissions			
Impact GHG-a, b: Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Less than Significant	No mitigation proposed	Not Applicable
Impact GHG-C-1: Would the Project contribute to a cumulatively significant impact relative to GHG emissions?	Less than Significant	No mitigation proposed	Not Applicable
Hazards and Hazardous Materials			

Impact	Project Significance	Mitigation Measure	After-Mitigation Significance
Impact HAZ-a: Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Less than Significant	No mitigation proposed	Not Applicable
Impact HAZ-b: Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Less than Significant	No mitigation proposed	Not Applicable
Impact HAZ-c: Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	No Impact	No mitigation proposed	Not Applicable
Impact HAZ-d: Would the Project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	Potentially Significant	**HAZ-1: Wear Proper Personal Protective Equipment** District personnel and construction workers shall wear personal protective equipment (PPE) within 50 feet of MW-3 in order to avoid exposure to potential hazardous materials in the soil in this location. PPE shall include face masks, latex or nitrile gloves underneath work gloves, and goggles.	Less than Significant with Mitigation
Impact HAZ-e: For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project Area?	Potentially Significant	**Haz-2: Specifications to Mitigation Areas 3 and 4** To avoid safety impacts within the Humboldt County Airport Land Use Plan compatibility zones for the Samoa Air Field, the District shall implement the following: – New vegetation, or vegetation practices, that may result in substantially taller trees than existing trees shall not be planted within Mitigation Area-3 or -4. Substantially taller is defined as 20 feet taller than existing vegetation.	Less than Significant with Mitigation
Impact HAZ-f: Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	No Impact	No mitigation proposed	Not Applicable
Impact HAZ-g: Would the Project expose people or structures to a significant risk of loss, injury, or death involving wildland fires?	Less than Significant	No mitigation proposed	Not Applicable
Impact HAZ-C-1: Would the Project result in a cumulatively significant impact from increased exposure of the public or environment to hazards or hazardous substances?	No Impact	No mitigation proposed	Not Applicable

Impact	Project Significance	Mitigation Measure	After-Mitigation Significance
Hydrology and Water Quality			
Impact HWQ-a: Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	Less than Significant	No mitigation proposed	Not Applicable
Impact HWQ-b: Would the Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?	No Impact	No mitigation proposed	Not Applicable
Impact HWQ-c-i: Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces in a manner which would result in substantial erosion or siltation on- or off-site?	No Impact	No mitigation proposed	Not Applicable
Impact HWQ-c-ii iii: Would the Project substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? Would the Project 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?	No Impact	No mitigation proposed	Not Applicable
Impact HWQ-c-iv: Would the Project impede or redirect flood flows?	Less than Significant	No mitigation proposed	Not Applicable
Impact HWQ-d: Would the Project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?	Less than Significant	No mitigation proposed	Not Applicable
Impact HWQ-e: Would the Project impeded or redirect flood flows?	Less than Significant	No mitigation proposed	Not Applicable
Impact HWQ-C1: Would the Project contribute to a cumulatively significant impact to hydrology and water quality?	Less than Significant	No mitigation proposed	Not Applicable
Land Use and Planning			
Impact LUP-a: Would implementation of the Project physically divide an established community?	No Impact	No mitigation proposed	Not Applicable

Impact	Project Significance	Mitigation Measure	After-Mitigation Significance
Impact LUP-b: Would implementation of the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	Potentially Significant	**LUP-1: Update Zoning of Mitigation Area 3** Prior to Mitigation Area-3 being used for mitigation activities, and to avoid a zoning violation, the District would work with the City of Eureka to re-zone Mitigation Area-3 to Natural Resources with the Humboldt County Planning Department. Following the re-zone, an amendment to the Humboldt Bay Area Plan, Local Coastal Program would be required as part the re-zone. If no mitigation activities occur within Mitigation Area-3 then no re-zone would occur or be necessary.	Less than Significant with Mitigation
Impact LUB-C-1: Would implementation of the Project contribute to a cumulatively significant impact to land use and planning?	Less than Significant	No mitigation proposed	Not Applicable
Noise			
Impact NOI-a: Would the Project result in generation of a substantial temporary or permanent increase in ambient noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Less than Significant	No mitigation proposed	Not Applicable
Impact NOI-b: Would the Project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	Less than Significant	No mitigation proposed	Not Applicable
Impact NOI-c: For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project Area to excessive noise levels?	Less than Significant	No mitigation proposed	Not Applicable
Impact NOI-C-1: Would the Project contribute to a cumulatively significant impact from noise?	Less than Significant	No mitigation proposed	Not Applicable
Population and Housing			
Impact P&H-a: Would the Project induce substantial unplanned population growth in an area, either directly (for example, by proposing homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	No Impact	No mitigation proposed	Not Applicable
Impact P&H-b: Would the Project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	No Impact	No mitigation proposed	Not Applicable

Impact	Project Significance	Mitigation Measure	After-Mitigation Significance
Impact P&H-C-1: Would the Project contribute to a cumulatively significant impact to Population and Housing?	No Impact	No mitigation proposed	Not Applicable
Public Services			
Impact PS-a: Would implementation of the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services: Fire protection? Police protection? Schools? Parks? Other public facilities?	Less than Significant	No mitigation proposed	Not Applicable
Impact PS-C-1: Would implementation of the Project contribute to a cumulatively significant impact to public services?	Less than Significant	No mitigation proposed	Not Applicable
Recreation			
Impact REC-a: Would the Project 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?	No Impact	No mitigation proposed	Not Applicable
Impact REC-b: Would the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	Potentially Significant	**REC-1: Implement Signage during Project Activities** – HBMWD shall install adequate signage at recreational trailheads or public access locations, to provide recreationists with information about the Project activities that are occurring on the trail associated with the trailhead or public access location. – Signs shall be installed at least one week in advance of Project activities occurring, and shall be taken down after Project activities have been completed. – Signs shall be installed at trailheads and public access locations where Project activities are occurring. – Potential locations where signs may be displayed include the following locations: Redwood Gun Club, Ma-le'l Dunes Trailhead, Friends of the Dunes, Lupin Drive, Pacific Avenue, Redwood Coast Montessori, and Digawututklh. Signs shall be placed at a publicly visible place either at the trailhead or public roadway that is closest to the dunes. – Signs shall alert recreationists of potential unsafe activities, and direct them to other trails that provide unimpeded access to the shoreline.	Less than Significant with Mitigation

Impact	Project Significance	Mitigation Measure	After-Mitigation Significance
Impact REC-C-1: Would the Project contribute to a cumulatively significant impact to recreational resources?	Less than significant	No mitigation proposed	Not Applicable
Transportation			
Impact TR-a: Would the Project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	Less than significant	No mitigation proposed	Not Applicable
Impact TR-b: Would the Project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	Less than significant	No mitigation proposed	Not Applicable
Impact TR-c: Would the Project substantially increase hazards due to geometric design features e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	No Impact	No mitigation proposed	Not Applicable
Impact TR-d: Would the Project result in inadequate emergency access?	No Impact	No mitigation proposed	Not Applicable
Impact TR-C-1: Would the Project contribute to cumulatively significant impact related to transportation?	Less than significant	No mitigation proposed	Not Applicable
Tribal Cultural Resources			
Impact TCR-a,b: Would the Project cause a substantial adverse change in the significance of a tribal cultural resource?	Potentially Significant	**TCR-1: Develop Pre-Maintenance Coordination Memorandum of Understanding with the Wiyot Tribe** The HBMWD shall develop a memorandum of understanding (MOU) with the Wiyot Tribe which shall include the following: – Communication plan for how and when the District will communicate with the Wiyot Tribe throughout the lifespan of this Project to let them know when ground disturbance or vegetation management activities will occur; – The District shall provide at least three months' notice to the Wiyot Tribe prior to ground disturbance or vegetation management activities, to enable the Wiyot Tribe to collect culturally significant plants that may otherwise be impacted. When feasible, the District shall carry out ground disturbance and vegetation management activities after August 1st to avoid the fruiting season of the beach strawberry. **CR-2 through CR-7** (see above)	Less than Significant with Mitigation

Impact	Project Significance	Mitigation Measure	After-Mitigation Significance
Impact TCR-C-1: Would the Project contribute to cumulatively significant impact related to Tribal Cultural Resources?	No Impact	No mitigation proposed	Not Applicable
Utilities and Service Systems			
Impact UTL-a: Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	Less than significant	No mitigation proposed	Not Applicable
Impact UTL-b: Would the Project have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years?	No Impact	No mitigation proposed	Not Applicable
Impact UTL-c: Would the Project result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's Projected demand in addition to the provider's existing commitments?	No Impact	No mitigation proposed	Not Applicable
Impact UTL-d: Would the Project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	No Impact	No mitigation proposed	Not Applicable
Impact UTL-e: Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	No Impact	No mitigation proposed	Not Applicable
Impact UTL-C-1: Would the Project contribute to cumulatively significant impact related to utilities and service systems?	Less than significant	No mitigation proposed	Not Applicable
Wildfire			
Impact WDF-a: Would the Project substantially impair an adopted emergency response plan or emergency evacuation plan?	Less than significant	No mitigation proposed	Not Applicable
Impact WDF-b: Would the Project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	Less than significant	No mitigation proposed	Not Applicable
Impact WDF-c: Would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities)	Less than significant	No mitigation proposed	Not Applicable

Impact	Project Significance	Mitigation Measure	After-Mitigation Significance
that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?			
Impact WDF-d: Would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides as a result of runoff, post-fire slop instability, or drainage changes?	Less than significant	No mitigation proposed	Not Applicable
Impact WDF-C-1: Would the Project contribute to a cumulatively significant impact related to wildfire risk?	Less than significant	No mitigation proposed	Not Applicable

2. Project Purpose and Description

2.1 Project Purpose and Background

The Humboldt Bay Municipal Water District (HBMWD or "District") was formed in 1955 and is a regional wholesale water provider that supplies water to approximately 94,000 people in the Humboldt Bay area. HBMWD has two separate and distinct water systems: a municipal potable water system and a commercial non-potable water system on the Samoa Peninsula. The District plans to carry out the Samoa Peninsula Waterline Right-of-Way Maintenance Project (hereafter referred to as "Project") to maintain long-term access to and safeguard critical water system infrastructure within the District's right-of-way (ROW). The Project would occur over a 50-year timeframe. See **Appendix A, Figure 2-1** for a vicinity map of the Project in relation to District infrastructure, and **Figure 2-2** for a map of the Project Area showing where the Project is proposed to occur and ingress and egress paths. The Project Area includes the District's ROW, access road, and designated sand borrow area.

The District's potable water system consists of one pipeline (or "waterline") and associated infrastructure within the Project Area, which contains treated water from groundwater wells supplied by an aquifer beneath the Mad River. HBMWD supplies this potable water to seven wholesale municipal customers which include the cities of Arcata, Blue Lake, and Eureka, as well as community services districts (CSDs) serving the following unincorporated areas: Humboldt, Fieldbrook/Glendale, Manila, and McKinleyville. These municipal customers in turn serve water to approximately 66 percent of the population in Humboldt County.

Within the Project Area, the municipal potable water infrastructure conveys water to the Manila CSD (which serves the community of Manila), the communities of Samoa and Fairhaven, and the U.S. Coast Guard Station, and conveys water to the Humboldt CSD via a pipe below Humboldt Bay. The municipal potable water system can also provide water to the City of Eureka in an emergency. The Humboldt CSD serves the communities of Myrtletown, Cutten, Ridgewood, Pine Hill, Rosewood, King Salmon, Fields Landing, Freshwater Valley, Pigeon Point, Mitchell Heights, and Cummings Road (HCSD 2025). Within the Samoa Peninsula, the municipal potable pipeline ranges from approximately 15- to 27-inches in diameter and is constructed of cement mortar-lined and coated steel (CMLCS), and polyvinyl chloride (PVC).

The District's commercial non-potable water system consists of non-potable water conveyed in two parallel pipelines within the Project Area originating from the Mad River which converge into one pipeline within the Project Area at Vault #2 located approximately 1,000 feet north of Lupin Drive in Manila. The single pipe continues south for 4.2 miles (22,155 feet) to its terminus at Bay Street in Fairhaven. The commercial non-potable water system includes two 42-inch diameter pipelines which are constructed of CMLCS and delivers untreated surface water from the Mad River. This non-potable water is utilized for commercial purposes and fire suppression on the Samoa Peninsula. The non-potable water system historically served large commercial users throughout the community of Samoa/Fairhaven, including the former Simpson and Louisiana Pacific pulp mills. The potable water pipeline runs parallel and adjacent to the non-potable pipeline(s) throughout the Project Area. All pipes are buried to an approximate depth of four feet to top of pipe. This depth varies, partly because sand covering the pipelines naturally migrates.

HBMWD conducts routine inspection, operation, maintenance, modification, and replacement of their infrastructure (pipelines, valves, etc.) along their ROWs. Dependable access to this infrastructure is essential for the District to provide reliable distribution of water to the community. To ensure access to this critical infrastructure is readily available, the District carries out routine ROW maintenance activities, which, in the Project Area, typically has included clearing of brush and vegetation, and movement of sand to maintain adequate burial depth of pipes and other infrastructure, which is necessary to protect the buried infrastructure. The District has Memorandums of Understanding (MOUs) with the Bureau of Land Management (BLM; completed in 2011) and the Friends of the Dunes (completed in 2008) who own property within the District's ROW. The MOUs provide guidelines on communication and actions between the District and each party

regarding maintenance activities. The District and each party work cooperatively to carry out routine maintenance activities within the waterline ROW on BLM- and Friends of the Dunes-owned properties.

2.1.1 Historical Context

The Samoa Peninsula was once booming with industry driven by the need for timber processing and transportation. The non-potable water pipelines were the District's first pipelines located on the Samoa Peninsula, and were constructed in 1960, which predates the Coastal Act (passed in 1976), Clean Water Act (passed October 1972) and Endangered Species Act (passed 1973) and other state and federal statutes. To accommodate residential water needs on the Peninsula, the potable water pipeline was designed in 1970, and constructed from 1971-1972 (completed September 9, 1972), which also predates the Coastal Act, Clean Water Act and Endangered Species Act. The potable water pipeline continues to provide potable water to the Manila CSD, Town of Samoa, Fairhaven, U.S. Coast Guard station, and the Humboldt CSD (via a submerged pipeline between Samoa and Eureka).

At around the turn of the 21st century, timber operations slowed and wood processing facilities on the Samoa Peninsula began to close. The last major timber processing facility, Freshwater Tissue Company, closed in 2010. Over the last 10 to 15 years, the District's ROW maintenance schedule within the Samoa Peninsula had been reduced. To maintain the District's ability to provide water to customers, the District needs to increase ROW maintenance work along its pipelines on the Samoa Peninsula. This ROW maintenance work is needed to maintain access to this critical infrastructure for repairs and to continue to deliver water throughout the Project Area.

2.2 Project Description

2.2.1 Project Location

The Project is in coastal Humboldt County, California, on the Samoa Peninsula (see **Appendix A, Figure 2-1**). The existing ROW alignment of the water pipelines extends from the east (Arcata) via the Mad River Slough crossings and south through the Samoa Peninsula. The potable water pipeline ultimately continues south and under Humboldt Bay into Eureka to provide water to the Humboldt CSD. The Project Area is within the Coastal Zone, specifically, within the Appeal jurisdiction of the Coastal Zone, where projects are regulated by Humboldt County under the Humboldt Bay Area Plan Local Coastal Program (HBAP), and appealable to the California Coastal Commission (CCC).

A sandy path, that is used as an access road, is within and alongside the District's ROW and has likely been there in some capacity since the pipelines were installed in 1960 and 1972. It has been and continues to be used by the District to access its infrastructure, via driving trucks or other equipment, and walking. The access road is commonly used by pedestrians and equestrian traffic for recreation. The access road occurs within the ROW in many, but not all, locations. It also occurs outside of the ROW, particularly in the northern portion of the Project Area where the dunes are active and migrating due to sand accretion and loss, and in the central portion of the Project Area. Use of the portions of access road outside of the ROW by the District is allowable according to recorded easements with each landowner.

Project activities would occur in a 7.37-acre area and consist of the following:

- Access road grading (1.83 acres)
- Sand borrow area (2.36 acres)
- Electric line installation (0.57 acres)
- Vegetation maintenance (2.42 acres)
- Overflow pipe maintenance (0.19 acres)

The District would access its ROW for Project activities through its recorded deeds of easement to the ROW, through the public ROW such as North Ma-le'l Dunes Road and New Navy Base Road, or through authorized use of private property such as along Lupin Drive for which the Manila CSD has approved use (see **Appendix A, Figures 2-2, 2-3 and 2-4** for access locations).

2.2.2 Project Objectives

Project objectives include the underlying purpose of the Project and help to develop a reasonable range of alternatives to evaluate in the EIR. The Project objectives are to:

1. Restore and maintain access to and safeguard HBMWD infrastructure;
2. Maintain the ability for HBMWD to reliably deliver water to customers; and
3. Secure regulatory permitting for long-term access to HBMWD infrastructure.

2.2.3 Project Components

The following Project Components comprise the Project and are analyzed in this EIR.

2.2.3.1 Vegetation Maintenance

Maintaining access to and safeguarding HBMWD infrastructure is a core goal of the Project. There are currently portions of the access road, southern pipeline where there is not an access road and vault locations in the Project Area that are overgrown by trees and shrubs and inaccessible by HBMWD trucks or other equipment. If a pipeline leak or break were to occur in one of these sections, HBMWD would not be able to access the area to perform repairs until the vegetation was cleared. This could leave people served by these pipelines without drinking water, fire suppression water, sanitary sewer, and commercial water for an undetermined amount of time. To enable access, vegetation (grasses, vines, shrubs and trees) would be cut, mowed, trimmed, and/or removed along the 12-foot wide access road and within 8 feet of the visible water infrastructure, i.e. vault structures, to enable access to HBMWD infrastructure. In the southern portion of the pipelines, vegetation would be removed within 7 feet of the pipelines to allow for access (see **Appendix A, Figures 2-3 and 2-4**).

Woody vegetation would either be cut, trimmed or in occasional circumstances entirely removed (including the root system) in areas that overlap the access road, and herbaceous vegetation consisting of grasses would be mowed along the access road. Open sandy areas or areas containing low-growing herbaceous, non-grassy plants, or areas of sparsely grassy areas, would not be mowed. The trimming or occasional entire removal of trees, and mowing is collectively termed as "vegetation maintenance" hereafter. See **Images 2.2-1, 2.2-2, and 2.2-3** for representative photos of vegetation maintenance to occur and **Images 2.2-4 and 2.2-5** of areas where no vegetation maintenance is needed.

Vegetation maintenance would be carried out utilizing heavy equipment such as masticators, and hand tools such as loppers, chainsaws and mowers. Maintained vegetation would be chipped and spread within the ROW or piled within the ROW. Vegetation maintenance would occur annually. When possible, vegetation would be maintained outside of the nesting bird season, which is March 15 through August 15 in this region of California, otherwise surveys for nesting birds and subsequent avoidance of observed active bird nests would occur prior to vegetation maintenance in accordance with this CEQA document and forthcoming Project permit conditions.



Image 2.2-1 Example area where vegetation maintenance would occur along the access road involving mowing and trimming.



Image 2.2-2 Example area where vegetation maintenance would occur along the access road involving mowing.



Image 2.2-3 Example area where vegetation maintenance would occur around a pipeline vault involving mowing and trimming.



Image 2.2-4 Example area of the access road where no vegetation maintenance is needed.



Image 2.2-5 Example area where no vegetation maintenance is needed at a pipeline vault.

2.2.3.2 Habitat Restoration

To mitigate for impacts to native plants and wetlands, habitat restoration would be conducted. This would consist of removing invasive, non-native plants and enhancing wetlands. The work would use standardized methods that involve manual or mechanical methods, herbicide and/or prescribed burning. These activities are further described in **Section 3.3 – Biological Resources**. Mitigation activities could potentially occur within up two five mitigation sites, shown in **Appendix A, Figures 2-7, 2-7.1 through 2-7.4** or in other appropriate areas on the Samoa Peninsula. Agreements for restoration work within these areas have not been finalized with landowners as of the date of releasing this DEIR for public review.

2.2.3.3 Reburial of Infrastructure

Movement of sand will be required to keep infrastructure buried to appropriate depths and is expected to predominantly occur in the northern section of the Project Area where there are dynamic/migrating sand dunes. Sand for burying infrastructure would be sourced from the sand borrow area shown in **Appendix A, Figure 2-5 and Image 2.2-6**. Sand placement would be coordinated with the property owner where it would be placed. A pipeline has consistently surfaced in the northern portion of the Project Area, near the sand borrow area, due to the natural migration of sand. Reburial of the pipeline in this area is anticipated. There is also an existing exposed area of pipeline and appurtenance located on Friends of the Dunes property (see **Image 2.2-7**). This pipeline exposure has been caused and exacerbated by pedestrians and equestrians traversing through this area as a short cut to the access road. This area of pipeline would be reburied under the Project and signage would be installed north of this area to inform trail users that traversing this area is prohibited, or similar. Revegetation and use of natural materials such as (but not limited to) logs, woody material, and/or jute mesh would be implemented in this location to stabilize sand and decrease the likelihood of recurrent pipeline exposure. Heavy machinery including a bulldozer, grader, backhoe and excavator may be utilized for the movement of sand and would push or excavate sand from the surface to a maximum depth of two feet.

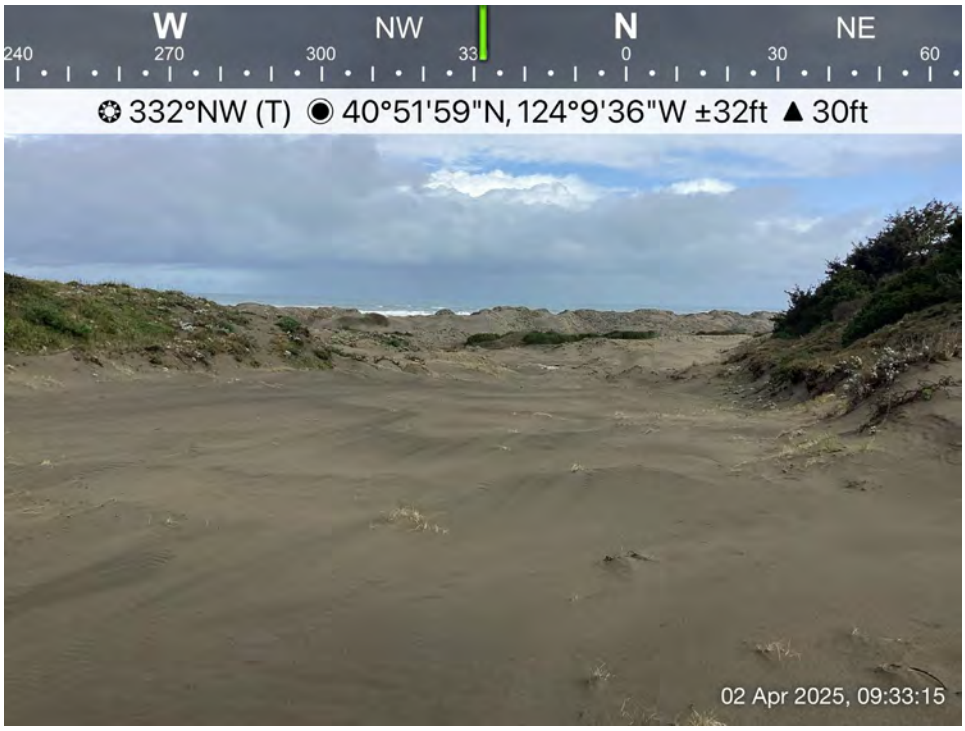


Image 2.2-6 View from within the sand borrow area looking west towards the Pacific Ocean.



Image 2.2-7 View of exposed HBMWD pipeline and appurtenances (left) on Friends of the Dunes property.

2.2.3.4 Grading of Northern Access Road

The northerly segment of access road from the southern extent of the Redwood Gun Club to Vault 2 (approximately 1.25 miles; see **Appendix A, Figure 2-3**), would be graded approximately once per year in mid-summer to enable it to be drivable by a pick-up truck in the mid-summer. This portion of access road is in a

dynamic area of sand dunes, and natural wind-derived shifts in the sand dunes throughout the year can make driving along this portion of the access road unsafe. Access along the road by a pick-up truck is necessary for routine inspection, testing of infrastructure, routine repairs and vegetation maintenance throughout the District's ROW. Grading of the access road would be completed with a medium sized bulldozer such as a Cat D6. Grading would occur only to the degree necessary to make the road drivable. In segments of the access road that are already drivable and do not require grading, the bulldozer bucket would be pulled up off the ground.

2.2.3.5 Overflow Pipe Area Maintenance

An overflow discharge point exists immediately adjacent to the ocean, approximately 445 feet west of the District's one-million-gallon water tank located east of Vance Avenue between LP Drive and Bay Street in the southern portion of the Project area (see **Appendix A, Figure 2-4 and Image 2.2-8**). The concrete discharge structure is cylindrical and contains open grates on top. It is connected to the water tank via a subsurface pipe. The entirety of this Project component is within the District's ROW. When the water tank is at capacity, any additional water gradually overflows through the top of the grated pipe onto the beach. Maintenance activities in this area would include movement of sand, stabilization of the discharge point to reduce potential erosion (i.e. potential use of rip rap around the discharge point), overflow pipe replacement (including the necessary excavation for replacement), and vegetation maintenance to retain access to this area.

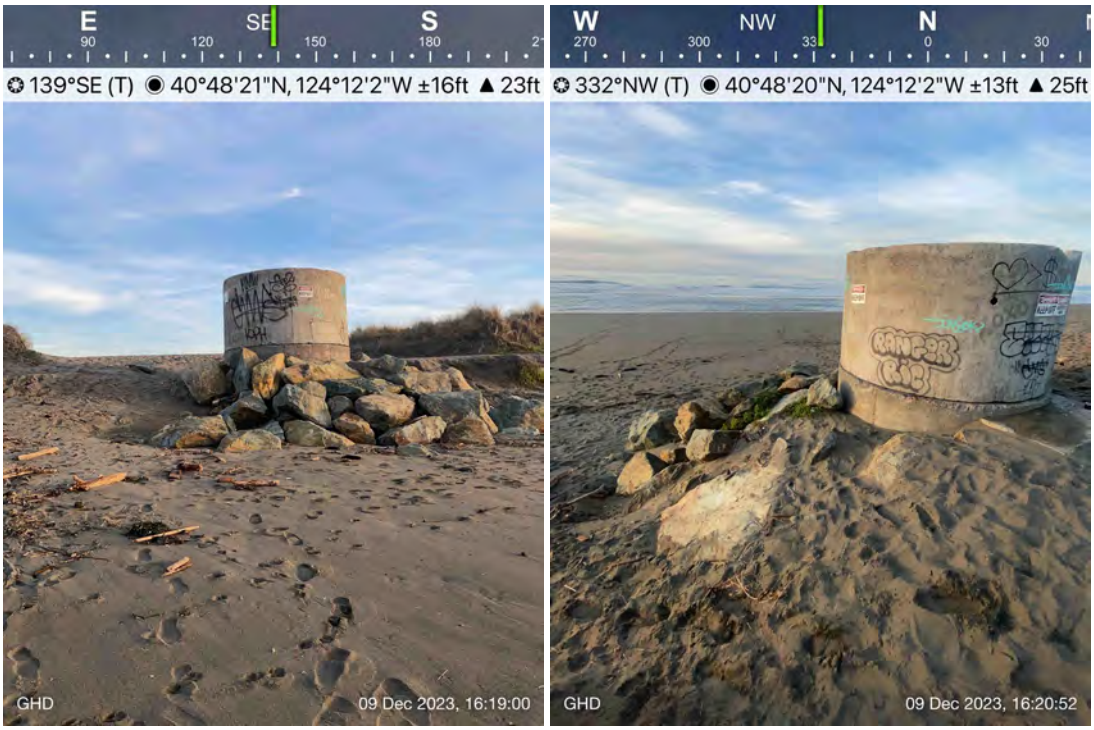


Image 2.2-8 ***View of the front and side of the overflow pipe which enables surplus non-potable water to bubble out of its grated top when the nearby non-potable water tank is at capacity.***

2.2.3.6 Electrical Line Installation

This Project component would abandon and replace an existing underground electrical line located in the southern extent of the Project area (see **Appendix A, Figure 2-4**). The current line is buried and consists of insulated aluminum wire with no conduit encasement protection. It starts at the District's meter building near their one-million-gallon water tank and terminates at Bay Street. The current line is approximately 2,400 feet long. The existing electrical wire is frequently out-of-service because it is exposed to the elements and vulnerable to damage from wildlife. This Project component includes the abandonment of the existing electrical wire and installation of a new electrical conduit, spare electrical conduit and communications conduit next to the existing

wire. The new electrical service would consist of one 2-to-3-inch diameter PVC conduit containing copper wire and would be installed in trench approximately 3-4 feet deep and backfilled with the excavated material. An approximately 10-foot-wide disturbance may result from installation activities, including trenching and adjacent areas used for equipment staging, totaling about 0.55 acre (24,000 square feet). This Project component is entirely within the District's ROW and vegetation would be removed from this area to enable installation of the 2,400 feet of conduit and wire. A power utility pole is proposed to be installed within the District's ROW near the intersection with Bay Street to improve communications between the District's communication hubs. The pole would be a standard utility structure approximately 60 feet in height. Installation would involve excavating a hole, placing gravel and/or concrete, and setting the pole using standard construction methods. Once the electrical line and power pole are installed, the area would be kept clear of woody vegetation, and herbaceous vegetation would passively revegetate and be mowed for maintenance and access purposes at least once every three years.

2.2.4 Project Schedule and Equipment

The anticipated schedule of each Project component is described below and in **Table 2.2-1**. In general, no Project components are planned to occur from approximately November through early May, during the rainy season or when standing water may be present.

2.2.4.1 Vegetation Maintenance

Vegetation maintenance activities, i.e. trimming of trees with occasional tree removal, and mowing of grasses, would initially occur over a three-year period, and would occur for up to three months during the first year. After the area is initially maintained (i.e. woody vegetation trimmed, or removed, and grasses mowed to enable continued access to District infrastructure), all areas would be revisited annually for up to one month for maintenance upkeep which could include trimming of branches, mowing, or removal of remnant roots. Annual vegetation maintenance would occur over approximately one month throughout the lifespan of the Project. As stated in **Section 2.3.1**, when possible, vegetation would be removed, mowed or trimmed outside of the nesting bird season, which is March 15 through August 15 in this region of California, otherwise surveys for nesting birds and subsequent avoidance of observed active bird nests would occur prior to vegetation trimming or removal.

2.2.4.2 Reburial of Infrastructure

Sand movement to re-bury exposed pipe is anticipated to occur approximately once every five years dependent upon sand dune migration. Following the acquisition of permits, the District would move sand to re-bury the exposed segment of pipeline on Friends of the Dunes property. It is anticipated that this area would be monitored to determine whether the proposed natural building materials and revegetation is successful in retaining sand. This area would likely be revisited often at the beginning of this Project (e.g., for approximately one week to re-bury infrastructure, and for another week to stabilize the area with natural materials) and then periodically to monitor the success of the effort.

2.2.4.3 Grading of Northern Access Road

Grading of the northerly access road (approx. 1.25 miles) would occur annually over a few days to enable pick-up truck access along the ROW. Driving pick-up trucks along the ROW would occur over approximately 20-30 days per year, predominantly in the late summer, to conduct routine maintenance testing and repairs of infrastructure.

2.2.4.4 Overflow Pipe Area Maintenance

There is no imminent need for vegetation maintenance of this structure at this time. It is assumed that maintenance would occur on this structure approximately once every ten years.

2.2.4.5 Electrical Line Installation

The electrical line and utility pole installation would occur within a three-month period and is anticipated to occur within three to five years of the Project's regulatory approvals.

The timeframes presented in **Table 2.2-1** are approximate and determined for the purposes of environmental impact analysis; they represent the District's best estimate of frequency and occurrence but in practice may deviate based upon future conditions. Inspections of all infrastructure within the Project Area would occur at least annually.

All Project components would be implemented between 7 am and 6 pm Monday through Friday. No work (except for emergencies) would be implemented on Saturdays, Sundays or holidays.

Equipment to be utilized for the Project could include the following: backhoes, bull dozers, tree trimmers, masticators, mower, chainsaws, graders, dump trucks, and various smaller equipment and hand tools. See **Table 2.2-1** for an overview of equipment to be utilized by Project component.

Staging of materials and equipment would occur within paved or previously disturbed areas near the Project Area.

Table 2.2-1 Project Schedule and Equipment

Project Component	Equipment
Access Maintenance Activities	
Vegetation maintenance (1 mo/yr) - every year at least 1/3 of area to be maintained. The total area is to be maintained at least once every three years.	Masticator, chainsaws (3-4), chipper, pick-up truck, mower, hand tools, and in rare cases a mini-excavator.
Annual inspection activity: driving truck along ROW.	Pick-up truck, hand tools.
Reburial of Infrastructure	
Movement of sand from sand borrow area to cover pipe (assumed immediately, and then 1 week every 5 years)	Grader, bulldozer, backhoe, excavator
Grading of Northern Access Road	
Grading northern 1.25 miles of access road (once per year)	Medium sized bulldozer
Overflow Pipe Area Maintenance	
Overflow pipe maintenance area (1 mo/yr, every 10 years = 5 times total)	Excavator, grader, bulldozer, skid steer
Electrical Line Installation	
2,400 ft - electrical conduit/wire and pole installation (3 months for installation)	Excavator, skid steer, dump truck (2), vacuum truck, backhoe, trench compactor, generator, loader, grader

Similar equipment may be used in place of equipment that is listed if it is determined to more effectively or efficiently serve the task at hand, or if the specific equipment listed is not reasonably available.

2.2.5 Project Access

The District would access its ROW for Project activities through recorded deeds of easement to the pipeline ROW, or through the public ROW such as Young Lane to North Ma-le'l Dunes Road, Samoa beach parking lot near the District's Samoa Booster Pump Station, and New Navy Base Road, or through authorized use of private property such as along Lupin Drive which the Manila CSD has approved use of, and the nameless roadway between New Navy Base Road and Vance Avenue located at the District's water storage tank (see **Appendix A, Figures 2-2, 2-3 and 2-4**).

2.3 Regulatory Context

The Project Area is within the Coastal Zone, specifically, within the Appeal jurisdiction of the Coastal Zone, which is regulated by Humboldt County under the HBAP, and appealable to the CCC (see **Appendix A, Figures 2-6.1, 2-6.2 and 2-6.3**). The Project Area is in an ecologically significant area where rare plants, wetlands and unique habitats are present which is further described below. Modifications to these resources are anticipated under the Project, which would require certain permits from regulatory agencies with jurisdiction over the impacted resource, such as a Coastal Development Permit. Anticipated permits to be acquired are described in **Section 2.5**.

2.4 Biological Setting

Biological surveys were conducted throughout the Project Area in 2022, 2023, 2024 and 2025 which indicated the presence of three- and one-parameter wetlands. Three-parameter wetlands are regulated by the U.S. Army Corps of Engineers (USACE), while one-parameter wetlands are regulated by the North Coast Regional Water Quality Control Board (NCRWQCB) and County of Humboldt via the Humboldt Bay Area Plan (HBAP). Upland Sensitive Natural Communities (SNCs) (which would likely be considered Environmentally Sensitive Habitat Areas [ESHA] under the HBAP), vegetated dunes, and federal and state Endangered Species Act (ESA) listed beach layia (*Layia carnosa*) and Menzies' wallflower (*Erysimum menziesii*) were also observed. Impacts to these resources may occur.

Mitigation implemented to offset potential Project impacts to biological resources would predominantly include ecological enhancements to areas overrun with invasive species located on the Samoa Peninsula. More specifically, mitigation would include one or a combination of the following:

– removal of invasive and non-native European beachgrass (EBG; *Ammophila arenaria*), iceplant (*Carpobrotus edulis*), yellow bush lupine (*Lupinus arboreus)*, and other invasive non-native species utilizing manual or mechanical methods, herbicide, and/or prescribed burning, for passive establishment of dune mat habitat and rare plants. Areas of invasive species removal that could feasibly support one-parameter wetlands (i.e. via topography) would be actively revegetated with herbaceous or woody hydrophytic species to create one-parameter wetland habitat (i.e. dunes vegetated with herbaceous hydrophytic plants);
– removal of invasive and non-native English ivy (*Hedera helix*), Scotch broom (*Cytisus scoparius*), Himalayan blackberry (*Rubus armeniacus*), yellow bush lupine (*Lupinus arboreus*), EBG and other invasive plants from forested conditions; and
– enhancements to existing one- and three-parameter wetlands.

These activities are further described in **Section 3.3 – Biological Resources**. Mitigation activities could occur within up to five mitigation sites numbered one through five from north to south collectively termed as the Mitigation Areas or other appropriate areas on the Samoa Peninsula. Potential Mitigation Areas are shown in **Appendix A, Figures 2-7, 2-7.1 through 2-7.4**. The entirety of each Mitigation Area would not be utilized for mitigation, rather just portions of one or more areas (or other areas) would be used based upon the extent of required mitigation. The size of actual mitigation activities will be determined in coordination with regulatory agencies during Project permitting but shall not be less than what is proposed in this EIR. Similar to the Project, the Mitigation Areas are within the Appeal jurisdiction of the Coastal Zone and are therefore subject to the HBAP

and mitigation activities will require a CDP through the County of Humboldt (see **Appendix A, Figures 2-8.1 through 2-8.4**).

Proposed mitigation would be refined during Project permitting with jurisdictional agencies after this CEQA document is publicly circulated. Therefore, mitigation proposed in **Section 3.3** may change upon coordination with jurisdictional agencies. However, the extent of Project mitigation would not be less than what is proposed in this CEQA document. In addition to the identified potential mitigation sites, mitigation may occur in other suitable areas on the Samoa Peninsula.

2.5 Anticipated Permits

The Project would require permits due to the Project's anticipated impacts on protected public trust resources, including (but not limited to) three-parameter wetlands, one-parameter wetlands, upland SNC/ESHA, and federally and state ESA threatened or endangered plants (GHD 2025a; GHD 2025b; GHD 2025c). The Project predominantly occurs within areas zoned as Natural Resources (NR), Industrial General (MG), and Industrial/Coastal-Dependent (MC). The following permits are anticipated to be required for Project implementation:

– Joint Coastal Development Permit/Conditional Use Permit from Humboldt County via the Humboldt Bay Area Plan Local Coastal Program for impacts to protected coastal resources and to enable proposed Project land uses within the existing zoning. The Project Area is in the appeal jurisdiction of the Coastal Zone and can therefore be appealed to the Coastal Commission.
– Waste Discharge Requirement from the North Coast Regional Water Quality Control Board (NCRWQCB) for impacts to regulated Waters of the State, including wetlands.
– Coordination with the California Department of Fish and Wildlife (CDFW) for impacts to California ESA (CESA) listed beach layia and Menzies' wallflower; an Incidental Take Permit may be required.
– Consultation with the U.S. Fish and Wildlife Service (USFWS) for impacts to federal ESA listed beach layia and Menzies' wallflower on federally owned or managed lands.

Based upon conversations with the USACE, the wetlands within the Project Area are not USACE-jurisdictional and Project activities within delineated wetlands would not require a Clean Water Act Section 404 permit. However, as described above, the wetlands are jurisdictional to the State, and a Waste Discharge Requirement may be required.

2.6 AB 52 Consultation

CEQA requires lead agencies to determine if a proposed Project would have a significant effect on tribal cultural resources. The CEQA Guidelines define tribal cultural resources as: (1) a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American Tribe that is listed or eligible for listing on the California Register of Historical Resources, or on a local register of historical resources as defined in PRC Section 5020.1(k); or (2) a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant according to the historical register criteria in PRC Section 5024.1(c), and considering the significance of the resource to a California Native American tribe.

The District initially engaged in the AB 52 process via Project notification to the Wiyot Tribe, Blue Lake Rancheria and Bear River Band of Rohnerville Rancheria on November 13, 2023. The Project has since been reduced in scope. The original AB 52 consultation included substantial excavation for pipeline replacement and vegetation removal as components of the Project; however, no planned excavation for pipeline replacement or repair, and a substantial reduction in vegetation removal is now proposed.

Under the initial AB 52 process, the Wiyot Tribe requested consultation; however, no response was received from the Blue Lake Rancheria or Bear River Band of the Rohnerville Rancheria. The District engaged with tribal representatives of the Wiyot Tribe through the AB 52 process early on in preparation of this CEQA document (December 2023) which resulted in identification of plant species of significance to the Wiyot Tribe that would

likely be affected by the Project. These resources and methods to protect or mitigate impacts to these plant species are discussed further in Section 3.3 (Biological Resources) and Section 3.16 (Tribal Cultural Resources). The Wiyot Tribe recommended that a Tribal Cultural Monitor be present during excavation activities in locations known to be sensitive to ensure the proper treatment of any inadvertently discovered resources.

During initial consultation, the sand borrow area was not a component of the Project; it has since been surveyed for cultural resources, and grading of the northern 1.25 miles of access road was not previously proposed. There was one location in the sand borrow area with potentially culturally significant resources, but the location has since been revisited for subsurface testing and was determined to not meet federal or state criteria of cultural significance (see Section 3.4 – Cultural Resources for further discussion). No potentially sensitive cultural resources are known to exist in areas that are planned to have sand sourced from there. Nevertheless, a Memorandum of Understanding with the Wiyot Tribe is being developed that will allow for a tribal cultural monitor to be present during sand movement. Grading would be minor, and would not result in substantial changes to topography, therefore cultural monitoring is assumed to not be required during grading activities associated with the Project.

Since the original AB 52 letter was sent on November 13, 2023, the Project has been refined to include proposed Mitigation Areas, access locations, and the sand borrow area. The Wiyot Tribe, Blue Lake Rancheria and Bear River Band of Rohnerville Rancheria were emailed on September 30, 2024, and October 1, 2024, describing these areas and the activities that would occur within each location, and a request for comments from the tribe on proposed areas and activities. The Bear River Band of Rohnerville Rancheria THPO responded requesting the geospatial shapefiles of the Project, which GHD provided on October 1, 2024. No additional consultation was requested from the tribes following the emails. Given the Wiyot Tribe and Bear River Band of Rohnerville Rancheria had responded to the District, emails were sent to each tribe's THPO on December 30, 2024 requesting confirmation from the tribe that AB52 consultation can be considered closed. The Bear River THPO requested cultural monitoring occur in areas of excavation. A response was drafted to the THPO explaining that the northern 1.7 miles of the Project Area (which at that time did not include the sand borrow area) was recommended for monitoring by the Project's cultural resources specialist, who consulted with the Bear River Band, Wiyot Tribe and Blue Lake Rancheria during generation of the recommendations. This information satisfied the Bear River Band THPO.

Emails were sent to the three tribes on November 6, 2025 describing the most up-to-date iteration of the Project (which is the subject of this CEQA document). The Wiyot Tribe responded to the District on November 13, 2025 to revisit previously discussed cultural monitoring in the northern portion of the Project Area (see Section 3.4 – Cultural Resources), and to formalize agreements regarding avoidance of impacts to culturally significant plants which is further described below in Section 3.16.6. A memorandum of understanding is being developed with the Wiyot Tribe that will allow for a cultural tribal monitor during sand movement activities and collection of culturally important plants prior to impacts.

2.7 References

GHD. 2025a. Biological Resources Report for the Peninsula Waterline Right of Way Maintenance Project. Prepared for the Humboldt Bay Municipal Water District. February.

GHD. 2025b. Wetland Delineation Report for the Peninsula Waterline Right of Way Maintenance Project. Prepared for the Humboldt Bay Municipal Water District. January.

GHD. 2025c. Biological Resources Memo for the Peninsula Waterline Right of Way Maintenance Project. Prepared as an appendix to the Biological Resources Report, and for the Humboldt Bay Municipal Water District. July.

Humboldt Community Services District (HCSD). 2025. Location and Service Area. Available at: https://humboldtcsd.org/location-and-service-area

3. Environmental Setting, Impacts, and Mitigation Measures

3.1 Scope of Analysis

This Draft EIR analyzes the potential effects of the Project on the environment under the applicable environmental resource categories listed in the CEQA Initial Study Checklist (Appendix G of the 2025 CEQA Guidelines).

Each environmental resource area potentially impacted by the Project is addressed in the following sections numbered as follows:

- 3.1 Aesthetics
- 3.2 Air Quality
- 3.3 Biological Resources
- 3.4 Cultural Resources
- 3.5 Energy
- 3.6 Geology and Soils
- 3.7 Greenhouse Gas Emissions
- 3.8 Hazards and Hazardous Materials
- 3.9 Hydrology and Water Quality
- 3.10 Land Use and Planning
- 3.11 Noise
- 3.12 Population and Housing
- 3.13 Public Services
- 3.14 Recreation
- 3.15 Transportation
- 3.16 Tribal Cultural Resources
- 3.17 Utilities and Service Systems
- 3.18 Wildfire

Each section of Chapter 3 contains the following elements:

3.2 Study Area

This subsection identifies the study area used to describe the environmental setting and complete the impact analysis for each section (i.e., the geographic scope of the analysis used to consider direct and indirect impacts).

3.3 Setting

This subsection presents a description of the existing physical environmental conditions within the study area for the specific resource area evaluated (see above). The setting describes existing conditions at an appropriate level of detail to understand the impact analysis and provides a baseline by which to compare the potential impacts of the proposed Project.

3.4 Regulatory Framework

This subsection provides a brief discussion of applicable federal, state, and local regulations and policies that are relevant to the resource category.

3.5 Evaluation Criteria and Significance Thresholds

This subsection provides the significance thresholds for evaluation of environmental impacts. The significance thresholds are based on the 20250CEQA Guidelines Appendix G.

3.6 Methodology

The methodology subsection discusses the approach to the impact analysis.

3.7 Impacts and Mitigation Measures

This subsection evaluates the potential for the Project to significantly affect the physical environment described in the setting for each respective resource category. Potential impacts are identified and characterized, and where feasible, mitigation measures are identified to avoid or reduce significant impacts to a less-than-significant level.

3.8 Impacts

As described above, significance thresholds for each environmental resource category are presented in each section of Chapter 3. For the impact analyses, the following categories are used to identify impact significance:

No Impact. This determination is made if a resource is absent or if a resource exists within the Project Area or Mitigation Areas, but there is no potential that the Project could affect the resource.

Less-than-Significant Impact. This determination applies if there is a potential for some limited impact on a resource, but the impact is not significant under the significance threshold.

Less-than-Significant Impact after Mitigation Incorporated. This determination applies if there is the potential for a substantial adverse effect in accordance with the significance threshold, but mitigation is available to reduce the impact to a less-than-significant level.

Significant and Unavoidable Impact. This determination applies to impacts that are significant, even after mitigation has been included to reduce the impact. Under this determination, no additional feasible mitigation is available to reduce the impact to a less-than-significant level.

3.9 Mitigation Measures

Environmental impacts are numbered in this Draft EIR using the section number followed by sequentially numbered impacts. Mitigation measures are numbered sequentially, and do not necessarily correspond to the impact numbers.

3.10 Cumulative Impacts

Cumulative impacts are defined as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts” (CEQA Guidelines Section 15355). Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time.

Cumulative impacts are discussed in each environmental resource section following the description of the Project-level impacts and mitigation measures. The cumulative impact analysis is based on the same setting, regulatory framework, and significance thresholds presented in each resource category section. Additional mitigation measures are identified if the analysis determines that the Project’s contribution to an adverse cumulative impact would be cumulatively considerable and, therefore, significant.

3.11 Approach to Cumulative Impact Analysis

Two approaches to cumulative impact analysis are discussed in CEQA Guidelines Section 15130(b). The first approach is a list of past, present, and probable future projects producing related or cumulative impacts. The second approach is a summary of projections contained in an adopted local, regional or state-wide plan, such as

a general plan or related planning document, or in an adopted or certified environmental document, which describes or evaluates conditions contributing to cumulative effects.

For this Draft EIR, the cumulative impact analysis utilizes the list approach. In addition, the analysis of cumulative impacts uses relevant planning documents, where they provide an appropriate evaluation.

To identify projects to be considered for cumulative impacts, outreach was conducted to the following agencies and organizations:

– Humboldt Bay Harbor, Recreation and Conservation District
– Humboldt County Planning and Building Department
– Bureau of Land Management
– Friends of the Dunes
– Wiyot Tribe
– City of Eureka
– California Department of Fish and Wildlife
– U.S. Fish and Wildlife Service
– Danco Group

Table 3.0-1 summarizes relevant projects used in the cumulative impacts analysis for each environmental resource topic. All entities responded with the exception of the Wiyot Tribe. However, speculative habitat restoration projects have been discussed with the Wiyot Tribe in previous correspondence.

3.12 List of Relevant Projects

Table 3.0-1 provides a list of past, present, and reasonably foreseeable future projects within and near the Project Area and Mitigation Areas, including a brief description of the projects and their anticipated construction schedules (if known). Single-family homes and other similar small-scale uses were not included because of their negligible cumulative effects.

Table 3.0-1 Projects Considered for Cumulative Impacts

Project Name, Agency/Organization, and Jurisdiction	Project Description	Estimated Construction Schedule	Project Location
Humboldt Bay Offshore Wind Heavy Lift Multipurpose Marine Terminal, Humboldt Bay Harbor, Recreation and Conservation District	Redevelopment of RMT I and II (approx. 189 acres) to create assembly port for offshore wind turbines.	Speculatively 2028-2032	Samoa, CA
On-going invasive species removal projects, Bureau of Land Management	Removal of European beachgrass (EBG) and iceplant via hand pulling and occasional shovel work to maintain and restore native vegetation and promote habitat for endangered Menzies wallflower and beach layia.	Ongoing	Ma-le'l Dunes, Manila, CA; and the Endangered Plant Protection Area, Samoa, CA
On-going invasive species removal effort, Friends of the Dunes	Manual removal of European beachgrass and other non-native species at the Coastal Nature Center and Ma-le'l Dunes north	Ongoing	Humboldt Coastal Nature Center and Ma-le'l Dunes North, Manila, CA

Project Name, Agency/Organization, and Jurisdiction	Project Description	Estimated Construction Schedule	Project Location
Habitat restoration, Wiyot Tribe	Anticipated wetlands and dune mat restoration in the Digawututklh property	Anticipated within the next five years	Digawututklh, Manila, CA
South Spit Resilience Project	Anticipated dune restoration partnership involving a wider variety of tools such as prescribed fire, and/or herbicide.	Anticipated within the next five years	South Spit, Samoa, CA
Wadulh Tidal Lagoon Habitat Improvement Project, U.S. Fish and Wildlife Service	Creation of backwater tidewater goby habitat in the Mad River Slough via notching of a levee and removal of a tide gate.	2025 or 2026	Humboldt Bay National Wildlife Refuge, Arcata, CA
Peninsula Community Services District Samoa Peninsula Wastewater Treatment Facility	Construction would be needed to expand wastewater treatment operations from Samoa and Fairhaven, CA. After treatment, effluent would be discharged via the NPDES permit (see below) via the RMT II ocean outfall	Small levels of discharge have commenced and would increase following future expansion of the wastewater treatment facility, pending future state and federal funding	The collection system would extend throughout Fairhaven and Samoa, CA. The treatment facility would be located in Samoa, CA.
NPDES permit for Peninsula Community Services District and Samoa Pacific Group Town of Samoa Wastewater Treatment Facility (Order No. R1-2020-0005)	Future permitted discharge of 0.0756 MGD of 40 MGD capacity via the Redwood Marine Terminal II ocean outfall	Discharge would be active after the construction of the Peninsula Community Services District Wastewater Treatment Facility	Samoa, CA. Future discharge would occur into the Pacific Ocean
Samoa Town Improvements, Danco	Burying power lines, and maintenance to sewer and water lines, demolition of buildings, remodeling the Cookhouse, constructing a campground and cabins, upgrades to the maritime museum, and other improvements in accordance with their Coastal Development Permit	Construction occurred in 2021; extension of the CDP is in progress	Samoa, CA
North Wind LLC	CDP for a cannabis cultivation and propagation center. Will employ up to 40 employees during peak operations. Structures already existing, and modular buildings proposed.	Permit approved	Samoa, CA
Fiber optic off-shore cable landing project	An off-shore fiber optic cable extends across the sea floor and land in or near Samoa, CA then travel to a data center in Arcata	Existing as of 2022	Parallel to State Route 255 in Samoa and Manila, CA

Project Name, Agency/Organization, and Jurisdiction	Project Description	Estimated Construction Schedule	Project Location
Fairhaven Energy Storage Project	Installation of 17.25 MW lithium-ion battery system to supplement renewable energy demand.	Existing as of 2023	Samoa, CA
Manila Shared Use Pathway Project along Highway 255	Paved shared-use pathway adjacent to Highway 255 in Manila extending approximately one mile. See below for more detail.	Construction occurred in 2022	Manila, CA
Humboldt Bay Spartina Removal Projects	Various Spartina removal projects occurring under certified Final Programmatic Environmental Impact Report for the Humboldt Bay Regional Spartina Eradication Plan (SCH# 2011012015) and Coastal Development Permit #9-16-0033.	Ongoing	Various locations surrounding Humboldt Bay
Small wildlife rehabilitation facility	CDP for a small wildlife rehabilitation facility. Minor construction proposed.	Permit approved	Manila, CA

3.13 Aesthetics

This section evaluates the potential impacts related to aesthetics and visual resources during implementation of the Project and associated mitigation. To provide the basis for this evaluation, the Setting section describes the existing scenic resources and visual character for the Project Area and Mitigation Areas, and the Regulatory Framework section describes the regulatory background that applies to the Project. The Impact Analysis section establishes the thresholds of significance, evaluates potential aesthetic and visual impacts, and identifies the significance of impacts. Where appropriate, mitigation measures are presented to reduce impacts to less than significant levels.

3.13.1 Study Area

The study area for aesthetic resources includes the Project Area, the Mitigation Areas (see **Appendix A, Figures 2-2 through 2-4, and 2-7 through 2-7.4**), and the associated viewsheds of the ocean from these locations.

3.13.2 Setting

3.13.2.1 Regional Visual Character

Humboldt County is a densely forested mountainous and rural county with about 110 miles (177 km) of coastline (more than any other county in the state), situated along the **Pacific** coast in **Northern California**'s rugged **Coast Mountain Ranges**. Humboldt County contains picturesque scenery and is well known for its endemic redwood trees, and foggy coastal climate. The rural character of the County is defined by the topography and the views afforded as a result of those natural landforms. Humboldt County contains over forty percent of all remaining **old growth coast** redwood forests, the vast majority of which is protected or strictly conserved within national, state, and local forests and parks. Numerous large watersheds containing scenic rivers and tributary streams are located in Humboldt County, which provide habitat for wildlife, recreation, and drinking water. Humboldt County also contains sweeping vistas of oak woodlands and meadows which are largely utilized for ranching of cattle, goats and sheep, which supports the local meat and dairy industry. Humboldt County's varied and extensive Pacific Ocean coastline allows for a wide range of scenic vistas from Highway 101 and from beaches, state parks and coastal access points.

3.13.2.2 Visual Character of the Project Area

The Project and Mitigation Areas 1 through 4 are located on the Samoa Peninsula which contains the coastal community of Manila, Samoa, Fairhaven. The visual character of the Samoa Peninsula is rural and industrial in nature, with low hills, a mix of herbaceous dunes, vacant land, industrial and commercial facilities, residential development, few tree stands, and overhead utilities. Mitigation Area-5 is located on the South Jetty which is comprised of open space with no industrial development other than a roadway.

The dominant visual character in the Project Area and Mitigation Areas includes open coastal vegetated dunes, and in the northern extent less vegetated (and more actively moving) dunes. The Project Area predominantly includes the access road, concrete cylindrical vaults, and an area of vegetated ROW between these features. The access road is a sandy pathway that contains varying levels of ground cover, and is surrounded by vegetation on both sides either comprised of thick and invasive grasses, sparse dune mat, native grasses, or woody dune forest. It has been traversed by the District since installation of the non-potable water pipeline in 1960. See **Images 3.1-1 through 3.1-6** below for representative photographs of the existing access road within the Project Area.

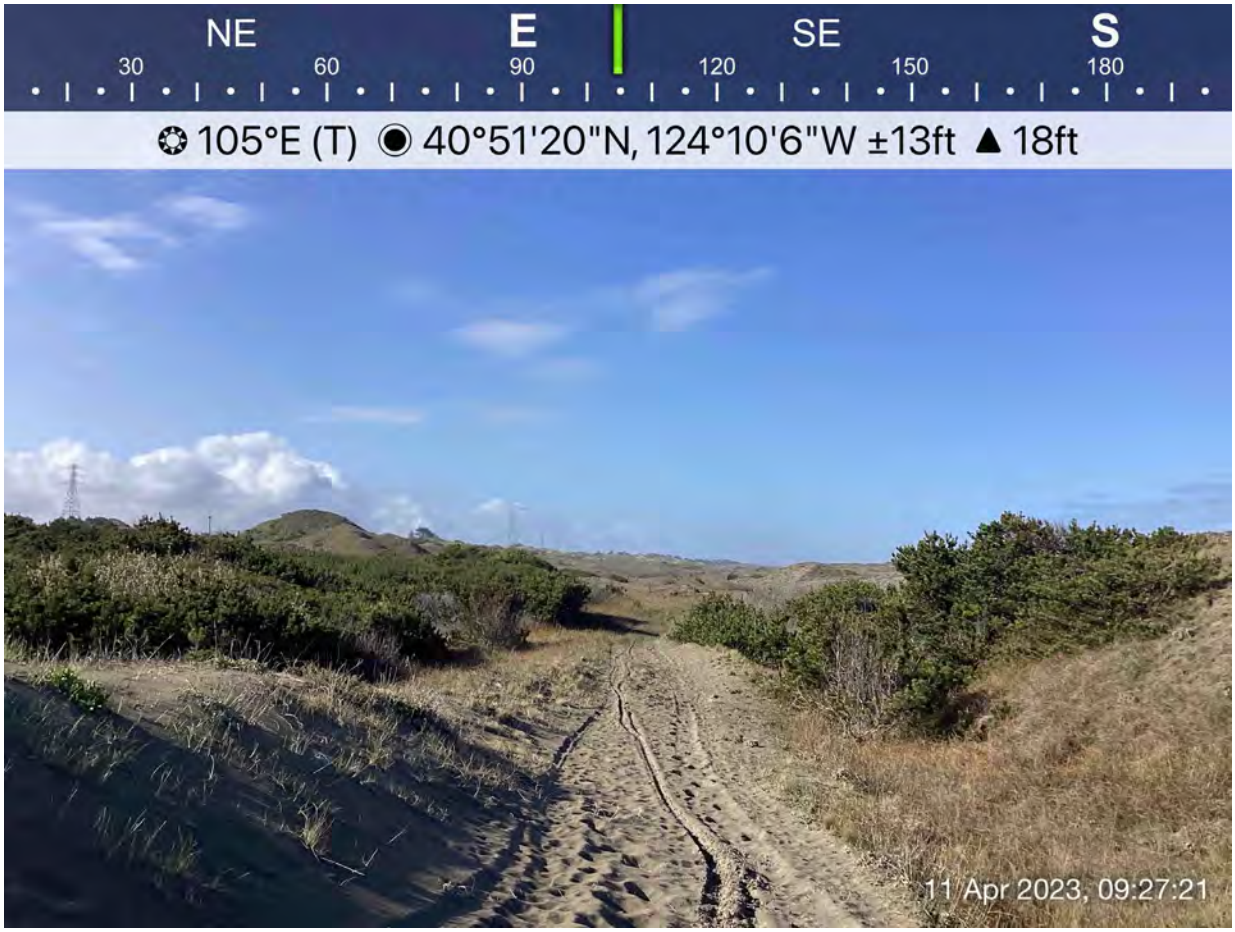


Image 3.13-1 Access road conditions in the northern central portion of the Project Area on Friends of the Dunes property.



Image 3.13-2 ***Access road conditions in the northern/central Project Area west of the Manila Community Services District wastewater treatment pond.***



Image 3.13-3 ***Access road conditions in the central portion of the Project Area located at the southern extent of a vegetated corridor.***



Image 3.13-4 Access road conditions in the central Project Area.



Image 3.13-5 ***Access road conditions in the former Samoa Dunes Wetlands and Conservation Area, now Digawututklh, located in the central portion of the Project Area.***



Image 3.13-6 ***Conditions within southern central portion of the Project Area. The majority of the Project Area from New Navy Base Road south contains dense stands of European beachgrass.***

From north to south, the far northern Project Area contains mature forested habitat surrounding the grassy access road, followed by open rolling dune hills and predominantly bare sand, vegetated rolling dunes with topographic relief adjacent to the access road, relatively flat dune forest surrounding the herbaceous-vegetated access road, and relatively flat sandy areas with pockets of willow thicket and shore pine and herbaceous vegetation. South of New Navy Base Road the Project Area is relatively free of woody vegetation and the viewshed is much broader which includes industrial buildings and residential homes. Telephone and high-voltage towers and power lines cross the peninsula and are visible from multiple vantage points in this portion of the Project Area. The District's ROW contains intermittent segments of an access road throughout this section of the Project Area. European beachgrass dominates areas where there is no access road. The discharge overflow pipe is located within the foredunes west of the non-potable water reservoir and is comprised of open space surrounded by vegetated dunes. Potential views from the Project Area include dunes and Pacific Ocean to the west, Humboldt Bay and residential or industrial areas to the east, and coastal vegetation surrounding the Project.

3.13.2.3 Visual Character of the Mitigation Areas

Mitigation Areas 1 through 4 are undeveloped areas predominantly located on the Samoa Peninsula (see **Appendix A, Figures 2-7 through 2-7.4**). Four of the five mitigation areas are located on public or otherwise protected lands. Mitigation Area 1 (Ma-le'l Dunes owned by the BLM) includes actively restored communities of dune mat habitat, and open vegetated rolling dunes. Mitigation Area 2 (Digawututklh owned by the Wiyot Tribe, formerly known as Samoa Dunes and Wetlands) contains topographically diverse, largescale mature coastal dune forest stands and recreational trails. Mitigation Area 3 (owned by the City of Eureka) is located adjacent to a protected area and contains moderate dune undulations and clear views due to the lack of woody vegetation. Mitigation Area 4 (Endangered Plant Protection Area owned by the BLM) is similar to Mitigation Area-3, with moderate undulations and open views due to the relatively small amount of woody vegetation, however, also contains actively restored dune mat habitat. Mitigation Area 5 (owned by CDFW and managed by the BLM) is a relatively flat section of vegetated dunes dominated by European beachgrass and iceplant with some native dune mat habitat and includes open views and is located on the South Jetty.

3.13.3 Regulatory Framework

3.13.3.1 Federal

There are no federal regulations that apply to the proposed Project related to visual resources.

3.13.3.2 State

3.13.3.2.1 California Coastal Act

The entire Project Area and Mitigation Area are located within the "Appeal" jurisdiction of the Coastal Zone, which means activities in the Coastal Zone are under local jurisdiction (described below) but appealable to the California Coastal Commission which implements regulations in the Coastal Zone under the California Coastal Act. The California Coastal Act outlines, among other things, standards for development within the Coastal Zone.

> *Section 30251*
>
> *(Scenic and Visual Qualities) under Article 6 (Development) of the California Coastal Act, states, "the scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural landforms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas."*

3.13.3.3 Regional and Local

The study area is located within Humboldt County's jurisdiction, and specifically within the appeal jurisdiction of the Coastal Zone which is regulated by the Humboldt Bay Area Plan Local Coastal Program (HBAP LCP). The Humboldt County General Plan was not certified in the Coastal Zone and therefore General Plan goals and policies are not binding, and are not included in this section.

3.13.3.3.1 Humboldt Bay Area Plan

Applicable policies from the Humboldt Bay Area Plan (HBAP) regarding aesthetic resources are cited below.

3.40 Visual Resource Protection

30251. The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural landforms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

3.40 Visual Resource Protection, Section B.1, 2, and 4 Development Policies

1. Physical Scale and Visual Compatibility

No development shall be approved that is not compatible with the physical scale of development as designated in the Area Plan and zoning for the subject parcel; and the following criteria shall be determinative in establishing the compatibility of the proposed development:

a. For proposed development that is not the principle permitted use, or that is outside an urban limit and for other than detached residential, agricultural uses, or forestry activities regulated by CDF, that the proposed development compatible with the principle permitted use, and, in addition is either:

(1) No greater in height or bulk than is permitted for the principle use and is otherwise compatible with the styles and visible material so existing development or landforms in the immediate neighborhood, where such development is visible from the nearest public road.

(2) Where the project cannot feasibly conform to paragraph 1, and no other more feasible location exists, that the exterior design, and landscaping be subject to a public hearing, and shall be approved only when:

(a) There is no less environmentally damaging feasible alternative location.

(b) The proposed exterior design, and landscaping are sufficient to assure compatibility with the physical scale established by surrounding development.

2. Protection of Natural Landforms and Features

Natural contours, including slope, visible contours of hilltops and treelines, bluffs and rock outcroppings, shall suffer the minimum feasible disturbance compatible with development of any permitted use, and the following standards shall at a minimum secure this objective:

a. Under any permitted alteration of natural landforms during construction, mineral extraction or other approved development, the topography shall be restored to as close to natural contours as possible, and the area planted with attractive vegetation common to the region.

b. In permitted development, land form alteration for access roads and public utilities shall be minimized by running hillside roads and utility corridors along natural contours where feasible, and the optional waiving on minimum street width requirements, where proposed development densities or use of one- way circulation patterns make this consistent with public safety, in order that necessary hillside roads may be as narrow as possible.

4. Coastal View Areas

In Coastal View Areas as designated in the Area Plan, it is the intent of these regulations that no development shall block coastal views to the detriment of the public; and the following uniform standards and conditions shall apply to all development other than agricultural development and timberland management subject to CDF regulations for special treatment areas in said areas, and to specified developments in Coastal Scenic Areas, in addition to standards identified in the Area Plans:

e. Where feasible, new and existing utilities should be underground.

The HBAP contains the Samoa Town Master Plan (STMP) which contains guidelines for development within the town of Samoa. The Project does not occur within the town of Samoa, and there are no policies of the STMP specific to aesthetics or scenic resources.

3.13.3.3.2 Humboldt County Web GIS

The Humboldt County Web GIS platform designates the southern segment of New Navy Base Road (located in the southern extent of the Project Area), and the portion of South Jetty Road located adjacent to Mitigation Area 5 as containing Coastal Zone Scenic Views. No other portions of the Project Area or Mitigation Areas contain Coastal Zone Scenic Views, and there are no Coastal Zone Scenic Areas within the Project or Mitigation Areas.

3.13.4 Evaluation Criteria and Significance Thresholds

Evaluation Criteria	Significance Thresholds	Sources
Would the Project have a substantial adverse effect on a scenic vista?	Major alteration of a view from a scenic vista or major obstruction in viewed area towards a scenic vista	CEQA Guidelines Appendix G, Checklist Item I (a) Humboldt Bay Area Plan Policies 3.40 B.1, 2, and 4
Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	Non-conformance with the five required elements of corridor protection	CEQA Guidelines Appendix G, Checklist Item I (b)
In non-urbanized areas, substantially degrade the existing visual character or quality of public view of the site and its surroundings? (Public Views are those that are experienced from publicly accessible vantage point). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?	High visual contrast or change from a publicly accessible vantage point	CEQA Guidelines Appendix G, Checklist Item I (c) Humboldt Bay Area Plan Policies 3.40 B.1, 2, and 4
Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	New source of light or glare that impedes views	CEQA Guidelines Appendix G, Checklist Item I (d)

3.13.5 Methodology

The approach to evaluating the effect of the proposed project under the CEQA significance criteria is discussed below:

3.13.5.1 Scenic Vistas

This evaluation is applicable to Project features that would be located on or disrupt access to a scenic vista or result in significant visual changes within its viewshed. Scenic vistas are viewpoints that provide expansive views of a highly valued landscape. Scenic vistas may be officially recognized or designated, or they may be informal in nature (e.g., mountain peaks, expansive views). The Humboldt Bay Area Plan was reviewed to identify scenic vistas in the Project and Mitigation Areas.

3.13.5.2 Visual Quality

Visual quality or visual character impacts are assessed by estimating the amount of visual change introduced by a project's components, the degree to which visual changes may be visible to surrounding viewer groups, and the general sensitivity of viewer groups to landscape alterations. As such, visual changes are always considered in the context of a site or locale's visual sensitivity. Visual changes are assessed from publicly accessible or neighborhood viewpoints and measured by two factors:

> **Visual Contrast** would be significant if it results in regraded landforms, alteration or elimination of ridgelines, and changes introduced by a project that result in landscape colors, textures, and scale of visual components that are inconsistent with the natural surroundings (changes to form, line, color, texture, and scale in the landscape);
>
> **Degradation of Visual Quality** would be considered significant if a project severely alters or displaces specific scenic resources composed of striking landform features, aesthetic water bodies, mature stands of native/cultural trees (e.g., historic hedgerows), or historic structures.

These factors were used to evaluate the extent and scale of visual quality alterations relative to the proposed Project and associated Mitigation Areas.

3.13.6 Impacts and Mitigation Measures

Impact AES-a: Would the Project have a substantial adverse effect on a scenic vista? (Less than Significant Impact)

The proposed Project includes maintenance activities within the 12-foot wide access road and along the pipeline in the southern portion of the project area, within 8 feet of the vaults, overflow discharge pipe, movement of sand from within the sand borrow area and replacement of 2,400 feet of electrical line. As defined in Chapter 2.0, this area is referred to as the Project Maintenance Area (PMA) and it occurs entirely within the Project Area.

Maintenance actions could involve vegetation cutting, trimming, mowing or removal, sand movement, grading, and shallow excavations for electrical line installation. As mentioned above, the southern Project Area and Mitigation Area-5 contain roadways with adjacent undeveloped dunes and beach considered to offer Coastal Zone scenic views available by vehicle. The entire study area offers coastal scenic views. Development within such zones must adhere to guidelines that prioritize ensuring physical scale and visual compatibility, protection of natural landforms and features, and preservation of coastal view areas per HBAP policies 3.40 B (1, 2 and 4). As discussed, the Project is not development but, rather it is maintenance, and therefore policies for development are not applicable to the Project. Vegetation maintenance activities could affect the scenic characteristics of the Project Area. The District's ROW already contains an access road going through the majority of the Project Area that is partially free of woody vegetation and somewhat free of herbaceous vegetation depending on location (see **Images 3.1-1 through 3.1-6**), and the proposed Project would cut and trim, and in some cases remove entirely, woody vegetation that is growing at the extent of the access road and within 8 feet of the District vaults. The Project would result in the removal of woody vegetation across the entirety of the 12-foot wide access road and within 8 feet of the vaults. Tall grasses, which typically occur adjacent to woody vegetation, would be mowed. Dune mat and other short herbaceous vegetation (approximately less than one foot in height) would not be mowed. This activity would expand an existing corridor that is currently predominantly free of woody vegetation, and clear vegetation around the existing vaults, and therefore would not have a substantial adverse effect on a scenic vista because the corridor in and of itself and the vaults are not scenic vistas.

During implementation of Project activities, typically workers with hand tools and limited heavy equipment (such as a masticator and mower, and in some cases a bulldozer and grader) would be temporarily present on-site within the PMA and potentially the Project Area at large (depending on where sand placement would occur) which could be considered a scenic area. The presence of workers and equipment could potentially adversely affect views temporarily, particularly those of the Pacific Ocean to the west of the Project Area. The presence of workers and equipment within the Project Area for vegetation maintenance, and other maintenance work would be temporary in

nature and therefore not have an adverse effect on a scenic vista. Vegetation management would occur along the access road and around overgrown vaults. Vegetation maintenance would not substantially alter the visual character of the area because the access road is already a corridor where a break in vegetation already exists, and the vaults are part of the built environment which also already exists. These areas would be cleared of woody vegetation and tall grasses for access which would not substantially alter the visual character of the area.

Similarly, the Mitigation Areas can be considered scenic areas, and MA-5 contains a Coastal Zone Scenic View along South Jetty Road. Work within the Mitigation Areas would be temporary, and therefore potential disturbances to scenic vistas would also be temporary. Following mitigation, the aesthetic resources within MA-5 would improve and result in beneficial impacts.

For the reasons stated herein, impacts to scenic areas are not considered substantial because they would be temporary in nature and would expand in a very limited way (approximately two feet along the edge of the access road, 12 feet total width) into an already disturbed area (the access road) thereby not substantially changing the visual character. This impact is deemed less than significant.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than significant

Impact AES-b: Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? (No Impact)

According to the California Scenic Highway Mapping System, there are no designated state scenic highways in the Project vicinity. California State Route 255 is not listed as an eligible state scenic highway (Caltrans 2023). Therefore, no impact would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: No impact

Impact AES-c: In non-urbanized areas, would the Project substantially degrade the existing visual character or quality of public view of the site and its surroundings? (Public Views are those that are experienced from publicly accessible vantage point). (Less than Significant Impact)

The Project is in a non-urbanized area. As discussed in the response to question Impact AES-a, there would be temporary impacts to visual character due to the presence of workers with hand tools, heavy machinery, maintenance-related safety signage and maintenance work in the Project Area, and while carrying out mitigation activities within the Mitigation Areas. Initial vegetation management efforts to clear the PMA of woody vegetation and tall grasses would occur over three years in segments of up to approximately 3-5 acres per year. For the first three years vegetation management would last for up to three months per year. Thereafter, vegetation maintenance would occur annually, over a one-month period throughout the 9.5-acre PMA. Grading of the access road is anticipated to occur annually in the mid-summer, and would occur over 1-2 days. The electrical line replacement would occur once. Other Project components (such as sand movement and reburial and maintenance of the overflow pipe maintenance area) would occur as-needed and is assumed to occur once every five, or ten years, respectively.

The Project Area and Mitigation Areas are expansive and public views of the areas visual character are abundant. The temporary presence of equipment during maintenance activities, and mitigation activities would therefore not substantially degrade the existing visual character because they are large, expansive areas and equipment would not fill the entirety of these areas. The Project would result in a communication pole near existing infrastructure at Bay Street, and would not result in other new surface-level structures. This communication pole is proposed near existing infrastructure and is in the vicinity of industrial land uses, and it would not have a permanent impact on visual character.

Vegetation maintenance within the Project Area would result in the reduction of trees, shrubs and grasses via cutting, trimming, and mowing, and less commonly through entire tree and root removal. As mentioned in the response to question Impact AES-a, the existing access road is a corridor through woody and herbaceous vegetation, as well as a corridor through open sand and dune habitat (see **Images 3.1-1 through 3.1-6**). Areas of woody vegetation to be trimmed and cut are located adjacent to the access road. Maintenance of these areas would result in an expanded corridor relatively free of woody vegetation, and trimmed grasses. Similarly, also as mentioned in response to question Impact AES-a, woody vegetation and tall grasses around vaults would be trimmed and mowed resulting in an expanded corridor around existing infrastructure. As a result of the temporary nature of maintenance activities, and because an existing corridor (i.e. the access road and vaults) would be maintained, implementation of the Project would not substantially degrade existing visual character or public views of the site. A less than significant impact would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than significant impact

Impact AES-d: Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? (No Impact)

No lighting is proposed under the Project. On-site heavy equipment would not be typical, however, could pose a minor temporary glare to nearby pedestrians or drivers. However, views of the equipment by drivers would only be possible from South Jetty Road at MA-5. Potential glare would be temporary and is speculative of even occurring. For these reasons, no impact would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: No impact

3.13.7 Cumulative Impacts

Impact AES-C-1: Would the Project contribute to a cumulatively significant impact to visual resources?

Cumulative effects analysis examines the current Project effects taken together with effects of past projects and known projects in the foreseeable future. Projects considered for cumulative impacts are identified in **Table 3.0-1** and include industrial projects such as the Redwood Heavy Lift Marine Terminal project, habitat restoration projects such as the ongoing invasive plant removal efforts by Friends of the Dunes and the BLM, and development projects such as cannabis operations and minor improvements to existing facilities. The only projects considered on **Table 3.0-1** that occur within the dune ecosystem are habitat improvement projects, which could have temporary adverse visual impacts similar to the proposed Project due to the presence of equipment and use of fire. However, these impacts are temporary and the visual benefit of native landscapes outweigh the temporary potential adverse impacts to aesthetics from habitat restoration activities.

Given that the Project would not result in any significant aesthetic impacts, and that the projects considered in **Table 3.0-1** would not permanently affect visual resources in the study area or vice versa, the potential for cumulative visual impacts within the study area would remain less than significant.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than significant

3.13.8 References

California Department of Transportation (Caltrans). 2023. California State Scenic Highway System Map. Available online: https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa

Humboldt County. 2022. *Humboldt Bay Area Plan, of the Humboldt County Local Coastal Program.* Available at: **https://humboldtgov.org/DocumentCenter/View/50844/Humboldt-Bay-Area-Local-Coastal-Plan**

Humboldt County. 2025. Humboldt County WebGIS. Available at: **https://cty-gis-web.co.humboldt.ca.us/HCEGIS3.0/**

3.14 Air Quality

This section evaluates potential impacts related to air quality during implementation of the Project and associated mitigation. To provide the basis for this evaluation, the Setting section describes the air basin setting. The Regulatory Framework section describes the regulatory background that applies to the Project. The Impact Analysis section establishes the thresholds of significance, evaluates potential air quality impacts, and identifies the significance of impacts. Where appropriate, mitigation measures are presented to reduce impacts to less than significant levels.

3.14.1 Study Area

The study area for air quality impacts includes the Project Area, Mitigation Areas (see **Appendix A, Figures 2-2 through 2-4, and 2-7 through 2-7.4**) and the North Coast Air Basin.

3.14.2 Setting

3.14.2.1 North Coast Air Basin

The Project Area is located in Humboldt County in the North Coast Air Basin, which is comprised of Del Norte, Humboldt, Mendocino, and Trinity Counties, as well as the northern and western portion of Sonoma County. The study area is located within the North Coast Unified Air Quality Management District (NCUAQMD).

3.14.2.2 Climate

The local climates, or sub-climates, within the North Coast Air Basin are affected by elevation and proximity to the Pacific Ocean. Humboldt County contains sub-climates that are created by local topography and proximity to the ocean. The study area is located immediately adjacent to the Pacific Ocean and is therefore influenced by coastal fog throughout the year. Precipitation within the County is seasonal, with 90 percent of the annual precipitation occurring between October and April. During the winter, moderate temperatures, frequent fog, and moderate to heavy precipitation cause inversions, which impact air quality. Inversions are created when warm air traps cool air near the ground surface and hinders vertical dispersion. Humboldt County commonly experiences two types of inversions, vertical and horizontal, that affect the vertical depth of the atmosphere through which pollutants can be mixed. Vertical air movement is important in spreading pollutants through a thicker layer of air. Horizontal movement is important in spreading pollutants over a wider area. Upward dispersion of pollutants is hindered wherever the atmosphere is stable; that is, where warm air overlies cooler air below (Humboldt County 2017).

3.14.2.3 Sensitive Receptors

Sensitive receptors are people who are particularly susceptible to the adverse effects of air pollution. The California Air Resources Board (CARB) has identified the following people most likely to be affected by air pollution: children, the elderly, the acutely ill, and the chronically ill, especially those with cardio-respiratory diseases. Sensitive receptors include residences, schools, playgrounds, childcare centers, retirement homes, hospitals, and medical clinics because these locations are assumed to contain people who meet the sensitive receptor description above.

The following sensitive receptors exist within the vicinity of the study area: residences, located approximately 630 feet away, and the Redwood Coast Montessori School, located approximately 1,150 feet away. Recreationists and beach goers, whose location vary by day and time, are not assumed to be sensitive receptors because they are mobile and

can voluntarily move away from poor air quality. Therefore, residences and the Redwood Montessori School are considered to contain sensitive receptors within the study area.

3.14.2.4 Existing Air Quality – Criteria Air Pollutants

The CARB and the U.S. Environmental Protection Agency (EPA) currently focus on the following criteria air pollutants as indicators of ambient air quality: ozone, carbon monoxide (CO); nitrogen dioxide, sulfur dioxide; lead, and particulate matter (PM). **Table 3.14-1** summarizes state and federal ambient air quality standards. The Project region is in attainment for lead, sulfur dioxide, and nitrogen dioxide; therefore, those pollutants are not further discussed. The following section discusses the remaining criteria pollutants - PM, ozone, and CO - for which PM and ozone are of greatest concern in the region (NCUAQMD 2024).

Table 3.14-1 Relevant California and National Ambient Air Quality Standards and Attainment Status

Pollutant	Averaging Time	California Standards		National Standards	
		Standard	Humboldt County Status	Standard	Humboldt County Status
Ozone	8-hour	0.070 ppm (137 µg/m^3)	Attainment	0.070 ppm (137µg/m^3)	Unclassifiable/ Attainment
	1-hour	0.09 ppm (180 µg/m^3)	Attainment	None	NA
Carbon Monoxide	1-hour	20 ppm (23 mg/m^3)	Attainment	35 ppm (40 mg/m^3)	Unclassifiable/ Attainment
	8-hour	9.0 ppm (10 mg/m^3)	Attainment	9 ppm (10 mg/m^3)	
Nitrogen Dioxide	1-hour	0.18 ppm (339 µg/m^3)	Attainment	0.100 ppm (188 µg/m^3)	Unclassifiable/ Attainment
	Annual	0.030 ppm (57 µg/m^3)	Status not reported	0.053 ppm (100 µg/m^3)	
Sulfur Dioxide	1-hour	0.25 ppm (655 µg/m^3)	Attainment	0.075 ppm (196 µg/m^3)	Unclassifiable/ Attainment
	24-hour	0.04 ppm (105 µg/m^3)	Attainment	0.14 ppm (365 µg/m^3)	
	Annual	None	NA	0.03 ppm (56 µg/m^3)	
Respirable Particulate Matter (PM_{10})	24-hour	50 µg/m^3	Nonattainment	150 µg/m^3	Unclassifiable
	Annual	20 µg/m^3	Attainment	None	
Fine Particulate Matter ($PM_{2.5}$)	24-hour	None	NA	35 µg/m^3	Unclassifiable/ Attainment
	Annual	12 µg/m^3	Attainment	9.0 µg/m^3	

Sources: CARB 2025. NCUAQMD 2025.

Notes:
ppm = parts per million
mg/m^3 = milligrams per cubic meter
µg/m^3 = micrograms per cubic meter

3.14.2.4.1 Particulate Matter

Particulate matter is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size, and chemical composition, and can be made up of many different materials such as metals, soot, soil, and dust. Particles 10 microns or less in diameter are defined as respirable particulate matter or PM_{10}. Fine particles are 2.5 microns or less in diameter ($PM_{2.5}$) and,

while also respirable, can contribute significantly to regional haze and reduction of visibility. Inhalable particulates come from smoke, dust, aerosols, and metallic oxides. Although particulates are found naturally in the air, most particulate matter found in the study area is emitted either directly or indirectly by motor vehicles, agricultural activities, and wind erosion of disturbed areas. Most $PM_{2.5}$ is comprised of combustion products such as smoke. Extended exposure to PM can increase the risk of chronic respiratory disease (BAAQMD 2017).

3.14.2.4.2 Ozone

Ground-level ozone is the principal component of smog. Ozone is not directly emitted into the atmosphere, but instead forms through a photochemical reaction of reactive organic gases (ROG) and nitrogen oxides (NOx), which are known as ozone precursors. Ozone levels are highest from late spring through autumn when precursor emissions are high and meteorological conditions are warm and stagnant. Motor vehicles create the majority of ROG and NO_X emissions in California. Exposure to levels of ozone above current ambient air quality standards can lead to human health effects such as lung inflammation, tissue damage and impaired lung function. Ozone exposure is also associated with symptoms such as coughing, chest tightness, shortness of breath, and the worsening of asthma symptoms (BAAQMD 2017). The greatest risk for harmful health effects belongs to outdoor workers, athletes, children, and others who spend greater amounts of time outdoors during periods of high ozone levels, typically during the summer.

3.14.2.4.3 Carbon Monoxide

Carbon Monoxide is a non-reactive pollutant that is toxic, invisible, and odorless. It is formed by the incomplete combustion of fuels. The largest sources of CO emissions are motor vehicles, wood stoves, and fireplaces. Carbon Monoxide is directly emitted to the atmosphere, where levels are strongly influenced by meteorological factors such as wind speed and atmospheric stability. The health threat from elevated ambient levels of CO is most serious for those who suffer from heart disease, like angina, clogged arteries, or congestive heart failure; however, high levels of CO can affect even healthy people. People who breathe high levels of CO can develop vision problems, reduced ability to work or learn, reduced manual dexterity, and difficulty performing complex tasks. At extremely high levels, CO is poisonous and can cause death.

3.14.2.4.4 Nitrogen Dioxide

Nitrogen Dioxide (NO_2) is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of NO_2 are combustion devices, such as boilers, gas turbines, and reciprocating internal-combustion engines (mobile as well as stationary, such as motor vehicles). Combustion devices emit primarily nitric oxide (NO), which reacts with oxygen in the atmosphere to form NO_2 (USEPA 2018). The combined emissions of NO and NO_2 are referred to as NO_X, which is reported as equivalent NO_2. Since NO_2 is formed and depleted by reactions associated with photochemical smog (ozone), the NO_2 concentration in a particular geographical area may not be representative of the local NO_X emission sources.

Inhalation is the most common form of exposure to NO_2, with the principal site of toxicity being the lower respiratory tract. The severity of adverse health effects depends primarily on the concentration of NO_2 inhaled rather than the duration of exposure. An individual may experience a variety of acute symptoms, including coughing, difficulty with breathing, vomiting, headache, and eye irritation, during or shortly after exposure. After approximately 4 to 12 hours of exposure, an individual may experience chemical pneumonitis or pulmonary edema, with breathing abnormalities, cough, cyanosis, chest pain, and rapid heartbeat. Severe, symptomatic NO_2 intoxication after acute exposure has been linked on occasion with prolonged respiratory impairment, including symptoms such as chronic bronchitis and decreased lung function.

3.14.2.4.5 Sulfur Dioxide

Sulfur dioxide is a colorless gas with a strong odor. It can damage materials through acid deposition. Sulfur dioxide (SO_2) is produced by stationary sources like coal and oil combustion, steel mills, refineries, and pulp and paper mills. The major adverse health effects associated with SO_2 exposure relate to the upper respiratory tract. SO_2 is a respiratory irritant, with constriction of the bronchioles occurring with inhalation of SO_2 at 5 ppm or more. On contact with the moist mucous membranes, SO_2 produces sulfurous acid, which is a direct irritant. Concentration rather than

duration of the exposure is the most important determinant of respiratory effects. Exposure to high SO_2 concentrations may result in edema of the lungs or glottis and respiratory paralysis (USEPA 2018).

3.14.2.4.6 Lead

Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions historically have been mobile and industrial sources. Due to the phase-out of leaded gasoline, as discussed below, metal processing currently is the primary source of lead emissions. The highest levels of lead in the atmosphere generally are found near lead smelters. Other stationary sources include waste incinerators, utilities, and lead-acid battery manufacturers.

Approximately twenty years ago, mobile sources (e.g., motor vehicles using leaded fuel) were the main contributor to ambient lead concentrations in the air. In the early 1970s, the EPA established national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The EPA banned the use of leaded gasoline in highway vehicles in December 1995 (USEPA 2018).

Due to the EPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector declined by 95 percent between 1980 and 1999, and levels of lead in the air decreased by 94 percent between 1980 and 1999. Transportation sources, primarily airplanes, now contribute to only 13 percent of lead emissions. A recent National Health and Nutrition Examination Survey reported a 78 percent decrease in the levels of lead in people's blood between 1976 and 1991. This dramatic decline can be attributed to the move from leaded to unleaded gasoline (USEPA 2018).

Similarly, lead emissions and ambient lead concentrations have decreased dramatically in California over the past 25 years. The phase-out of lead in gasoline began during the 1970s, and subsequent CARB regulations have eliminated virtually all lead from gasoline now sold in California. All areas of the state currently are designated as attainment for state lead standard (EPA does not designate areas for the national lead standard). Although the ambient lead standards are no longer violated, lead emissions from stationary sources still pose "hot spot" problems in some areas. Therefore, CARB has identified lead as a Toxic Air Contaminant (TAC).

3.14.2.5 Toxic Air Contaminants

TACs are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer or serious illness) and include, but are not limited to, the criteria air pollutants listed in **Table 3.14-1**. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter near a freeway).

According to the CARB, diesel exhaust is a complex mixture of gases, vapors, and fine particles. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the state's Proposition 65 or under the federal Hazardous Air Pollutants programs. California has adopted a comprehensive diesel risk reduction program, and recently adopted new regulations requiring the retrofit and/or replacement of construction equipment, on-highway diesel trucks, and diesel buses in order to lower $PM_{2.5}$ emissions and reduce statewide cancer risk from diesel exhaust (see Section 3.2.3 below).

3.14.3 Regulatory Framework

The federal Clean Air Act of 1977 (CAA) governs air quality in the United States. In addition to being subject to federal requirements, air quality in California is also governed by more stringent regulations under the California Clean Air Act.

Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, state, and federal level. The identification, regulation, and monitoring of TACs is relatively new compared to that for criteria air pollutants that have established ambient air quality standards. Specifically, TACs are regulated or evaluated on the basis of risk to human health rather than comparison to an ambient air quality standard or emission-based threshold.

3.14.3.1 Federal

The EPA is responsible for enforcing the federal CAA and for establishing the National Ambient Air Quality Standards (NAAQS). The NAAQS are required under the CAA and subsequent amendments.

3.14.3.2 State

In California, the CARB, which is part of the California Environmental Protection Agency, is responsible for meeting the state requirements of the federal CAA, administering the California Clean Air Act, and establishing the California Ambient Air Quality Standards (CAAQS). The California Clean Air Act, as amended in 1992, requires all air districts in the state to endeavor to achieve and maintain the CAAQS. The CARB regulates mobile air pollution sources, such as motor vehicles. It is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. CARB oversees the functions of local air pollution control districts and air quality management districts, which in turn administer air quality activities at the regional and county level.

3.14.3.2.1 California Coastal Act

No policies from the California Coastal Act are relevant to maintenance of existing water utilities.

3.14.3.3 Local

The study area is subject to and regulated by the NCUAQMD, occurs within Humboldt County's jurisdiction, and specifically within the appeal jurisdiction of the Coastal Zone which is regulated by the Humboldt Bay Area Plan Local Coastal Program (HBAP LCP). The Humboldt County General Plan was not certified in the Coastal Zone and therefore General Plan goals and policies are not binding, and are not included in this section.

3.14.3.3.1 North Coast Unified Air Quality Management District

The NCUAQMD, one of 35 air districts in California, has jurisdiction over Humboldt, Del Norte, and Trinity counties. The NCUAQMD's primary responsibility is for controlling air pollution from stationary sources and maintaining healthful air quality throughout the tri-county jurisdiction. The NCUAQMD has permit authority over most types of stationary emission sources and can require stationary sources to obtain permits, impose emission limits, set fuel or material specifications, or establish operational limits to reduce air emissions. The NCUAQMD monitors air quality; enforces local, state and federal air quality regulations for counties within its jurisdiction; inventories and assesses the health risks of TACs; and adopts rules that limit pollution.

Humboldt County is listed as "attainment" or "unclassified" for all the federal and state ambient air quality standards except for the state 24-hour particulate (PM_{10}) standard (**Table 3.14-1**). The NCUAQMD has not formally adopted significance thresholds that would apply to the proposed Project. For construction emissions (e.g., emissions from heavy equipment), the NCUAQMD has indicated that emissions are not considered regionally significant for projects whose construction would be of relatively short duration (i.e., lasting less than one year). For project construction that lasts more than one year or that involves above average construction intensity in volume of equipment or area disturbed, construction emissions may be compared to stationary source thresholds (NCUAQMD 2015). The Project involves consistent use of heavy equipment at short durations.

Construction activities are subject to Rule 104 (Prohibitions) Section D (Fugitive Dust Emission), which requires reasonable precautions be taken to prevent PM from becoming airborne. These precautions include but are not limited to: 1) covering open bodied trucks when used for transporting materials likely to give rise to airborne dust; and 2) the use of water during the grading of roads or the clearing of land.

Prescribed burning activities are also subject to Regulation II – Open Burning and require a Non-Standard Burn Permit. Depending on the type of burn project, the NCUAQMD may also require a Smoke Management Plan. Burn day status (i.e., days when prescribed burning is allowed) are determined by the CARB on a daily basis. Inversion layer and wind direction are included among the factors used in determining burn day status.

Finally, Rule 110 - New Source Review (NSR) And Prevention of Significant Deterioration establishes the pre-construction review requirements for new and modified stationary sources of air pollution. This Project does not include any new stationary sources; therefore, Rule 110 would not apply.

3.14.3.3.2 Humboldt Bay Area Plan (HBAP) – Local Coastal Program

There are no applicable policies in the HBAP that address air quality from utility maintenance and upgrade projects.

3.14.4 Evaluation Criteria and Significance Thresholds

Evaluation Criteria	Significance Thresholds	Sources
Would the Project conflict with or obstruct implementation of the applicable air quality plan?	Compliance with NCUAQMD Rule 104 – Prohibitions, Subsection D (Fugitive Dust Emissions)	CEQA Guidelines Appendix G, Checklist Item III (a) NCUAQMD Rules and Regulations
Would the Project result in a cumulatively considerable net increase in any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?	Stationary source significance thresholds, which are: NOx – 40 tons per year ROG – 40 tons per year PM10 – 15 tons per year CO – 100 tons per year (further described below)	CEQA Guidelines Appendix G, Checklist Items III (b) NCUAQMD Rule and Regulations, Rule 110 - New Source Review (NSR) & Prevention of Significant Deterioration (PSD), Section E.1 – BACT NCUAQMD Planning & CEQA: (NCUAQMD 2025)
Would the Project expose sensitive receptors to substantial pollutant concentrations?	Increased cancer risk of greater than 10.0 in a million Increased non-cancer risk of greater than 1.0 Hazard Index (Chronic or Acute)	CEQA Guidelines Appendix G, Checklist Item III (c) Air Resource Board's Air Toxic Control Measures (ATCMs)
Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Creation of a new substantial odor or dust source near existing sensitive receptors. The ability for dust to leave the site.	CEQA Guidelines Appendix G, Checklist Item III (d) Personal communication with NCUAQMD (NCUAQMD 2015)

The NCUAQMD does not have established CEQA significance criteria to determine the significance of impacts that would result from utility maintenance projects such as the proposed Project; however, the NCUAQMD does have criteria pollutant significance thresholds for new or modified stationary source projects proposed within the NCUAQMD's jurisdiction. NCUAQMD has indicated that it is appropriate for lead agencies to compare proposed project-related emissions to its stationary source Best Available Control Technology (BACT) applicability thresholds, which are:

– NOx – 40 tons per year
– ROG – 40 tons per year
– PM10 – 15 tons per year
– CO – 100 tons per year.

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

3.14.5 Methodology

The California Emissions Estimator Model (CalEEMod) version 2022.1.1.29 was used to estimate air pollutant emissions from implementation of all Project components in one single year as an assumed worst-case, or 'maximum' activity scenario (**Appendix D**). Details regarding the source types and models used, equipment inventory, assumptions, and all data used to calculate air emissions are presented in **Appendix D – Air Quality/GHG Calculations**.

As detailed in **Appendix D** and stated above, the emissions calculation assumes that the multiple Project activities would occur within the same year. This represents a conservative 'worst-case' activity scenario for the purposes of air quality emissions calculations and assessment. Project-related fugitive dust emissions are assessed qualitatively.

Criteria pollutant emissions from the proposed prescribed burning of European beachgrass and other invasive species were estimated using the EPA's AP42 emission factors (13.1 Wildfires & Prescribed Burning) and estimated fuel loading from the Pacific Northwest U.S. Department of Agriculture's (USDA) Digital Photo Series for California Grasslands (USDA 2019). The rate of prescribed burning is conservatively estimated to be over 75 acres (total) of beach grass or other invasive species to occur up to five times in the 75-acre area. It is likely that prescribed burning would occur over less acreage.

3.14.6 Impacts and Mitigation Measures

Impact AQ-a: Would the Project conflict with or obstruct implementation of the applicable air quality plan? (Less than Significant Impact)

This impact relates to consistency with an adopted attainment plan. Within the study area, the NCUAQMD is responsible for monitoring and enforcing local, state, and federal air quality standards. As summarized in **Table 3.14-1**, Humboldt County is designated 'attainment' for all NAAQS. With regard to the CAAQS, Humboldt County is designated attainment for all pollutants except PM10 (where it is designated as "non-attainment"; see **Table 3.14-1**). Therefore, any use or activity that generates airborne PM, including excavation-related dust, may be of concern to the NCUAQMD. Excavation is proposed during electrical line and pole installation, and potentially during movement of sand. As noted above, Rule 104, Section D – Fugitive Dust Emissions is used by the NCUAQMD to address non-attainment for PM10. Pursuant to Rule 104 Section D, reasonable precautions must be taken when handling, transporting or storing materials to prevent PM from becoming airborne.

Vehicle trips to and from the Project Area and sand/earth-moving activities that would occur during Project construction has the potential to generate fugitive dust (PM10). The amount of dust generated at any given time would be highly variable and dependent on the size of the area disturbed, amount of activity, substrate (i.e. sand or soil) conditions, meteorological conditions, and number of vehicle trips.

As described in Environmental Protection Action 1 (see **Section 2.8.1**), a SWPPP is anticipated to be prepared prior to ground disturbing activities to ensure compliance under the required Construction General Permit administered by the North Coast Regional Water Quality Control Board. The SWPPP would include dust control measures, as a matter of standard protocol. Dust control measures in the SWPPP would reduce potential fugitive dust emission and particulate matter impacts, providing consistency with Quality Regulation 1, Rule 104 (D), Fugitive Dust Emissions. Dust control measures in the SWPPP are expected to specifically include requirements that the District and its contractor(s):

– Water all active ground disturbance areas regularly to limit dust and control erosion.
– Off-haul is only anticipated to occur during potential pipe replacement along New Navy Base Road. No other off-haul is proposed. If off-haul occurs, trucks hauling sand, and other loose material would be required to be covered under the SWPPP.

Mitigation activities may include excavation of European beachgrass, and potential excavation to create wetlands, both of which would occur with heavy equipment. Prescribed burning, another method planned to be implemented to reduce European beachgrass, would cause a temporary increase in the amount of airborne PM during the period the fire is burning. Prescribed burns are anticipated to be utilized up to five times (total) as a means of long-term land management and would occur once a year, not necessarily in consecutive years. Due to the limited handling, transport or open storage of materials, and prescribed burns in which PM may become airborne, mitigation activities are not expected to conflict with NCUAQMD's Rule 104 Section D.

For these reasons, the Project would not conflict with or obstruct air quality policies and regulations. A less than significant impact would occur.

Mitigation Measures: No mitigation is necessary.

Level of Significance: Less than significant

Impact AQ-b: Would the Project result in a cumulatively considerable net increase in any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard? (Less than Significant Impact)

This impact is related to regional criteria pollutant impacts. Humboldt County is designated nonattainment for the State's PM_{10} standard but is designated attainment for all other state and federal standards.

For construction emissions, which involves the operation of heavy equipment, the NCUAQMD has indicated that emissions are not considered regionally significant for projects whose construction would be relatively short in duration, lasting less than one year. For Project construction lasting more than one year or that involves above average construction intensity in volume of equipment or area disturbed, construction emissions may be compared to the stationary source thresholds (NCUAQMD 2024). Heavy equipment would be operating during the installation of the 2,400 feet of electrical line and power pole, which is anticipated to take one construction season, and annually throughout the lifespan of the Project for vegetation maintenance and grading, with intermittent use of heavy equipment during movement of sand (see **Table 2.2-1**).

The NCUAQMD does not have established CEQA significance criteria to determine the significance of impacts that would result from utility maintenance projects such as the proposed Project. However, the NCUAQMD does have criteria pollutant significance thresholds for new or modified stationary source projects proposed within the NCUAQMD's jurisdiction. NCUAQMD has indicated that it is appropriate for lead agencies to compare proposed emissions for projects that last more than one year to its stationary source significance thresholds (NCUAQMD 2024), which are:

– Nitrogen oxides – 40 tons per year
– Reactive organic gases – 40 tons per year
– PM10 – 15 tons per year
– Carbon monoxide – 100 tons per year

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

CalEEMod version 2022.1.1.29 was used to estimate air pollutant emissions from Project equipment. Project activities are considered long-term; however, as described in **Section 3.2.5**, Methodology, a "worst-case" scenario which assumes use of heavy equipment for all Project components, including mitigation activities (i.e. excavation and burying of invasive species), would all occur within one year. However, all Project components would not occur in one year, and this modeling scenario was used for impact analysis. As described above, EPA AP-42 emission factors were used to estimate PM10 emissions from prescribed burning of European beachgrass.

Table 3.14-2 summarizes heavy equipment emissions for the first year of Project implementation, which represents the maximum Project activity. As shown in **Table 3.14-2,** the Project's maximum annual emissions would not exceed

the NCUAQMD's stationary sources annual emission thresholds. Therefore, the Project's emissions (initial implementation and ongoing maintenance) would have a less than significant impact.

Table 3.14-2 Project Regional Pollutant Emissions (Maximum Scenario)

Project Activity	Emissions (tons per year)			
	ROG	NO_x	CO	PM_{10}
Vegetation Clearing & Maintenance	0.03	0.21	0.37	0.01
Movement of Sand from Sand Borrow Area	0.03	0.23	0.36	0.03
Grading Northerly Access Road	0.00	0.01	0.01	0.00
Annual Inspection Activity	0.00	0.00	0.00	0.45
Overflow Pipe Area Maintenance	0.01	0.05	0.08	0.01
Electrical Line and Pole Installation	0.06	0.37	0.55	0.02
Mechanical Removal of Invasive Species	0.01	0.05	0.07	0.00
Vegetation Burning	--	0.24	0.23	0.14
Total Maximum Project Emissions*	**0.13**	**1.17**	**1.68**	**0.67**
NCUAQMD Stationary Source Thresholds	40	40	100	15
Significant Impact?	*No*	*No*	*No*	*No*

Notes:
* Total Project Emissions calculated from non-rounded emissions output.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than significant

Impact AQ-c: Would the Project expose sensitive receptors to substantial pollutant concentrations? (Less than Significant Impact)

As discussed above, sensitive receptors include school-aged children (schools, daycare, playgrounds), the elderly (retirement community, nursing homes), and the infirm (medical facilities/offices). Sensitive receptors within the study area may occupy residences, and the Redwood Coast Montessori School located 630 and 1,150 feet away from the Project Area, respectively.

Implementation Activities

Idling times for trucks and equipment would be limited to five minutes, as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR], which also ensures construction equipment is maintained in accordance with manufacturer's specifications.

Ground disturbing equipment would be operated at an anticipated distance of between approximately 1,430 and 1,750 feet, at its closest locations, between sand moving activities at the Friends of the Dunes pipe covering area and within the sand borrow area and the closest sensitive receptor, and 3,950 feet from electrical line and pole installation from the closest sensitive receptor. Ground disturbing activities would occur intermittently on an as-needed basis, and over one season for electrical line installation and would not include intensive or prolonged use of equipment in any one location for longer than a few months.

Due to the distance from ground disturbing activities, and implementation of Environmental Protection Action 1 to control fugitive dust, the Project would not result in the exposure of sensitive receptors to substantial pollutant concentrations. Therefore, the ground disturbance-related impact would be less than significant.

Anticipated mitigation measures may include prescribed burning as a treatment method for managing invasive plants. Prescribed burns are subject to NCUAQMD Regulation II (Open Burning) and permitting requirements. Regulation II and permitting requirements minimize the potential impact of prescribed burning on sensitive receptors. Additionally, the Project would be required to develop and implement Burn Plans coordinated with the California Department of Forestry and Fire Protection (CAL FIRE). Therefore, prescribed burning activities proposed under the Project as mitigation would not expose nearby sensitive receptors to substantial levels of pollutants. This potential impact would be less than significant.

Ongoing Vegetation Maintenance

Ongoing maintenance activities would be less impactful than the initial implementation activities because they would occur for less time and would not include ground disturbing activities. For these reasons, this potential impact would be less than significant.

Mitigation Measures: No mitigation is necessary.

Level of Significance: Less than significant

Impact AQ-d: Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? (Less than Significant Impact)

As noted above, the closest residence is approximately 630 feet away from the Project Area boundary. Project activities would be dispersed throughout the entire Project Area and would not be concentrated adjacent to the residential neighborhood.

The Project would create limited exhaust fumes from the operation of gas and diesel powered equipment during Project activities. The likelihood of these odors and emissions reaching nearby receptors is influenced by atmospheric conditions, specifically wind direction. Should the wind blow odors and emissions toward the adjacent neighborhoods, the potential impact would be short-term and temporary, and limited to the length of Project activities on a given day. Due to the distance between residences and the majority of the Project Area, variable atmospheric conditions, the relative short-term nature of Project activities, and the small number of people residing adjacent to the Project Area, emissions or odors caused by implementation of the Project would not adversely affect a substantial amount of people. Mitigation activities involving prescribed burning are anticipated to occur predominantly within Mitigation Area-5 which does not contain sensitive receptors. Additionally, as stated above, prescribed burning must follow Regulation II, which reduces the activity's potential impact on adjacent land uses. Therefore, a less than significant impact would occur.

Mitigation Measures: No mitigation is necessary.

Level of Significance: Less than significant

3.14.7 Cumulative Impacts

Impact AQ-C-1: Would the Project contribute to a cumulatively significant impact to Air Quality? (Less than Significant Impact)

By their nature, air pollution, greenhouse gas emissions and energy usage are largely cumulative impacts. As stated above, the Project would not conflict with or obstruct applicable air quality plans or exceed BAAQMD thresholds of significance for criteria air pollutants. A project that would not exceed the BAAQMD thresholds of significance on a project level also would not be considered to result in a cumulatively considerable contribution to these regional air quality impacts. This impact would be cumulatively less than significant.

Mitigation Measures: No mitigation is necessary.

Level of Significance: Less than significant

3.14.8 References

Bay Area Air Quality Management District (BAAQMD). 2017. *California Environmental Quality Act Air Quality Guidelines.*

California Air Resources Board (CARB). 2025*. Ambient Air Quality Standards*. Updated 7/16/24. Available at: https://ww2.arb.ca.gov/resources/california-ambient-air-quality-standards. Accessed on August 6, 2025.

Humboldt County. 2014. *Humboldt Bay Area Plan, of the Humboldt County Local Coastal Program*. December. Available at: https://humboldtgov.org/DocumentCenter/View/50844/Humboldt-Bay-Area-Local-Coastal-Plan

North Coast Unified Air Quality Management District (NCUAQMD). 2025. *Planning & CEQA*. Available at: **https://www.ncuaqmd.org/planning-ceqa. Accessed August 6**, 2025.

North Coast Unified Air Quality Management District (NCUAQMD). 2015. Personal Communication: Jason Davis, Permitting & Planning Manager. April 17.

Public Resources Code Division 20. 2021. *California Coastal Act*. Available at: https://www.coastal.ca.gov/coastact.pdf

3.15 Biological Resources

This section evaluates potential Project impacts to biological resources. The Setting section describes existing biological conditions within the project footprint and the Regulatory Framework section describes applicable regulations. The Impact Analysis establishes significance thresholds, evaluates potential impacts, and identifies mitigation measures necessary to reduce impacts to less-than-significant.

A Biological Resources Report (BRR) and Aquatic Resources Delineation (ARD) were completed for the Project and the information within these documents informed this EIR (GHD 2025a and GHD 2025b). At the time that the BRR and ARD were prepared, the proposed Project included replacement of water pipeline segments. However, pipeline replacement is no longer being contemplated. Hence, the currently proposed Project footprint and activities (project components) are substantially reduced, leading to less impact than the area evaluated in the original BRR and ADR.

3.15.1 Study Area

The study area encompasses the following distinct project components:

– Access road grading (1.83 acres)
– Sand borrow area (2.36 acres)
– Electric line installation (0.57 acres)
– Vegetation maintenance (2.42 acres)
– Overflow pipe maintenance (0.19 acres)
– Total of all Project components (7.37 acres)

Figures 2-3 to 2-5 (Appendix A) show the spatial extent of each proposed Project component, and **Figure 3.3-1 (Appendix A)** shows the 500-foot buffered Biological Study Area (BSA), which accounts for the extent of area analyzed for special status wildlife species.

3.15.2 Setting

Overview of Existing Habitat Conditions

The Project spans an approximately 7-mile narrow stretch of dunes along the Samoa Peninsula intersecting with ecologically diverse habitats including coastal dune forest, dune mat vegetation, seasonally saturated areas (1-

parameter and 3-parameter wetlands), and both native and non-native vegetation. Biological resource surveys were conducted from 2022 through 2026 following CA Department of Fish and Wildlife (CDFW) protocols (CNRA and CDFW 2018), with in-depth results documented in the BRR and ARD (GHD 2025a and GHD 2025b).

The northern portion of the Project Area is characterized by mature, forested dunes and dynamic mobile sand dunes on Bureau of Land Management (BLM) property (Ma-le'l Dunes Area of Critical Environmental Concern (ACEC)). These shifting dunes are comprised of native dune mat habitat and vegetated patches dominated by Brewer's rush (*Juncus breweri)* growing along with other native species. South of Lupin Drive the Project Area is characterized by dense forested dune habitat consisting of Hooker's willow (*Salix hookeriana*), Pacific wax myrtle (*Myrica californica*), and shore pine (*Pinus contorta*), classified as coastal wetland. The central Project Area transitions to a mosaic of dune mat and scattered wetlands. The New Navy Base Road to Bay Street portion of the Project is dominated by non-native invasive species, primarily European beachgrass (*Ammophila arenaria*) and iceplant (*Carpobrotus edulis*), with scattered coastal wetlands and willow thickets near Bay Street.

The Fairhaven portion of the Project Area supports a mosaic of coastal wetland and disturbed upland habitats reflecting past land use and ongoing human influence. Coastal Willow Thicket, a Sensitive Natural Community dominated by Hooker's willow (*Salix hookeriana*), occurs within this area and meets all three wetland parameters—hydrophytic vegetation, hydric soils, and wetland hydrology—qualifying it as a 3-parameter wetland. The surrounding uplands and riparian corridors support a variety of non-native and semi-natural vegetation alliances, including common velvet grass (*Holcus lanatus*)–sweet vernal grass (*Anthoxanthum odoratum*) meadows naturalized in disturbed mesic settings, and Himalayan blackberry (*Rubus armeniacus*)–dominated riparian scrub. Small stands of ornamentally planted Monterey pine (*Pinus radiata*) woodland also occur, representing landscape plantings well outside the natural range of these species. Together, these communities form a mosaic of coastal wetland and disturbed habitats characteristic of the semi-developed landscape.

Sensitive Natural Communities

Four upland Sensitive Natural Communities (SNCs) were identified to plant alliance level in the Project Area following the classification system established in A Manual of California Vegetation (Sawyer et al. 2009):

– Dune Mat (0.690 acres)
– Seaside Woolly Sunflower – Seaside Daisy – Buckwheat Patches (0.939 acres)
– Shore Pine Forest and Woodland (0.003 acres)
– Coastal Willow Thickets (0.019 acres)
– Brambles (0.036 acres)

Two additional SNCs (wax myrtle scrub, and slough sedge swards) occur as one-parameter wetlands and one additional SNC (coastal willow thicket) occurs as three-parameter wetland, so these areas are therefore addressed under the aquatic resources section. SNCs are classified according to A Manual of California Vegetation (Sawyer et al. 2009) and are considered during CEQA review per California Department of Fish and Wildlife guidance (CDFW 2020). See Appendix A, **Figure 3.3-2** for an overview map and **Figures 3.3-2.1 through 3.3-2.34** for zoomed in map locations.

Special-Status Plant Species

Floristic surveys following CDFW protocols (CNRA and CDFW 2018) were completed by GHD Senior Botanists and confirmed the presence of four special-status plant species that were primarily growing within the Dune Mat vegetation alliance within the Project Area:

– Beach layia (*Layia carnosa*) – Federally Endangered Species Act (ESA) Threatened, State ESA Endangered, California Rare Plant Rank (CRPR) 1B.1 [~4,874 plants, across ~22.5k ft^2]
– Menzies' wallflower (*Erysimum menziesii*) – Federal and State ESA Endangered, CRPR 1B.1, [11 plants, across ~110 ft^2]
– Dark-eyed gilia (*Gilia millefoliata*) – CRPR 1B.2 [~260 plants, across ~1255 ft^2]

– American glehnia (*Glehnia littoralis ssp. leiocarpa*) – CRPR 4.2 [8 plants, across 20 ft^2]

Four additional species were determined to have high potential to occur but were not located within the Project Area: pink sand-verbena (*Abronia umbellata* var. *breviflora*, CRPR 1B.1), sea-watch (*Angelica lucida*, CRPR 4.2), short-leaved evax (*Hesperevax sparsiflora* var. *brevifolia*, CRPR 1B.2) and twisted horsehair lichen (*Sulcaria spiralifera*, CRPR 1B.2).

A table showing all species with potential to occur in the Project Area is included in the BRR in Appendix C along with more in-depth species information for special status plants. The two ESA listed species, beach layia and Menzies' wallflower, are threatened by invasive species encroachment which can stabilize the movement of sand that the species rely on for open habitat. Increased competition and shade from invasive plant species is also impacting some of the populations. See **Appendix A, Figures 3.3-2** for an overview map and **Figures 3.3-2.1 through 3.3-2.34** for zoomed in map locations of all detected special status plant species in the Project.

Aquatic Resources

The Project Area contains one-parameter (1.062 acres) and three-parameter wetlands (0.336 acres) (see **Appendix A**, **Figures 3.3-3** for an overview map and **Figures 3.3-3.1 through 3.3-3.24** for zoomed in maps). All wetlands occur within the Coastal Zone under Humboldt County jurisdiction via the Humboldt Bay Area Plan (HBAP). Based on US Army Corps of Engineers (USACE) consultation (Ryan 2025), three-parameter wetlands lack continuous surface connection to receiving waters and are not jurisdictional Waters of the U.S. under Sackett v. EPA. However, all three-parameter wetlands meet the definition of Waters of the State and are under North Coast Regional Water Quality Control Board (NCRWQCB) jurisdiction. One-parameter wetlands (coastal wetlands) are regulated by Humboldt County under the HBAP.

Wildlife and Avian Resources

Reconnaissance-level wildlife surveys were conducted in 2022, 2023, and 2024 following standard wildlife survey protocols (CDFW 2020). Based on California Natural Diversity Database occurrence records (CDFW 2025), habitat availability, and field observations, 19 special-status wildlife species have moderate to high potential to occur in the Project Area or were detected during surveys. These include 11 avian species (notably northern harrier and white-tailed kite, both observed), five bat species, one amphibian (northern red-legged frog), obscure bumble bee and western bumble bee, a California ESA candidate species (CDFW 2025).

The northern Project Area provides the highest quality wildlife habitat due to mature trees, forested wetlands, and proximity to water sources. The Project Area lies within the Pacific Flyway, and Humboldt Bay (approximately 0.5 miles from the Project) has been designated a Site of Hemispheric Importance by the Western Hemisphere Shorebird Reserve Network, supporting over 500,000 shorebirds during peak spring migration (Colwell and Feucht 2018). No federally-listed wildlife species are expected to occur in the Project Area based on habitat evaluations and USFWS species lists (USFWS 2025). See the BRR (GHD 2025a) for a table showing all species with potential to occur in the Project Area and more in-depth information about wildlife species.

Essential Fish Habitat

The Mad-Redwood watershed (Hydrologic Unit Code 18010102) is designated Essential Fish Habitat (EFH) for Coho Salmon (*Oncorhynchus kisutch*) and Chinook Salmon (*Oncorhynchus tshawytscha*) by the National Marine Fisheries Service (NMFS 2014). However, the Project Area does not contain current or historically occupied salmonid habitat. Aquatic habitat within the Project Area consists of wetlands with seasonal standing water that lack hydrological connection to salmonid-bearing waterways and therefore does not constitute EFH as defined under the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801 et seq.).

3.15.3 Regulatory Framework

Following are the federal, state and local regulations pertinent to the Project.

Federal Regulations

Endangered Species Act of 1973, as amended (ESA) (16 U.S.C. § 1531 et seq.; 50 C.F.R. Parts 17, 222, and 402), administered by the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS)

Migratory Bird Treaty Act (MBTA) (16 U.S.C. §§ 703-712), which protects migratory birds, their nests, and eggs

Clean Water Act Section 404 (33 U.S.C. § 1344), regulating discharge of dredged or fill material into waters of the United States; not applicable to wetlands in the Project Area based on Sackett v. EPA, 598 U.S. 651 (2023) jurisdictional determination

State Regulations

California Endangered Species Act (CESA) (Fish and Game Code § 2050 et seq.; 14 C.C.R. § 783), administered by the California Department of Fish and Wildlife (CDFW)

Porter-Cologne Water Quality Control Act (Water Code § 13000 et seq.), regulating discharge to Waters of the State, administered by the State Water Resources Control Board and Regional Water Quality Control Boards

California Environmental Quality Act (CEQA) Guidelines Section 15380, defining rare, threatened, and endangered species for CEQA purposes

Native Plant Protection Act (Fish and Game Code §§ 1900-1913), protecting rare and endangered plants

Local Regulations

Humboldt Bay Area Plan Local Coastal Program (HBAP) (Humboldt County 2017), administered by the County of Humboldt with California Coastal Commission oversight under the Coastal Act; regulates development in the Coastal Zone. The Project Area lies entirely within the Appeal Jurisdiction of the Coastal Zone as defined in 14 C.C.R. § 13577, meaning Coastal Development Permit decisions are made by the County of Humboldt but are appealable to the California Coastal Commission.

3.15.4 Evaluation Criteria and Significance Thresholds

This section analyzes potential impacts from the proposed Project components. Project components include; annual grading of the northern 1.25 miles of the access road; one-time installation of approximately 2,400 feet of buried electrical conduit and wire at the southern portion of the project; vegetation maintenance along the access road; redistribution of sand to cover exposed portions of the pipeline; and maintenance of the overflow pipe on the beach. Spatial habitat impacts and mitigation ratios from all proposed actions are presented in **Table 3.15-1**.

Impacts from the annual inspections are considered discountable because the action involves driving a pickup truck along an existing access road that has been in continuous use for decades as part of HBMWD's routine infrastructure operations. Vehicle passage along this established corridor introduces no new disturbance footprint, does not result in vegetation removal or habitat conversion beyond baseline conditions, and is consistent with the ongoing use regime under which the road corridor's current ecological conditions have developed.

Compensatory Mitigation Structure

Compensatory mitigation is structured using a component-specific approach that scales mitigation type and ratio to the severity of impact and the functional level of the habitat. For low-intensity, recoverable impacts such as vegetation maintenance (mowing, trimming, and hand-clearing), mitigation takes the form of habitat enhancement—specifically, removal of invasive species including European beach grass, ice plant and other species at ratios of 1:1 to 1.5:1, reflecting the temporary nature of the disturbance. For higher-intensity impacts such as road grading, sand movement and electric line installation, which involves ground disturbance, soil compaction, and longer vegetation recovery times, proposed mitigation is active restoration—including native species planting and topographic preparation—at higher ratios (2:1 to 3:1) commensurate with the greater ecological impact. This tiered framework ensures that mitigation obligations are proportional to actual impact severity, consistent with CDFW and California Coastal

Commission (CCC) guidance distinguishing temporary maintenance disturbance from more substantive habitat alteration.

Mitigation for impacts to special-status plant species is addressed through a combination of species-specific compensatory mitigation, habitat-level mitigation, and seasonal avoidance. Menzies' wallflower, a federally and state-listed endangered species that the Project will have a small impact to (5 individuals across approximately 50 square feet affected by sand movement and road grading), is proposed for species-specific compensatory mitigation at a 4:1 ratio, reflecting the scarcity and conservation significance of the local population. Dark-eyed gilia impacts resulting from the buried electrical line installation are proposed for direct compensation at a 3:1 ratio at the installation site, which will be restored to pre-project conditions upon completion; gilia impacts from other project activities are addressed through habitat-level mitigation for the Dune Mat and Seaside Woolly Sunflower–Seaside Daisy–Buckwheat Patches alliances in which this species occurs. Beach layia is addressed primarily through a seasonal work restriction avoiding the germination and blooming period (February 1 through July 14), supplemented by seedbank protection measures during sand movement operations, with habitat-level impacts mitigated through dune mat creation. American glehnia impacts will be similarly mitigated through habitat-level mitigation proposed for the native dune alliances in which it occurs.

The SNC/ESHA mitigation approach overlaps with special-status plant mitigation because several special-status taxa occur within, and are functionally supported by, these sensitive plant communities. Mitigation ratios are scaled to the impact mechanism (e.g., grading vs. maintenance) and the relative sensitivity and recovery potential of each community. For road grading, dune mat, shore pine, and coastal willow thickets are treated as the most sensitive communities; grading impacts to these types will therefore be mitigated at a 3:1 ratio. Seaside woolly sunflower–seaside daisy–buckwheat patch communities are more broadly distributed within the Project Area and generally provide lower-quality habitat for special-status plants; grading impacts to this type will be mitigated at 2:1. Brambles occur sparsely within the electrical line installation footprint and will be mitigated through 1:1 on-site restoration, with post-construction recontouring (as needed), invasive species control, and replanting to return the disturbed area to preconstruction conditions. For vegetation maintenance, temporary impacts will be mitigated through enhancement (invasive species removal) at 1:1 for dune mat and seaside woolly sunflower–seaside daisy–buckwheat patch communities, and at 1.5:1 for coastal willow thickets to account for greater structural habitat value and longer recovery time of willow-dominated shrub communities relative to low-stature, mat-forming dune vegetation.

Compensatory mitigation for wetland impacts is proposed at tiered ratios corresponding to the severity of impact and the functional value of the wetland type affected. For 1-parameter wetlands (hydrophytic vegetation only), which are dominated by willows, wax myrtle, and *Juncus* species in interdunal swales along the access corridor, vegetation maintenance impacts will be mitigated through habitat enhancement (removal of invasive species) at a ratio of 1:1, reflecting the temporary, recoverable nature of the disturbance. Road grading impacts to 1-parameter wetlands, which involve greater ground disturbance and longer recovery times, are proposed for off-site restoration at a 2:1 ratio, consisting of invasive species removal coupled with active native planting of hydrophytic species characteristic of the impacted communities. Electrical line installation impacts to 1-parameter wetlands will be mitigated at 1:1, as the installation area will be backfilled and restored to pre-project conditions upon completion, representing a temporary and fully reversible disturbance.

For 3-parameter wetlands (meeting hydrophytic vegetation, hydric soil, and wetland hydrology criteria), compensatory mitigation ratios will be scaled to the nature and duration of each project component's impact. Road grading impacts, which result in permanent conversion, will be mitigated off-site at a 3:1 ratio. Vegetation maintenance impacts will be mitigated at a 1.5:1 ratio to reflect the recurring nature of the disturbance and the partial loss of wetland function without permanent conversion of the underlying soil or hydrology. Electrical line installation impacts will be mitigated at 1:1 given the temporary nature of the disturbance and full site restoration following construction. Specific restoration actions for each impact category will be detailed in a Wetland Mitigation and Monitoring Plan developed in coordination with the reviewing regulatory agencies. All proposed wetland mitigation ratios are subject to agency concurrence and are consistent with the Humboldt Bay Area Plan's practice of determining ratios on a project-specific basis.

Table 3.15-1: Habitat impacts and mitigation ratios.

HBMWD Samoa Peninsula Waterline ROW Maintenance Project *Habitat Mitigation Ratios (Mitigation:Impact) and Mitigation Acreages by Habitat Type and Project Component*							
Habitat / Vegetation Type	**Mitigation**	**Vegetation Maintenance**	**Inspection**	**Sand Movement**	**N. Road Grading**	**Overflow Pipe**	**Electrical Line Installation**
1-Parameter Wetland	*Mitigation Ratio*	1.0:1.0 (E)	*No Mit.*	*No Mit.*	2.0:1.0 (R)	*No Mit.*	1.0:1.0 (R)
	Mitigation/Impact (ac)	0.830/0.830	—	—	0.088/0.044	—	0.188/0.188
3-Parameter Wetland	*Mitigation Ratio*	1.5:1.0 (E)	*No Mit.*	*No Mit.*	3.0:1.0 (R)	*No Mit.*	1.0:1.0 (R)
	Mitigation/Impact (ac)	0.486/0.324	—	—	0.021/0.007	—	0.005/0.005
Dune Mat Alliance	*Mitigation Ratio*	1.0:1.0 (E)	*No Mit.*	*No Mit.*	3.0:1.0 (R)	*No Mit.*	*No Mit.*
	Mitigation/Impact (ac)	0.060/0.060	—	—	0.810/0.270	—	—
Shore Pine Alliance	*Mitigation Ratio*	*No Mit.*	*No Mit.*	*No Mit.*	3.0:1.0 (R)	*No Mit.*	*No Mit.*
	Mitigation/Impact (ac)	—	—	—	0.009/0.003	—	—
Coastal Willow Thickets	*Mitigation Ratio*	1.5:1.0 (E)	*No Mit.*	*No Mit.*	3.0:1.0 (R)	*No Mit.*	*No Mit.*
	Mitigation/Impact (ac)	0.014/.009	—	—	0.030/0.010	—	—
Brambles	*Mitigation Ratio*	*No Mit.*	*No Mit.*	*No Mit.*	*No Mit.*	*No Mit.*	1.0:1.0 (R)
	Mitigation/Impact (ac)	—	—	—	—	—	0.020/0.020
Seaside Woolly Sunflower – Seaside Daisy – Buckwheat Patches	*Mitigation Ratio*	1.0:1.0 (E)	*No Mit.*	1.5:1 (R)	2.0:1.0 (R)	*No Mit.*	*No Mit.*
	Mitigation/Impact (ac)	0.168/0.168	—	0.116/.077	0.746/0.373	—	—
E=Enhancement R=Restoration							

3.15.5 Impacts and Mitigation Measures

Impact BIO-a: **Would implementation of the Project 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 CDFW, USFWS or NMFS? (Less than Significant with Mitigation)**

The proposed project would impact four confirmed special-status plant species documented within the Project Area: beach layia, Menzies' wallflower, dark-eyed gilia, and American glehnia. These species are present in dune mat and seaside woolly sunflower-seaside daisy-buckwheat patch vegetation alliances that will be directly affected by construction activities.

Additionally, the Project has potential to affect 11 special-status avian species utilizing the coastal dune and wetland habitat. Five special-status bat species may use on-site structures and vegetation for roosting. Two bumble bee species of conservation concern, Crotch bumble bee (*Bombus crotchii*) and western bumble bee (*Bombus*

occidentalis), were observed foraging on native flowering plants. Northern red-legged frog (*Rana aurora*) may utilize ephemeral wetland features and adjacent upland refugia.

Special-Status Plants

A total of 4,491 (~20,650 ft^2) individual special status plants were mapped within areas that could be impacted by Project Components. Approximately 218 special status plants (~140 ft^2) may be impacted by vegetation maintenance activities, 133 special status plants (~580 ft^2) impacted by sand borrowing for pipeline backfilling, 4,131 special status plants (~20k ft^2) impacted by annual grading and 9 special status plants (~200 ft^2) impacted by the electric line installation. Roughly 95% of the plants impacted are beach layia.

Project Component activities could adversely affect the known special status plant species within the Project impact area through direct mortality (trampling, crushing by equipment) or habitat modification (grading of the northern 1.25 miles of the access road). There is also potential to have a positive impact by moving sand and creating needed sand disturbance to help disperse seed for beach layia. Vegetation maintenance activities may result in inadvertently cutting or removing special status plants. Trenching that utilizes heavy machinery will impact special status plants growing within the electric installation line through temporary ground disturbance and trampling.

Beach layia is an annual herb that blooms March through July and occurs in open dune habitat with mobile sand. There were ~4,874 individuals mapped within the access road and sand borrow portions of the Project Area almost entirely within Dune Mat habitat. Impacts to beach layia from vegetation maintenance, sand borrow operations, and access road grading can be avoided through seasonal timing restrictions (conducting work after mid-July when seeds have dispersed). The species' documented tolerance of disturbance along the existing access road suggests that some Project activities may benefit this species by increasing sand mobility and reducing competition from invasive vegetation.

Menzies' wallflower is a monocarpic perennial that typically blooms once between years 3-8 before dying. Only 11 individual plants were mapped in the Project Area, 3 within the sand borrow area and 2 within the grading area will be impacted, another 6 plants occur along the access road but are not expected to be impacted. Unlike beach layia, this species cannot be protected through seasonal avoidance alone due to its perennial nature. Impacts to individuals from road grading and sand sourcing activities are unavoidable and will have compensatory mitigation.

Dark-eyed gilia (260 individuals observed) and **American glehnia** (8 individuals observed) occur predominantly within dune mat habitat and would be avoided through seasonal work windows with remaining impacts mitigated through habitat level compensatory mitigation.

Implementation of Mitigation Measures BIO-1 through BIO-4 outlined below would reduce impacts to special-status plants to less than significant by: (1) requiring seasonal work windows to avoid germination and blooming periods for annual species; (2) protecting the seed bank during sand borrow operations; (3) mitigate grading impacts by creating Dune Mat habitat through invasive species removal and native plant revegetation at a 3:1 ratio; and (4) augmentation of the Menzies' wallflower population by replacing removed individuals at a 4:1 ratio for a total of 20 plants.

Avian Species

Eleven special-status avian species have moderate to high potential to nest in the Project Area, including northern harrier and white-tailed kite (observed during surveys). Vegetation maintenance activities could disturb nesting birds if conducted during the nesting season (March 15 through August 15). Implementation of Mitigation Measure BIO-5 would reduce impacts to less than significant by requiring work outside the nesting season when feasible, or pre-construction nesting surveys and no-work buffers around active nests when nesting-season work is unavoidable.

Special-Status Bats

Five special-status bat species have moderate potential to roost in the northern Project Area where mature trees with sloughing bark, snags, and forested habitat provide suitable roosting habitat. Project activities involving removal of these features could disturb roosting bats. Implementation of Mitigation Measure BIO-6 would reduce impacts to less than significant by requiring seasonally appropriate timing for tree removal and pre-disturbance surveys.

Special-Status Invertebrates

Obscure bumble bee (high potential to occur) and western bumble bee (CESA candidate, moderate potential to occur) may nest underground in the Project Area. Ground disturbance during any excavation activities could disturb nesting colonies. Implementation of Mitigation Measure BIO-7 would reduce impacts to less than significant by requiring pre-disturbance surveys and no-work buffers if nests are detected.

Special-Status Amphibians

Northern red-legged frog has moderate potential to occur in wetlands with standing water in the northern and central Project Area. Project activities in wetlands could disturb breeding frogs or egg masses. Implementation of Mitigation Measure BIO-8 would reduce impacts to less than significant by requiring work outside the breeding season (November 1 through March 31) when feasible, or surveys and relocation when breeding-season work is unavoidable.

Mitigation Measures

Mitigation Measure BIO-1: Seasonal Avoidance to Protect Beach Layia and Annual Rare Plants

To avoid impacts to ESA/CESA-listed beach layia and CRPR 1B.1 listed black eyed gila plants, HBMWD shall conduct the following Project activities only between July 15 and February 1 to avoid germination and blooming periods: vegetation maintenance, sand movement from the sand borrow area, and access road grading.

Mitigation Measure BIO-2: Protect Beach Layia Seedbank in Sand Borrow Area

During sand borrow operations, HBMWD shall scrape and stockpile the upper 3-6 inches of sand (containing the seed bank) before excavating underlying sand for infrastructure burial. Following completion, stockpiled sand shall be spread over the disturbed area to restore natural contours and preserve the seed bank.

Mitigation Measure BIO-3: Offset Impacts to Special Status Plants through Dune Mat and Seaside Woolly Sunflower – Seaside Daisy – Buckwheat Patches Habitat Restoration

HBMWD shall mitigate impacts to special status plant species by enhancing and restoring the habitats these species depend on as follows:

Resource Impacted	Impact Mechanism	Mitigation Type	Mitigation Ratio
Dune Mat	Road Grading	Restoration	3:1
	Vegetation Maintenance	Enhancement	1:1
Seaside Woolly Sunflower – Seaside Daisy – Buckwheat Patches	Road Grading	Restoration	2:1
	Sand Movement	Restoration	1.5:1
	Vegetation Maintenance	Enhancement	1:1

Restoration will involve invasive species removal, recontouring and revegetation with native Dune Mat species. Enhancement will involve invasive species removal and only passive revegetation. Mitigation will occur within one of the identified restoration sites or similar habitat on the Samoa Peninsula (**Appendix A, Figure 2-7**). Invasive species to be removed include European beachgrass, ice plant, yellow bush lupine, and other CAL-IPC moderate/high-ranked species. Invasive species removal methods will include mechanical removal, manual removal, herbicide application, and/or prescribed burning.

Mitigation Measure BIO-4: Offset Impacts to Menzies' Wallflower

HBMWD shall mitigate impacts to Menzies' wallflower through active replanting of the species in dune mat habitat areas established under Mitigation Measure BIO-3. Mitigation ratios shall be 4:1 for impacts based on number of individual plants impacted. Seeds shall be collected from Ma-le'l Dunes in coordination with BLM and USFWS, propagated in a nursery, and planted in Mitigation Areas (**Appendix A, Figures 3.3-4 through**

3.3-4.4) or similar appropriate sites on the Samoa Peninsula. Monitoring shall occur for five years or until success criteria are met.

Mitigation Measure BIO-5: Protect Nesting Birds

Ground disturbance and vegetation clearing shall occur outside the nesting season (March 15 through August 15) when feasible. When nesting-season work is unavoidable, a qualified biologist shall conduct pre-construction surveys within seven days prior to work, including nest searches within 50 feet of work areas and raptor surveys within 500 feet. If active nests are detected, species-appropriate no-work buffers shall be established in consultation with CDFW until young have fledged.

Mitigation Measure BIO-6: Protect Special-Status Bats

Removal of mature trees with sloughing bark or snags shall occur during bat activity periods (March 1-April 15 or September 1-October 15) when bats can actively leave roosts. If tree removal during these periods is infeasible, a qualified biologist shall conduct pre-disturbance surveys. If bats are detected or assumed present, trees shall be removed in phases over multiple days following initial disturbance to allow bats to relocate.

Mitigation Measure BIO-7: Protect Obscure and Western Bumble Bees

Prior to ground-disturbing activities, a qualified biologist shall conduct a pre-disturbance survey for bumble bee nests within seven days of work. For western bumble bee, surveys shall be conducted by or coordinated with CDFW. If nests or overwintering queens are detected, a no-work buffer shall be maintained until the nest becomes inactive. Herbicide applications shall be limited to imazapyr, applied directly to target plants when not in bloom.

Mitigation Measure BIO-8: Protect Northern Red-legged Frogs

Project work in wetlands with standing water shall occur outside the northern red-legged frog breeding season (November 1 through March 31) when feasible. If breeding-season work is unavoidable, a qualified biologist shall survey for egg masses during January-February and relocate them to undisturbed suitable habitat in coordination with CDFW. Prior to ground-disturbing work, standing water areas shall be surveyed for individuals, which shall be captured and relocated outside the work area.

Level of Significance: Less than significant with mitigation measures.

Impact BIO-b: Would implementation of the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS? (Less than Significant with Mitigation)

A total of approximately 0.990 acres of impact is anticipated across five native ESHA types. Of this total, vegetation maintenance accounts for 0.237 acres, road grading for 0.656 acres, electrical line installation for 0.020 acres, and sand redistribution for 0.077 acres. Compensatory mitigation is proposed using a tiered, component-specific approach that scales mitigation type and ratio to the severity and duration of the disturbance. In total, the proposed mitigation for ESHA impacts includes 0.24 acres of enhancement and 1.73 acres of restoration, for a combined total of approximately 1.97 acres of compensatory mitigation (**Table 3.15-1**).

Dune Mat Alliance

Approximately 0.330 acres of dune mat alliance will be affected by Project components, including 0.060 acres from vegetation maintenance and 0.270 acres from road grading. Dune mat is a native coastal dune community that provides primary habitat for several special-status plant species, including beach layia, dark-eyed gilia, and American

glehnia. Because of its high ecological value and association with ESA and CESA listed species, mitigation ratios for this community reflect the sensitivity of the resource as described in Mitigation Measure Bio-9 and Bio-10.

Vegetation maintenance impacts, which are temporary and recoverable, are proposed for enhancement at 1:1 through invasive species removal (0.060 acres). Road grading impacts, which involve ground disturbance and soil compaction in an area supporting listed species habitat, are proposed for off-site restoration at 3:1 (0.810 acres, based on the combined road grading footprint that overlaps with dune mat and associated rare plant habitat). As per BIO-9 and BIO-10 outlined below the proposed mitigation for dune mat alliance is 0.870 acres (0.060 acres enhancement + 0.810 acres of offsite restoration).

Shore Pine Alliance

Approximately 0.003 acres of shore pine alliance will be affected, entirely from road grading. Shore pine stands on the Samoa Peninsula are slow-growing, structurally complex communities with limited distribution along the North Coast. Because shore pine habitat is difficult to reestablish and has extended recovery times following disturbance, road grading impacts are proposed for off-site restoration at 3:1 (0.009 acres) as described for Mitigation Measure Bio-10.

Coastal Willow Thickets Alliance

Approximately 0.019 acres of coastal willow thickets will be affected including 0.009 acres from vegetation maintenance and 0.010 acres from road grading. An additional 0.277 acres of impact from vegetation maintenance will occur to coastal willow thicket but also exists as 3-parameter wetland and is therefore mitigated under that regulatory framework rather than the SNC framework. Coastal willow thickets are dominated by native willow species (*Salix* spp.) and provide structural habitat, wildlife cover, and hydrological function within the dune complex. Vegetation maintenance impacts are proposed for enhancement at 1.5:1 (0.014 acres), reflecting the higher structural value of willow communities and the longer recovery period required relative to herbaceous dune vegetation. Road grading impacts are proposed for off-site restoration at 3:1 (0.030 acres). Total proposed mitigation for coastal willow thickets is 0.044 acres (0.014 acres enhancement + 0.030 acres restoration) as described for Mitigation Measure Bio-9 and Bio-10.

Brambles Alliance

Approximately 0.020 acres of brambles alliance will be affected, entirely from the one-time electrical line installation at the southern extent of the project area. No vegetation maintenance or road grading impacts occur within this community. Because the electrical line installation is a one-time activity and the installation area will be backfilled and restored to pre-project conditions upon completion, impacts are proposed for on-site restoration at 1:1 (0.020 acres) as described in Mitigation Measure Bio-11.

Seaside Woolly Sunflower–Seaside Daisy–Buckwheat Patches Alliance

Approximately 0.618 acres of seaside woolly sunflower–seaside daisy–buckwheat patches alliance will be impacted. Impacts include 0.168 acres from vegetation maintenance, 0.077 acres from sand redistribution, and 0.373 acres from road grading. This community supports a diverse native forb and subshrub assemblage adapted to stabilized dune surfaces and provides habitat for beach layia and dark-eyed gilia. Mitigation types and ratios are described in Mitigation Measure Bio-9 and Bio-10.

Vegetation maintenance impacts are proposed for enhancement at 1:1 (0.168 acres). Sand sourcing impacts are proposed for restoration at 1.5:1 (0.116 acres). Road grading impacts, which represent the largest single impact to this community, are proposed for off-site restoration at 2:1 (0.746 acres). Total proposed mitigation for this community is 1.030 acres (0.168 acres enhancement + 0.862 acres restoration). Combined with the Dune mat mitigation, the total restored and enhanced acreage for these two dune communities (1.90 acres) provides coincident mitigation for the rare plant species they support, equating to an effective 4:1 ratio when measured against the combined rare plant habitat impact footprint.

European Beach Grass Swards

Approximately 0.540 acres of European beach grass swards will be affected across vegetation maintenance (0.147 acres), road grading (0.072 acres), and electrical line installation (0.321 acres). No compensatory mitigation is

proposed for this community. European beach grass is a highly invasive, non-native species that actively degrades native dune ecosystems by displacing native vegetation, altering dune geomorphology, and stabilizing naturally dynamic sand surfaces. Disturbance to this community does not constitute an adverse impact to sensitive habitat. Removal of invasive biomass and disruption of European beach grass rhizome networks creates conditions favorable for native dune plant recolonization and is consistent with the restoration and enhancement objectives applied throughout the Samoa Peninsula by organizations such as Friends of the Dunes and the Bureau of Land Management. The temporary reduction in invasive cover constitutes a net ecological benefit to the surrounding native dune system, not an adverse effect warranting compensatory mitigation.

Ice Plant Mats

Approximately 0.145 acres of ice plant mats will be affected across vegetation maintenance (0.124 acres) and overflow pipe maintenance (0.026 acres). No compensatory mitigation is proposed for this community. Ice plant is a non-native invasive species that forms dense monocultures displacing native dune vegetation, suppressing native seedbank germination, and altering soil chemistry and moisture regimes. As with European beach grass, disturbance to ice plant mats is considered a positive ecological effect rather than an adverse impact. Disruption of ice plant stolon networks reduces invasive cover and facilitates conditions for native species recruitment, consistent with established invasive species management practices on the Samoa Peninsula.

Common Velvet Grass – Sweet Vernal Grass Meadows

Approximately 0.25 acres of common velvet grass – sweet vernal grass meadows will be affected entirely within the vegetation maintenance project component. No compensatory mitigation is proposed for this community. Both common velvet grass and sweet vernal grass are non-native perennial grasses of European origin that have naturalized across coastal California and form semi-natural meadows in disturbed, mesic settings. This alliance displaces native grassland and herbaceous vegetation, contributes to persistent thatch accumulation, and suppresses recruitment of native species from the surrounding seedbank. Disturbance to this community does not constitute an adverse impact to sensitive habitat. Periodic vegetation maintenance reduces cover of these non-native grasses and creates conditions favorable for native species reestablishment, consistent with standard vegetation management practices employed throughout the Samoa Peninsula. The temporary reduction in non-native grass cover constitutes a neutral to beneficial ecological effect rather than an adverse impact warranting compensatory mitigation.

Monterey Cypress – Monterey Pine Woodlands

Approximately 0.005 acres of Monterey cypress – Monterey pine woodlands will be affected entirely within the vegetation maintenance project component. No compensatory mitigation is proposed for this community. Monterey cypress and Monterey pine are native to a very limited natural range on the central California coast and occur on the Samoa Peninsula only as ornamentally planted individuals well outside their natural distribution. The mapped stand does not represent a naturally occurring native plant community and provides limited ecological function comparable to the surrounding native dune, wetland, and coastal scrub habitats. Disturbance to this ornamentally planted stand does not constitute an adverse impact to sensitive habitat. Vegetation maintenance activities affecting these planted trees are consistent with routine landscape management and do not diminish the ecological integrity of native communities on the Samoa Peninsula.

Himalayan Blackberry – Rattlebox – Edible Fig Riparian Scrub

Approximately 0.045 acres of Himalayan blackberry – rattlebox – edible fig riparian scrub will be affected entirely within the vegetation maintenance project component. No compensatory mitigation is proposed for this community. Himalayan blackberry, rattlebox, and edible fig are all non-native species that form dense, often monotypic thickets in disturbed riparian and upland settings, outcompeting native riparian vegetation, altering channel structure and hydrologic function, and suppressing recruitment of native trees and shrubs. As with the other non-native communities addressed above, disturbance to this alliance is considered a positive ecological effect rather than an adverse impact. Removal of invasive biomass and disruption of Himalayan blackberry cane, rattlebox seed banks, and edible fig root systems reduces invasive cover and facilitates conditions for native riparian species recolonization, consistent with established invasive species management practices on the Samoa Peninsula.

Mitigation Measures

Mitigation Measure BIO-9: Enhance Dune Mat, Coastal Willow Thickets, and Seaside Woolly Sunflower–Seaside Daisy–Buckwheat Patches SNC Habitat for Vegetation Maintenance Impacts

For temporary, recoverable impacts from vegetation maintenance, HBMWD shall mitigate impacts to dune mat alliance (0.06 acres) and seaside woolly sunflower–seaside daisy–buckwheat patches alliance (0.17 acres) at a 1:1 ratio, and coastal willow thickets alliance (0.01 acres) at a 1.5:1 ratio, through habitat enhancement consisting of invasive species removal within designated Mitigation Areas (**Appendix A, Figure 2-7**) or similar suitable areas on the Samoa Peninsula. The elevated 1.5:1 ratio for Coastal Willow Thickets reflects the higher structural value and longer recovery period of willow communities relative to herbaceous dune vegetation. Enhancement shall include removal of invasive *Ammophila arenaria*, *Carpobrotus* spp., and other Cal-IPC moderate/high-ranked species using methods specified in the Invasive Species Removal Methods section, which will reduce invasive competition and facilitate native species recolonization. Total enhancement under this measure is 0.242 acres.

Resource Impacted	Impact Mechanism	Mitigation Type	Mitigation Ratio
Dune Mat	Vegetation Maintenance	Enhancement	1:1
Coastal Willow Thickets	Vegetation Maintenance	Enhancement	1.5:1
Seaside Woolly Sunflower–Seaside Daisy–Buckwheat Patches Alliance	Vegetation Maintenance	Enhancement	1:1

Mitigation Measure BIO-10: Restore Dune Mat, Shore Pine, Coastal Willow Thickets, and Seaside Woolly Sunflower–Seaside Daisy–Buckwheat Patches SNC Habitat for Road Grading and Sand Redistribution Impacts

For higher-intensity impacts from road grading and sand sourcing, HBMWD shall mitigate impacts through off-site restoration as follows: dune mat road grading at 3:1 (0.81 acres); Shore pine alliance road grading at 3:1 (0.01 acres); coastal willow thickets alliance road grading at 3:1 (0.03 acres); and seaside woolly sunflower–seaside daisy–buckwheat patches alliance road grading at 2:1 (0.75 acres) and sand redistribution at 1.5:1 (0.12 acres). Restoration shall consist of invasive species removal coupled with active native planting of species characteristic of each impacted community, including shore pine seedlings, native willow stakes or container stock, dune mat flora, and native forbs and subshrubs such as seaside woolly sunflower (*Eriophyllum staechadifolium*), seaside daisy (*Erigeron glaucus*), and coast buckwheat (*Eriogonum latifolium*). Topographic preparation to restore natural dune microtopography shall be conducted where appropriate. The higher ratios for road grading (2:1 to 3:1) reflect the greater ground disturbance, soil compaction, and extended recovery times associated with this activity relative to vegetation maintenance. **Total restoration under this measure is 1.72 acres.**

Resource Impacted	Impact Mechanism	Mitigation Type	Mitigation Ratio
Dune Mat	Road Grading	Restoration	3:1
Shore Pine	Road Grading	Restoration	3:1
Coastal Willow Thickets	Road Grading	Restoration	3:1
Seaside Woolly Sunflower–Seaside Daisy–Buckwheat Patches Alliance	Road Grading	Restoration	2:1
	Sand Sourcing	Restoration	1.5:1

Mitigation Measure BIO-11: Restore Brambles Alliance Habitat for Electrical Line Installation Impacts

HBMWD shall mitigate impacts to brambles alliance (0.02 acres) from the one-time electrical line installation at a 1:1 ratio through on-site restoration. The installation area shall be backfilled and restored to pre-project conditions upon completion, including replanting with native bramble species (*Rubus* spp.) as needed to reestablish pre-project vegetation cover and structure. Annual monitoring shall occur for five years or until success criteria are met.

Level of Significance: Less than significant with mitigation measures.

Impact BIO-c: Would implementation of the Project have a substantial adverse effect on state or federally protected wetlands through direct removal, filling, hydrological interruption, or other means? (Less than Significant with Mitigation)

One-parameter and three-parameter wetlands occur within the Project Area. Based on USACE consultation, the three-parameter wetlands in the Project Area lack continuous surface connection to jurisdictional waters and are not Waters of the U.S. but are Waters of the State under NCRWQCB jurisdiction. A total of approximately 1.062 acres of impact to one-parameter wetlands and 0.336 acres of impact to three-parameter wetlands are anticipated from project activities. Compensatory mitigation for wetland impacts is structured into two tiers corresponding to the functional value of the wetland type and the severity of the impact. In total, the proposed mitigation package for wetland impacts includes 1.31 acres of enhancement and 0.30 acres of restoration, for a combined total of 1.62 acres of compensatory wetland mitigation.

One-Parameter Wetlands

One-parameter wetlands are the most extensive wetland type in the Project Area, with 1.062 acres mapped within the Project components footprint. These wetlands are defined solely by the presence of hydrophytic vegetation—dominated by willows (*Salix* spp.), wax myrtle (*Morella californica*), and rushes (*Juncus* spp.)—in interdunal swales along the access road. They do not meet the hydric soil or wetland hydrology parameters for wetlands and represent the lower end of the functional spectrum for coastal wetlands. Approximately 1.062 acres of one-parameter wetland will be affected by project activities requiring mitigation, including 0.830 acres from vegetation maintenance, 0.044 acres from road grading, and 0.188 acres from electrical line installation.

Vegetation maintenance impacts to one-parameter wetlands are temporary and recoverable, consisting of periodic trimming and clearing of hydrophytic vegetation that regenerates between maintenance cycles. These impacts are proposed for enhancement at a 1:1 ratio (0.830 acres) through removal of invasive European beach grass and ice plant from areas within the designated Mitigation Areas or similar suitable areas on the Samoa Peninsula, which will improve ecological function of existing one-parameter wetland habitat by reducing invasive competition and facilitating native hydrophytic species expansion. Road grading impacts involve greater ground disturbance and soil compaction with longer recovery times. Therefore, the impacts from road grading are proposed for off-site restoration at a 2:1 ratio (0.088 acres), consisting of invasive species removal coupled with active planting of hydrophytic species characteristic of the impacted communities. Electrical line installation impacts are proposed at 1:1 (0.188 acres) as the installation area will be trenched, conduit installed, and then backfilled and restored to pre-project conditions upon completion, representing a temporary and fully reversible disturbance. Total proposed mitigation for one-parameter wetlands is 1.106 acres (0.830 acres enhancement + 0.276 acres restoration).

Three-Parameter Wetlands

Three-parameter wetlands occupy 0.336 acres within the Project components footprint, occurring in interdunal swales where hydrophytic vegetation, hydric soils, and wetland hydrology co-occur. Although these systems are situated on sandy substrates and are not supporting estuarine productivity, salmonid rearing, or tidal exchange (i.e. the high-function wetland types for which the CCC's standard 4:1 mitigation ratio was established) they represent higher functional value than the one-parameter wetlands in the corridor due to the presence of all three wetland parameters. It is anticipated that 0.336 acres of three-parameter wetland will be affected by project component activities requiring

mitigation, including 0.324 acres from vegetation maintenance, 0.007 acres from road grading, and 0.005 acres from electrical line installation.

Vegetation maintenance impacts to three-parameter wetlands will be mitigated through enhancement at a 1.5:1 ratio (resulting in 0.486 acres of mitigation), reflecting the higher functional value of these systems relative to one-parameter wetlands while acknowledging that the disturbance is still temporary and recoverable. The elevated enhancement ratio accounts for the greater ecological sensitivity of three-parameter systems and the longer period required for full functional recovery of hydric soil and hydrological characteristics following vegetation disturbance. Road grading impacts, which have the potential to alter wetland hydrology and disrupt hydric soil structure through compaction and regrading, are proposed for off-site restoration at a 3:1 ratio (0.021 acres of mitigation). The proposed 3:1 ratio is consistent with the Humboldt Bay Area Plan's practice of determining ratios on a project-specific basis, and reflects that these interdunal swale wetlands, while meeting all three parameters, are lower in functional value than the estuarine and tidal marsh systems that have historically warranted 4:1 ratios in CCC permitting actions. Specific restoration methodology and actions for three-parameter wetlands will be detailed in a Wetland Mitigation and Monitoring Plan developed in coordination with the reviewing agencies. Electrical line installation impacts are proposed at 1:1 (0.005 acres) given the temporary nature of the disturbance and full site restoration following construction. Total proposed mitigation for three-parameter wetlands is 0.512 acres (0.486 acres enhancement + 0.026 acres restoration).

Mitigation Measures

Mitigation Measure BIO-12: Mitigate Impacts to Three-Parameter Wetlands

HBMWD shall mitigate impacts to three-parameter wetlands through enhancement at 1.5:1 for vegetation maintenance impacts and off-site restoration at 3:1 for road grading impacts, consisting of enhancement of existing three-parameter wetlands (preferred) or creation of new three-parameter wetlands within designated Mitigation Areas or similar suitable areas on the Samoa Peninsula. Enhancement shall include invasive species removal, monitoring and maintenance. Electrical line installation impacts shall be mitigated at 1:1 through on-site restoration to pre-project conditions. HBMWD shall avoid permanent onsite impacts when feasible by restoring pre-work topography. Success criteria shall be specified in a Wetland Mitigation and Monitoring Plan.

Mitigation Measure BIO-13: Mitigate Impacts to One-Parameter Wetlands

HBMWD shall mitigate impacts to one-parameter wetlands through enhancement at 1:1 for vegetation maintenance impacts and off-site restoration at 2:1 for road grading impacts within designated Mitigation Areas or similar suitable areas on the Samoa Peninsula. Electrical line installation impacts shall be mitigated at 1:1 through on-site restoration to pre-project conditions. Enhancement methods, restoration specifications, and success criteria shall be specified in the Wetland Mitigation and Monitoring Plan.

Level of Significance: Less than significant with mitigation measures.

Impact BIO-d: Would implementation of the Project 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? (Less than Significant with Mitigation)

The Project Area lies within the Pacific Flyway and contains habitat used by wildlife for movement. Humboldt Bay (approximately 0.1 miles from the Project) is designated a Site of Hemispheric Importance by the Western Hemisphere Shorebird Reserve Network. Project activities would occur during daytime hours and would not permanently obstruct wildlife movement. However, wildlife could become trapped in any excavations left open overnight. Implementation of Mitigation Measure BIO-5 (nesting birds) and BIO-14 would reduce impacts to less than significant. No impacts to fish movement would occur as no connected aquatic habitat exists in the Project Area.

Mitigation Measure BIO-14: Protect Wildlife from Overnight Excavations

No steep-sided excavations shall be left open overnight. If excavations cannot be covered, a ramp at least 12 inches wide shall be placed at a 3:1 slope or gentler to allow trapped wildlife to escape.

Level of Significance: Less than significant with mitigation measures.

Impact BIO-e: Would implementation of the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? (Less than Significant with Mitigation)

The Project Area is within the HBAP jurisdictional area, which regulates ESHAs including vegetated dunes. ESHAs are considered under Impact BIO-b, including impacts and proposed mitigation measures. With implementation of Mitigation Measures Bio-9, Bio-10 and Bio-11 the impact will be less than significant.

Level of Significance: Less than significant with mitigation.

Impact BIO-f: Would implementation of the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? (Less than Significant)

The Ma-le'l Dunes portion of the Project Area is managed by BLM under the Northwest California Integrated Resource Management Plan (2024), which emphasizes invasive plant removal to improve rare plant habitat. The Project's mitigation requirements directly support this management objective. The Project is also consistent with goals of the Humboldt Coastal Resilience Project (Friends of the Dunes) and the forthcoming South Spit Resilience Project (BLM/CDFW), both of which emphasize dune restoration through invasive species removal.

Level of Significance: Less than significant.

3.15.6 Invasive Species Removal Methods

Mitigation for Project impacts would include enhancement and restoration by removal of invasive species (European beachgrass, iceplant, yellow bush lupine, English ivy, pampas grass, and other CAL-IPC moderate/high-ranked species) within designated Mitigation Areas or similar suitable areas on the Samoa Peninsula. The following removal methods may be employed based on specific site conditions, property ownership, feasibility, and environmental sensitivity:

Mechanical Removal: Heavy equipment (bulldozers, excavators) used to excavate and bury invasive plants under 3-6 feet of sand, or rip rhizomes below the surface. Applicable in areas with dense invasive cover that are accessible, relatively flat, and lack substantial native or special-status plant resources.

Manual Removal: Hand tools used to detach rhizomes and roots while pulling plants. Excavation extends less than two feet below ground surface. Appropriate for sensitive areas near rare plant populations or cultural resources, and for follow-up treatment of re-sprouts.

Herbicide Application: Imazapyr applied by qualified applicators using backpack sprayers, wick applicators, or aerial drones to kill shoots and rhizomes before or after prescribed burning, or to treat targeted re-sprouts. Applied directly to plants to limit drift, when plants are not in bloom.

Prescribed Burning: Conducted in accordance with an approved Burn Plan coordinated with CAL FIRE or BLM and approved by the North Coast Unified Air Quality Management District. Burn plots anticipated to be approximately 20 acres. Preserves remnant stubble and roots as anchoring to retain semi-stability of the dune system.

Follow-up Treatments: Treatment areas revisited annually for at least five years (or until success criteria are met) for hand pulling, herbicide application, or additional prescribed burning as needed.

3.15.7 Cumulative Impacts

Impact BIO-C-1: Would implementation of the Project contribute to a cumulatively significant impact to biological resources?

Cumulative projects considered include Redwood Heavy Lift Marine Terminal, regional habitat restoration projects, and Town of Samoa infrastructure upgrades. The Redwood Heavy Lift Marine Terminal would occur primarily in previously developed areas and would implement mitigation measures to reduce environmental impacts to less than significant as feasible. Habitat restoration projects in the dune's ecosystem would have lasting positive impacts through invasive species removal. The proposed Project's mitigation would similarly result in lasting benefits to impacted species and habitats. All potential impacts would be reduced to less than significant with mitigation and the Project would not contribute to a cumulatively significant impact on biological resources.

Level of Significance: Less than significant.

3.15.8 References

Bureau of Land Management (BLM). 2024. Northwest California Integrated Resource Management Plan. Sacramento, CA.

California Coastal Commission (CCC). Various dates. Coastal Development Permit guidance and mitigation requirements. [3] California Department of Fish and Wildlife (CDFW). 2020. Protocols for Reviewing and Evaluating Impacts to Sensitive Natural Communities. Sacramento, CA.

California Department of Fish and Wildlife (CDFW). 2025. California Natural Diversity Database (CNDDB). Sacramento, CA. Accessed March 2025.

California Endangered Species Act. Fish and Game Code § 2050 et seq.

California Invasive Plant Council (Cal-IPC). 2025. California Invasive Plant Inventory Database. Berkeley, CA.

California Native Plant Society (CNPS). 2025. Inventory of Rare and Endangered Plants. Sacramento, CA.

California Natural Resources Agency (CNRA) and California Department of Fish and Wildlife (CDFW). 2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities. Sacramento, CA.

California Public Resources Code § 30000 et seq. (California Coastal Act).

California Water Code § 13000 et seq. (Porter-Cologne Water Quality Control Act).

CEQA Guidelines. Section 15380 (Definition of Endangered, Rare, or Threatened Species).

Clean Water Act. 33 U.S.C. § 1344 (Section 404 - Discharge of Dredged or Fill Material).

Colwell, M.A., and T.E. Feucht. 2018. Shorebird use of coastal wetlands in the Pacific Flyway. The Condor 120(2): 345-362.

D'Antonio, C., and B. Mahall. 1991. Root profiles and competition between the invasive, exotic perennial, Carpobrotus edulis, and two native shrub species in California coastal scrub. American Journal of Botany 78(7): 885-894.

Endangered Species Act. 16 U.S.C. § 1531 et seq.

GHD. 2025a. Biological Resources Report for the Samoa Peninsula Water System Improvement Project. Prepared for Humboldt Community Services District. Eureka, CA.

GHD. 2025b. Aquatic Resources Delineation Report for the Samoa Peninsula Water System Improvement Project. Prepared for Humboldt Community Services District. Eureka, CA.

Humboldt Bay Area Plan (HBAP). Local Coastal Program policies for biological resources protection.

Migratory Bird Treaty Act. 16 U.S.C. §§ 703-712.

National Marine Fisheries Service (NMFS). Various dates. Essential Fish Habitat designations and consultation guidance.

North Coast Regional Water Quality Control Board (NCRWQCB). Jurisdictional guidance for Waters of the State.

Pickart, A.J. 2000. Dune restoration over two decades at the Lanphere and Ma-le'l Dunes in northern California. In: Proceedings of the California Exotic Pest Plant Council Symposium, Vol. 4. pp. 42-46.

Ryan, J. 2025. U.S. Army Corps of Engineers correspondence regarding jurisdictional determination. San Francisco District.

Sackett v. EPA, 598 U.S. 651 (2023).

Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. A Manual of California Vegetation, Second Edition. California Native Plant Society Press, Sacramento, CA.

U.S. Army Corps of Engineers (USACE). Wetland Delineation Manual and Regional Supplement protocols.

U.S. Fish and Wildlife Service (USFWS). 2025. Listed species and critical habitat designations. Sacramento Field Office, Sacramento, CA.

3.16 Cultural Resources

This section evaluates potential impacts to historic and cultural resources during implementation of the Project and associated mitigation. To provide the basis for this evaluation, the Setting section describes the cultural and historic setting. The Regulatory Framework section describes the regulatory background that applies to the Project. The Impact Analysis section establishes the thresholds of significance, evaluates potential impacts to cultural resources, and identifies the significance of impacts. Where appropriate, mitigation measures are presented to reduce impacts to less than significant levels.

3.16.1 Study Area

The study area for potential cultural resources under this Project, also referred to as the Area of Potential Effect (APE) under Section 106 of the National Historic Preservation Act, includes the Project Area and Mitigation Areas (see **Appendix A, Figures 2-2 through 2-5, and Figures 2-7 through 2-7.4**). The vertical APE varies by Project activity and ranges from surface level to four feet deep. The electrical conduit line installation would result in the deepest disturbance (three to four feet), and excavation of sand in the sand borrow area would occur at depths of approximately six inches to two feet. Placement of sand would occur on top of existing sand predominantly in the two identified areas where pipe infrastructure becomes unearthed, located in the sand borrow area, and on Friends of the Dunes property. However, sand placement could occur within any portion of the study area (Project Area and Mitigation Areas), although it’s expected to predominantly occur in the northern section of the Project Area. The

vertical APE within the Mitigation Areas is approximately six feet deep which is associated with excavation and burial of European beachgrass.

3.16.2 Settings

3.16.2.1 Prehistoric Context

The first known inhabitants of the Humboldt Bay Region were Wiyot Indians, a member of the Algonquin linguistic group. Based on archaeological and linguistic evidence, it is believed the Wiyot entered the area around 1050 BP from the Columbia River Plateau. The Wiyot population prior to 1850 is estimated to have been between 1,000 and 3,300 individuals (RA 2024). Wiyot territory historically spanned several hundred square miles from the Bear River Mountains in the south to the Little River in the north, and generally extended to the first mountain range crest to the east (RA 2024). Settlements were located chiefly along the lower Mad River, around Humboldt Bay, and the lower Eel River. Village sites were located at the water's edge, ocean, bay, or creek, with trails leading to grassy openings, and from one village to another. The Wiyot were predominantly gatherers and hunters, despite their sedentary lifestyle, due to the great natural wealth of the region. A small part of the population lived in an area from the Mad River to the northern portion of Humboldt Bay; they lived in settlements of one to three families. The Project is located within ancestral Wiyot land, on the Samoa Peninsula separating the Pacific Ocean from North Humboldt Bay (RA 2024).

3.16.2.2 Cultural and Historic Context

After the start of the California Gold Rush, from 1850 to 1860, Wiyot territory became the center of the largest concentrations of European settlers in California, north of San Francisco. The settlers utilized Humboldt Bay as a major shipping point for supplies to the gold mines on the Trinity, Klamath, and Upper Sacramento Rivers. In addition, the establishment of the redwood timber industry, and homesteading of the Eel River and Arcata Bottoms for ranching and farming purposes, brought more people into the area. The influx of new settlers brought violence, including the Indian Island Massacre of February 26, 1860, which nearly destroyed the entire Wiyot population.

Humboldt Bay, along with its nearby resources and direct travel route to San Francisco, attracted seafarers and a substantial Euro-American settler population. Unlike their counterparts to the south under Franciscan Mission influence reaching as far as Sonoma, the Wiyot territory remained outside of this sphere. Consequently, the displacement of the Wiyot people occurred much later than for tribes further south. The process of forced removal began in the mid-1850s and continued through the 1860s, with individuals relocated to reservations such as Mendocino Coast, Klamath, Smith River, and Hoopa. Despite enduring massacres and other attempts at extermination, the Wiyot persevered, and today they reside on the Table Bluff Reservation, the Bear River Band of the Rohnerville Rancheria, the Blue Lake Rancheria, and in various other local communities (RA 2024).

The Samoa Peninsula was explored by nonindigenous people for the first time in December 1849, led by Dr. Josiah Gregg and his party in search of a rumored ocean port. They reached the Pacific Ocean near Little River, north of the Mad River, and traveled south along what they initially thought was a continuous shoreline. Local Wiyot people informed them they were on a peninsula, unable to proceed further south due to the bay entrance. This area, later known as the Samoa Peninsula, became integral to Humboldt County's early development. Samoa specifically derived its name from the Samoa Land and Improvement Company, established in 1889 to promote a resort. The railroad, built in 1893, connected Samoa to Arcata and further facilitated industrial growth, particularly with the establishment of Vance Redwood Company, which operated the largest redwood mill in the country. Despite this industrial history, the current Project Area on the west side of the peninsula has remained relatively undeveloped, with land ownerships ranging from private holdings to commercial and lumber mill properties dating back to the 1800s.

3.16.2.3 Project Level Studies

The records search at the Northwest Information Center (NWIC) revealed that three historic-era built resources are located in the Project Area. As well as 37 recorded archaeological sites and 28 historic-era built environmental resources located within 0.5 miles of, but outlying the Project Area. These resources encompass Wiyot village sites, archaeological deposits from the pre-contact era, multicomponent and historic-era artifacts, and isolated finds, as well

as historic-era houses, railroads, commercial buildings, and industrial infrastructure. The presence of these documented resources highlights the Samoa Peninsula's extensive history of use by both Wiyot peoples and American settlers, establishing the cultural context of the Project Area.

Additionally, a NWIC record search indicated that portions of the Project Area have been included in 16 previous cultural resource surveys, collectively covering 100 percent of the current Project Area. Furthermore, 57 additional surveys have been conducted within a 0.5-mile radius of, but outside, the current Project Area.

3.16.3 Regulatory Framework

Historical and cultural resources in California, including historic resources, are protected and/or regulated by federal, state, and local laws and policies. Those applicable to the Project are summarized below.

3.16.3.1 Federal

Section 106 of the National Historic Preservation Act

Section 106 of the National Historic Preservation Act (NHPA) requires that, before beginning an undertaking, a federal agency, or projects that require a federal permit or utilize federal funds, must take into account the effects of the undertaking on historic properties and afford the Advisory Council on Historic Preservation and other interested parties an opportunity to comment on these actions.

Section 106 of the NHPA prescribes specific criteria for determining whether a project would adversely affect a historic property, as defined in 36 Code of Federal Regulations (CFR) 800.5. An impact is considered significant when prehistoric or historic archaeological sites, structures, or objects listed in or eligible for listing in the National Registrar of Historical Places (NRHP) are subjected to the following effects:

– physical destruction of or damage to all or part of the property
– alteration of a property
– removal of the property from its historic location
– change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance
– introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features
– neglect of a property that causes its deterioration
– transfer, lease, or sale of the property

Cultural resource significance is evaluated in terms of eligibility for listing in the NRHP. NRHP significance criteria applied to evaluate the cultural resources for this Project are defined in 36 CFR 60.4 as follows: "The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, association, and

a. that are associated with events that have made a significant contribution to the broad patterns of our history; or
b. that are associated with the lives of persons significant in our past; or
c. that embody the distinctive characteristics of type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
d. that have yielded, or may be likely to yield, information important in prehistory or history."

Specific regulations regarding compliance with Section 106 state that, although the tasks necessary to comply with Section 106 may be delegated to others, the federal agency is ultimately responsible for ensuring that the Section 106 process is completed according to statute.

3.16.3.2 State

3.16.3.2.1 California Environmental Quality Act

Historical resources are defined as buildings, sites, structures, or objects, each of which may have historic, architectural, archaeological, cultural, or scientific importance. Under CEQA, a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. (Public Resources Code (PRC) Section 21084.1). Demolition, replacement, substantial alteration, and relocation are actions that would change the significance of a historical resource (CEQA Guidelines Section 15064.5). The following steps are normally taken in a cultural / historic resources investigation to comply with CEQA:

– Identify historical resources, including archaeological resources, as defined in CEQA Guidelines Section 15064.5 within a study area
– Evaluate the significance of the cultural resources based on established thresholds of significance
– Evaluate the impacts of a project on historical resources
– Develop and implement measures to mitigate the impacts of the project on historical resources, including significant archaeological resources

Because the Project is located on non-federal land in California, it is also necessary to comply with state laws pertaining to the inadvertent discovery of human remains of Native American origin. The procedures that must be followed if burials of Native American origin are discovered on non-federal land in California are described in the Impacts and Mitigation Measures section below.

Pursuant to CEQA Guidelines section 15064.5 (a) the term “historical resources” includes the following:

– A resource listed or determined to be eligible by the State Historical Resources Commission for listing, in the California Register of Historical Resources (CRHR) (PRC section 5024.1, 14 CCR, section 4850 et seq.).
– A resource included in a local register of historical resources, as defined in PRC Section 5020.1 (k) or identified as significant in a historical resource survey meeting the requirements of Public Resources Code Section 5024.1 (g), shall be presumed historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
– Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural records of California may be considered to be a historical resource, provided the lead agency’s determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be “historically significant” if the resource meets the criteria for listing on the CRHR (PRC Section 5024.1, Title 14 CCR, Section 4852) including the following:
    1. Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
    2. Is associated with the lives of persons important in our past;
    3. Embodies the distinctive characteristics of type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
    4. Has yielded, or may be likely to yield, information important in prehistory or history.
– The fact that a resource is not listed in or determined to be eligible for listing in the CRHR, not included in a local register of historical resources (pursuant to PRC Section 5020.1(k)), nor identified in a historical resources survey (meeting the criteria in PRC Section 5024.1(g)) does not preclude a lead agency from determining that the resource may be a historical resource as defined by Public Resources Code Section 5020.1(j) or 5024.1.

Historical resources eligible for listing in the CRHR must meet one of the criteria of significance described above and retain enough integrity to convey the reasons for their significance. Integrity under CRHR guidelines is defined as the authenticity of an historical resource’s physical identity evidenced by the survival of characteristics that existed during the resource’s period of significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association.

CEQA applies to archaeological resources when: (1) the archaeological resource satisfies the definition of a historical resource, or (2) the archaeological resource satisfies the definition of a "unique archaeological resource." A unique archaeological resource is an archaeological artifact, object, or site that has a high probability of meeting any of the following criteria:

1. The archaeological resource contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
2. The archaeological resource has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. The archaeological resource is directly associated with a scientifically recognized important prehistoric or historic event or person.

3.16.3.2.2 California Coastal Act

The entire Project Area and Mitigation Area are located within the "Appeal" jurisdiction, which means it is under local jurisdiction (described below) but appealable to the California Coastal Commission which implements regulations in the Coastal Zone under the California Coastal Act. The California Coastal Act outlines, among other things, standards for development within the Coastal Zone.

The following Coastal Act sections are relevant to this analysis:

> *Public Resources Code Section 30116 Sensitive coastal resource areas*
>
> *"Sensitive coastal resource areas" means those identifiable and geographically bounded lands and water areas within the coastal zone of vital interest and sensitivity. "Sensitive coastal resource areas" include the following:*
>
> *(d) Archaeological sites referenced in the California Coastline and Recreation Plan or as designated by the State Historic Preservation Officer.*
>
> *Public Resources Code Section 30244 Archaeological or paleontological resources*
>
> *Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.*

3.16.3.2.3 Office of Historic Preservation

The California State Office of Historic Preservation (OHP) is responsible for administering federally and state mandated historic preservation programs to further the identification, evaluation, registration, and protection of California's irreplaceable archaeological and historic resources under the direction of the State Historic Preservation Officer and the State Historical Resources Commission.

OHP reviews and comments on federally sponsored projects pursuant to NHPA Section 106, and state programs pursuant to PRC Sections 5024 and 5024.5, which provide policies and plans for preserving and maintaining all state-owned historical resources or eligible historical resources. OHP also reviews and comments on local government and state projects pursuant to CEQA.

A variety of programs have been created by OHP to manage historic resources and to determine eligibility for classification as a historic resource. The programs that OHP administers include: the NRHP, CRHR, California Historical Landmarks, and the California Points of Historical Interest. Each program has different eligibility criteria and procedural requirements; the eligibility criteria listed through the NRHP and CRHR (mentioned above) are used to evaluate significance of potential cultural resources within this Project.

The CRHR criteria is nearly identical to the federal NRHP criteria and are used in tandem as "1/A" or "2/B" when identifying impacts in Section 3.4.6 (Impacts and Mitigation Measures). There is a slight difference in meaning between the CRHR and NRHP regarding Criterion 3 (Criterion C in the NRHP), which is accounted for when determining impacts and significance in Section 3.4.6 (Impacts and Mitigation Measures).

3.16.3.2.4 California Public Resources Code

As part of the determination made pursuant to PRC Section 21080.1, the lead agency must determine whether a project would have a significant effect on archaeological resources.

Several sections of the PRC protect cultural resources. Under Section 5097.5, no person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic ruins, burial grounds, archaeological site, inscriptions made by humans, rock art, or any other archaeological, or historical feature situated on public lands, except with the express permission of the public agency that has jurisdiction over the lands. Violation of this section is a misdemeanor.

PRC Section 5097.98 states that if Native American human remains are identified within a project site, the landowner must work with the Native American Most Likely Descendant as identified by the NAHC to develop a plan for the treatment or disposition of the human remains and any items associated with Native American burials with appropriate dignity. These procedures are also addressed in Section 15046.5 of the CEQA Guidelines. Section 30244 of the PRC requires reasonable mitigation for impacts on paleontological and archaeological resources that occur as a result of development on public lands, which can be considered applicable to the portions of the Project located on Bureau of Land Management (BLM) lands.

On September 25, 2014, Assembly Bill 52 (AB 52) was signed, which included amendments to PRC Section 5097.94. AB 52 requires tribal cultural resources to be considered under CEQA. AB 52 requires lead agencies to provide notice to Native American tribes that are traditionally and culturally affiliated with the geographic area of a proposed project if they have requested notice of projects proposed within that area. See **Section 3.16 – Tribal Cultural Resources** for more information on AB 52 compliance and tribal cultural resources.

3.16.3.2.5 California Health and Safety Code

California Health and Safety Code (HSC) Section 7050.5 prohibits disinterring, disturbing, or removing human remains from a location other than a dedicated cemetery. Section 7050.5 also requires that construction or excavation be stopped in the vicinity of discovered human remains until the Coroner can determine whether the remains are those of a Native American. If determined to be Native American, the Coroner must contact the California Native American Historical Commission (NAHC).

3.16.3.2.6 California Native American Historical, Cultural and Sacred Sites Act

This Act applies to both state and private lands. The Act requires that upon discovery of human remains, that construction or excavation activity cease and that the county Coroner be notified. If the remains are of a Native American, the Coroner must notify the NAHC. The NAHC then notifies those persons most likely to be descended from the Native American remains. The Act stipulates the procedures the descendants may follow for treating or disposing of the remains and associated grave goods.

3.16.3.3 Regional and Local

The study area is located within Humboldt County's jurisdiction, and specifically within the appeal jurisdiction of the Coastal Zone which is regulated by the Humboldt Bay Area Plan Local Coastal Program (HBAP LCP). The Humboldt County General Plan was not certified in the Coastal Zone and therefore General Plan goals and policies are not binding and are not included in this section.

3.16.3.3.1 Humboldt Bay Area Plan – Local Coastal Plan

Applicable policies from the Humboldt Bay Area Plan regarding cultural resources are cited below.

3.18 Archaeological and Paleontological Resources

c. DEVELOPMENT POLICIES

1. Reasonable mitigation measures may include but are not limited to:

Changing building and construction sites and/or road locations to avoid sensitive areas.

Providing protective cover for sites that cannot be avoided.

Where appropriate and with the approval of all parties concerned, provide for the removal or transfer of culturally significant material by a professional archaeologist or geologist.

3.16.4 Evaluation Criteria and Significance Thresholds

Evaluation Criteria	Significance Thresholds	Sources
Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	Adverse alteration of those physical characteristics of a historical resource that justify its eligibility for the California Register of Historical Resources (CRHR) or as a local landmark	CEQA Guidelines Appendix G, Checklist Item V (a)
Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	Adverse alteration of those physical characteristics of an archaeological resource that justify its eligibility for the CRHR or as a unique archaeological resource	CEQA Guidelines Appendix G, Checklist Item V (b)
Would the Project disturb any human remains, including those interred outside of dedicated cemeteries?	Disturbance of human remains, including Native American human remains, associated grave goods, or items of cultural patrimony	CEQA Guidelines Appendix G, Checklist Item V (c)

3.16.5 Methodology

A Project Area-level cultural resource study was completed by Roscoe and Associates to analyze the potential presence of cultural, historic and archaeological resources within the Project Area. The *Cultural Resource Investigation Report for the Humboldt Bay Municipal Water District Samoa Peninsula Waterline Right-of-Way Maintenance Project*, prepared by James Roscoe, M.A. and Melinda Salisbury B.A. Roscoe and Associates (RA) Cultural Resources consultants in July 2024. This investigation included reviews of archival records and relevant literature within the APE (Project Area plus 0.5-mile buffer). The sand borrow area was surveyed for cultural resources following the RA 2024 report because that Project component had not been included in the survey area when the initial cultural resources survey occurred. A BLM archaeologist surveyed the sand borrow area in October 2024 and January 2025 (BLM 2024; BLM 2025).

The RA 2024 Cultural Resource Investigation Report does not include review of the Mitigation Areas, however historical and cultural resource database searches associated with the report incidentally overlap into Mitigation Area-1 and -2. A cultural resource survey and report has been completed by the BLM for Mitigation Area-1, and sand borrow area (BLM 2024), with a follow up survey completed in the updated sand borrow area a few months later (BLM 2025). Mitigation Area-5 was surveyed by the BLM in 2002 (BLM 2002). The results of the RA 2024, BLM 2024, BLM 2025 and BLM 2002 studies are included in this analysis. No ground disturbing work would occur in areas of identified cultural resources per the RA 2024, BLM 2024, BLM 2025, and BLM 2002 reports. A cultural resources survey would occur prior to ground disturbance in Mitigation Areas-2, -3 and -4, to determine whether there are culturally sensitive areas to avoid (see Mitigation Measure CR-5).

The District conducted AB 52 compliance with the Wiyot Tribe, Blue Lake Rancheria, and Bear River Band of Rohnerville Rancheria to determine whether tribal cultural resources may be affected by implementation of the Project and associated mitigation. The letters are on file with the District. Tribal cultural resources and the outcome of AB 52 compliance is further described in **Section 3.16 – Tribal Cultural Resources**.

3.16.5.1 Cultural and Historical Resource Findings

James Roscoe, M.A., and Melinda Salisbury, B.A., conducted a pedestrian field survey of the Project Area north of the Samoa Power Pole Beach Parking Area on July 6 and August 2, 2023. James Roscoe, Melinda Salisbury, and Kelly Hughes, B.A., carried out another pedestrian field survey south of the Samoa Power Pole Beach Parking Area, between the parking area and Bay Street, on August 10, 2023. James Roscoe also surveyed the southern part of the Project Area along New Navy Base Road on November 15, 2023, and March 16, 2024 (it should be noted that a portion of New Navy Base Road was originally in the Project Area, and thus surveyed for cultural resources, however is no longer within the Project Area). Overall, survey conditions were excellent, providing ample opportunity to inspect for archaeological site indicators throughout the Project Area.

The cultural resources survey covered approximately 7.4 linear miles and 90 acres. As mentioned, the records search at the NWIC indicated three historic era built environmental resources are in the Project Area: Samoa Pulp Mill, the High Yard, and Hammond Lumber Railroad, which are all located in the southern extent of the Project Area. The surveyors investigated the three previously documented historic-era built environment resources within the Project Area, and found the Samoa Pulp Mill was deemed ineligible for listing in NRHP and the CRHR through a survey evaluation in 2020 (RA 2024). The High Yard was found ineligible for listing in the NRHP and the CRHR through a survey evaluation in 2003 (RA 2024). In 2018, Roscoe and Salisbury recommended that the Hammond Lumber Railroad appear eligible under CRHR Criteria A due to its association with early 20th-century lumber milling and export operations in the Humboldt Bay Area. While the railroad retains some aspects of its integrity, nearby development has led to alterations, with portions being removed or paved over. The documented segments still maintain some integrity of location, design, setting, materials, workmanship, and feeling. The Hammond Lumber Railroad has not been since listed for NRHP and CRHR, however still is considered eligible for listing. No other artifacts, features, or deposits that would be considered historical resources for the purposes of CEQA (Article 4, Section 15064.5 (a)) were identified within the Project Area during this investigation.

The RA 2024 investigation involved regular communication with the Tribal Historic Preservation Officers (THPO) for the Wiyot Tribe, Blue Lake Rancheria, and Bear River Band of Rohnerville Rancheria. All three THPOs expressed interest and concern about the archaeological sensitivity of the Samoa Peninsula, especially the northern peninsula, where four previously documented archaeological sites are located.

RA voluntarily expanded the field survey outside of the Project Area and into the northern peninsula to search for evidence of these recorded resources and assess their potential impact from the proposed Project. During this expanded survey, RA recovered previously documented sites, and identified a new archaeological site, the Manila Horseshoe Site. The records for the three previously identified sites were updated, and the newly discovered site was documented on the appropriate California Department of Parks and Recreation Site Record forms. These sites are all situated between 115 and 490 feet outside the Project Area.

Christopher Lloyd of the BLM conducted a pedestrian survey within the 21-acre Mitigation Area-1 and 2.96-acre sand borrow area on October 4, 2024. His findings included archaeological deposits within both Mitigation Area-1 and the sand borrow area. As a result, archaeological resources would be avoided in Mitigation Area-1 (see Mitigation Measure CR-5 below), and the sand borrow area reduced in size to a 2.35-acre area. The two archaeological resources in the current and former sand borrow area were revisited on January 25 and 26, 2025 for a Phase 2 survey, which included subsurface testing, to determine if the resources met the criteria for NRHP listing. Neither site contained subsurface components of the resources, and they are not considered eligible for NRHP listing (BLM 2025). Therefore, the two resource locations (one within the sand borrow area, and one outside of it) are not considered protected cultural resources.

3.16.6 Impacts and Mitigation Measures

Impact CR-a: **Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5? (Less than Significant Impact with Mitigation)**

As discussed, of the three historic-era sites that the Project Area overlaps: Samoa Pulp Mill, High Yard, and Hammond Lumber Railroad, only the Hammond Lumber Railroad is deemed eligible for listing on the NRHP and CRHR and to be addressed under CEQA.

The Project alignment crosses the Hammond Lumber Railroad in the southern Project Area, approximately 800 feet north of Bay Street (the southern terminus of the District's ROW). Proposed Project work in this area includes installation of the electrical wiring and conduit. If construction were to modify or otherwise impact this historical resource, a potentially significant impact could occur. Mitigation Measure CR-1 is proposed to ensure that construction methods in this location do not modify or adversely impact this segment of the Hammond Lumber Railroad.

The Hammond Lumber Railroad route does not overlap into any of the Mitigation Areas. No known historical resources exist within the Mitigation Areas because these areas are open space without physical infrastructure.

3.16.6.1 Mitigation

The following mitigation measure would be implemented by the District to ensure potential impacts to the segment of Hammond Lumber Railroad from implementation of the Project are avoided.

Mitigation Measure CR-1: Protect Historical Resources

HBMWD shall ensure that the electrical wiring and associated conduit beneath the segment of Hammond Lumber Railroad located approximately 800 feet north of Bay Street, is installed using methods that would not modify, remove or alter the railroad tracks. Methods could include horizontal directionally drilling, trenching, or other means.

With the implementation of Mitigation Measure CR-1, potential impacts to historical resources would be avoided because no modification or impact to the Hammond Lumber Railroad would occur.

Level of Significance: Less than significant after mitigation

Impact CR-b: Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? (Less than Significant Impact with Mitigation)

The potential for archaeological resources to occur within the Project Area was evaluated by Roscoe and Associates in the Cultural Resources Report (RA 2024) and within the Mitigation Area-1 and sand borrow area by Christopher Lloyd of the BLM in the Samoa Peninsula Waterline Replacement, Repair, and Maintenance, Sand Borrow & Mitigation Cultural Assessment (BLM 2024), and a memo of findings from subsurface testing within a potentially culturally significant area (BLM 2025). Mitigation Area-5 was surveyed for cultural resources by Marlene Grangaard of the BLM in the Archaeological Survey Report for the South Spit of Humboldt Bay (BLM 2002). The reports determined that archaeological resources are present within and in the vicinity of the APE (RA 2024, BLM 2024, BLM 2002).

Project Area APE Investigation

The following section includes a discussion of archaeological resources within the Project Area portion of the APE ("Project Area APE"), which was surveyed by Roscoe and Associates (RA 2024), and includes the sand borrow area which was surveyed by the BLM in 2024 and 2025 (BLM 2024; BLM 2025).

THPOs from the Wiyot Tribe, Blue Lake Rancheria, and Bear River Band of Rohnerville Rancheria were consulted by Roscoe and Associates to discuss the potential presence of archaeological resources within the Project Area APE. All THPOs expressed interest and concern regarding the archaeological sensitivity of the Samoa Peninsula, especially the northern peninsula, where five documented archaeological sites are located (one of which was discovered during the cultural resource survey conducted for this Project, albeit outside the Project Area APE boundary). The five sites are located outside the Project Area APE, but within 115 and 490 feet of the Project Area APE boundary. As mentioned, two potential archaeological resources were observed within the sand borrow area, however were determined to not meet NRHP criteria and are therefore not considered archaeological resources (BLM 2025).

However, as was demonstrated by RA's discovery of a previously unrecorded archaeological resource site during the pedestrian survey of areas outside the Project Area APE, there is potential for encountering additional archaeological deposits during ground-disturbing Project activities particularly in the northern extent of the Project Area. Ground disturbing activities within the northern portion of the Project Area include movement of sand to re-bury HBMWD infrastructure and minor grading of the access road; ground disturbing activities in the southern portion of the Project Area include excavation and installation of the 2,400 feet of electrical wiring and conduit, and maintenance of the discharge overflow pipe which could involve excavation and replacement of existing riprap or replacement of the structure. Although recorded sites are located outside of the northern extent of the Project Area APE, there is still potential for archaeological impacts to occur within the Project Area APE during Project implementation because artifacts may shift over time due to wind and wave over wash events. If archaeological resources were disturbed, a potentially significant impact could occur.

In correspondence with local tribal representatives, the THPOs recommended that ground-disturbing work in the northern Project Area APE be monitored by a Tribal Cultural Monitor in accordance with a Project-specific Cultural Resource Monitoring Plan to ensure the proper treatment of discovered cultural resources. The northern Project Area APE subject to cultural resource monitoring is defined to include the entire Project Area from it's intersection with Lupin Avenue and north to the Redwood Gun Club. The Cultural Resource Monitoring Plan would include details of how discoveries would be addressed, recording and documentation requirements, and how discoveries would be curated or reburied. Mitigation Measure CR-2: Cultural Monitoring Plan describes the components of the Cultural Resource Monitoring Plan, which would be produced by HBMWD (see Mitigation Measure CR-2, below). Implementation of Mitigation Measure CR-2 would reduce impacts to potential archaeological resources in the northern APE associated with the identified archaeological sites to a less-than-significant level due to the monitoring and proper treatment of potentially discovered archaeological resources that would occur if resources were observed, as specified in the forthcoming Cultural Resource Monitoring Plan.

Although Project implementation in the northern Project Area APE has the greatest potential to encounter archaeological resources, there is inherent potential to encounter archaeological resources and/or human remains throughout the entirety of the APE (Project Area and Mitigation Areas). Discovery of such items could result in a significant impact if these resources aren't handled properly. Mitigation Measures CR-3: Inadvertent Discovery of Cultural Resources and CR-4: Inadvertent Discovery of Human Remains would be implemented which provide protocols for discovery of cultural resources and human remains. With implementation of Mitigation Measures CR-3 and CR-4, this potential significant impact would be reduced to a less-than-significant level.

Mitigation Area APE Investigation

The following section includes a discussion of archaeological resources within the Mitigation Area portion of the APE ("Mitigation Area APE"), which includes cultural surveys of Mitigation Area-1 and -5 by the BLM in 2024, and 2002, respectively.

Mitigation Areas -1 and -5 have been formally surveyed for cultural resources by BLM archaeologists (BLM 2024; BLM 2002). Identified archaeological resources occur within these portions of the Mitigation Area APE. Ground disturbing activities proposed in the Mitigation Areas could include excavation and burial of invasive species, hand pulling of invasive species, and/or excavation and grading to create wetlands. The location of archaeological resources within Mitigation Areas -1 and -5 are known, however are not public information. To avoid significant impacts to cultural resources, Mitigation Measure CR-5 is proposed, which states that no ground disturbing activities would occur within 66 feet (20 meters) of the known archaeological resource sites.

If ground disturbing activities occurred within Mitigation Areas-2, -3 or -4 prior to a cultural resources investigation occurring, a potentially significant impact to archaeological resources could occur if resources were found and not curated or handled properly. Therefore, to avoid this potentially significant impact Mitigation Measure CR-6 would be implemented, which includes the requirement that a cultural resources survey would be completed prior to ground disturbing (i.e. excavation or sand moving) occurring in Mitigation Areas-2, -3 or -4. Similarly to Project activities within the Project Area APE, even after a cultural resource study is completed, there is still inherent potential for the inadvertent discovery of cultural resources throughout the APE which could result in a significant impact. To avoid this potentially significant impact, Mitigation Measures CR-3 and CR-4 would also be implemented in the Mitigation Area

APE. Per communication with the BLM, they are requesting an archaeological monitor be present during ground disturbing activities within all BLM lands (which includes portions of both the Project Area and Mitigation Areas) and is included as Mitigation Measure CR-7.

3.16.6.2 Mitigation

The following mitigation measures would be implemented by the District to address proper protocols for the discovery of cultural or archaeological resources (collectively termed “cultural resources”) potentially affected by the Project.

Mitigation Measure CR-2: Cultural Resource Monitoring Plan

HBMWD shall prepare a Cultural Resource Monitoring Plan in consultation with the Wiyot Tribe, Blue Lake Rancheria, and Bear River Band of Rohnerville Rancheria, to guide cultural resource monitoring during ground disturbing activities in the Project Area. Cultural resource monitoring shall be implemented during ground disturbing activities that occur within the Project Area.

The Plan shall include the following:

- Minimum qualifications of the Tribal Cultural Monitor;
- Notification process from HBWMD to each tribe of when and where ground-breaking activities would occur to provide opportunity for cultural monitoring or pre-ground disturbance assessment of the area;
- Avoidance procedures for potentially identified archaeological resources;
- Discovery protocols (how discovery of cultural resources would be addressed):
    - Stop work procedures;
    - Monitoring recording requirements and documentation;
    - How discovered resources would be curated or reburied.

Mitigation Measure CR-3: Inadvertent Discovery of Archaeological Materials

If significant archaeological materials, such as chipped or ground stone, historic debris, building foundations, or bone, are discovered during ground-disturbance activities in the Project Area or Mitigation Areas, all work within 66 feet (20 meters) of the discovery shall be halted, in accordance with CEQA guidelines (Title 14 CCR 15064.5 (f), January 1999 Revised Guidelines). Work near the archaeological finds shall not resume until a professional archaeologist and or Tribal Monitor who meets the Secretary of the Interior’s Standards and Guidelines, has evaluated the materials and provided recommendations for further action.

Mitigation Measure CR-4: Inadvertent Discovery of Human Remains

If human remains are discovered during Project activities in the Project Area or Mitigation Areas, all work will cease at the discovery location and within 66 feet (20 meters) of the site, as well as any nearby areas reasonably suspected to contain adjacent human remains, in accordance with Public Resources Code Section 7050.5. The Humboldt County Coroner will be contacted to determine if an investigation into the cause of death is required. If the Coroner determines that the remains are of Native American origin, compliance with state laws related to the disposition of Native American burials, which fall under the jurisdiction of the Native American Heritage Commission (NAHC), will be necessary (Public Resources Code Section 5097). The Coroner will notify the NAHC, who will then contact the descendants or the most likely descendants of the deceased. Work will not resume until the descendants have provided a recommendation to the landowner or the person responsible for the excavation on how to treat and dispose of the human remains and any associated grave goods with appropriate dignity, as specified in Public Resources Code Section 5097.98.

Mitigation Measure CR-5: Avoidance of Archaeological Resources in Mitigation Areas 1 and 5

Mitigation activities shall not occur within 66 feet (20 meters) of identified archaeological resources in Mitigation Areas-1 and -5, according to the locations recorded in BLM 2024 and BLM 2002. Specifically, the following restrictions to mitigation activities in identified archaeological resources shall be implemented:

- Excavation shall not occur within 66 feet (20 meters) of recorded cultural sites;
- Hand pulling of invasive species or use of hand tools may occur within recorded cultural sites;
- Use of fire shall not occur within 66 feet (20 meters) of recorded cultural sites;
- No herbicide shall occur within or within 66 feet (20 meters) of recorded cultural sites.

Mitigation Measure CR-6: Cultural Resources Report prior to Ground Disturbance

Prior to any ground disturbance in Mitigation Areas 2, 3 or 4, a cultural resources survey and report shall be prepared. Ground disturbing work is defined to include excavation by heavy equipment. The report shall be prepared by a professional archaeologist who meets the Secretary of the Interior's Standards and Guidelines. Preparation of the report shall be funded by HBMWD unless another party is volunteering to fund the effort. The findings of this report on Mitigation Areas-2, -3 and -4, as well as the findings of the BLM 2024 and BLM 2002 cultural resources reports on Mitigation Areas -1 and -5 shall be incorporated into design of activities within the Mitigation Areas, including:

- Excavation shall not occur within or within 66 feet (20 meters) of recorded cultural sites;
- Hand pulling of invasive species or use of hand tools may occur within recorded cultural sites;
- Use of fire shall not occur within 66 feet (20 meters) of recorded cultural sites;
- No herbicide shall occur within or within 66 feet (20 meters) of recorded cultural sites;

Mitigation Measure CR-7: Archaeological Monitoring on BLM Lands

Ground disturbing work on BLM-owned or -managed lands shall be monitored by an archaeological monitor that meets the Secretary of Interior's Standards and Guidelines. If archaeological materials are discovered during ground-disturbance activities, all work within 66 feet (20 meters) of the discovery shall be halted. Project activities within this halt-work area shall not resume until the archaeological monitor has evaluated the materials and provided recommendations for further action.

With the implementation of Mitigation Measures CR-2, CR-3, CR-4, CR-5, CR-6, and CR-7, potential impacts to archaeological resources would be less than significant because a Cultural Resources Monitoring Plan would be developed to properly coordinate monitoring and handling of potentially discovered resources in the northern Project Area, protocols for the inadvertent discovery of archaeological resources or human remains would be implemented throughout the APE (Project and Mitigation Areas), recorded archaeological resources in Mitigation Areas-1 and -5 would be avoided, and potential recorded archaeological sites in Mitigation Areas-2, -3 and -4 would be avoided because no ground disturbing Project work would occur in these areas until a cultural resource survey and report is prepared by a qualified archaeologist. Additionally, the BLM would include their own archaeological monitor during ground disturbance work in lands under their ownership or management which would further reduce potential impacts.

Level of Significance: Less than significant with mitigation

Impact CR-c: Would the Project disturb any human remains, including those interred outside of formal cemeteries? (Less than Significant Impact with Mitigation)

Inadvertent discovery of human remains has the potential to result in a significant impact to cultural resources. Mitigation Measure CR-4 includes detailed special procedures for discoveries of potential human remains.

As included in Mitigation Measure CR-4: Inadvertent Discovery of Human Remains, if human remains are discovered during Project implementation, work within the discovery location plus nearby areas reasonably suspected to overlie human remains, would cease (Public Resources Code, Section 7050.5). The Humboldt County Coroner and the Wiyot Tribe, Blue Lake Rancheria and Bear River Band of Rohnerville Rancheria THPOs would be contacted by the Project Archaeologist to determine if the cause of death must be investigated. If the Coroner determines that the remains are of Native American origin, it is necessary to comply with state laws regarding the disposition of Native American burials, which fall within the jurisdiction of the California Native American Heritage Commission (NAHC) (Public Resources Code, Section 5097). In this case, the Coroner would contact NAHC. The descendants or most likely descendants (MLD) of the deceased would be contacted, and work would not resume until they have made a recommendation to the landowner or person responsible for excavation work with direction regarding appropriate means of treatment and disposition, with appropriate dignity, of the human remains and any associated grave goods, as provided in Public Resources Code, Section 5097.98.

Given the inclusion of inadvertent discovery in Mitigation Measure CR-4: Inadvertent Discovery of Human Remains which includes standard protocol for inadvertent discovery of human remains, potential impacts would be less than significant.

Mitigation Measure: Mitigation Measure CR-4

Level of Significance: Less than significant with mitigation

3.16.7 Cumulative Impacts

Impact CR-C-1: Would the Project contribute to a cumulatively significant impact to cultural resources? (No Impact)

Cumulative effects analysis examines the current Project effects taken together with effects of past projects and known projects in the foreseeable future. Future projects considered for cumulative impacts are identified in **Table 3.0-1** and include industrial projects (Redwood Heavy Lift Marine Terminal), habitat restoration projects involving predominantly manual invasive plant removal with future potential use of prescribed fire, and improvements to the Town of Samoa and peninsula communities via infrastructure upgrades. The industrial and development projects occur within previously developed areas have mitigated for the potential loss or impact to historic resources and have complied with Section 106 of the National Historic Preservation Act. Disturbance within the dunes ecosystem from regional projects is predominantly from hand pulling of invasive species, which is unlikely to uncover archaeological resources due to the lack of substantial ground disturbance. The speculative use of fire on the South Spit, both under the proposed Project and the South Spit Resiliency Project, would not cumulatively adversely affect cultural resources because use of fire would not disturb the sandy substrate. No historic resources exist within the dunes that would be affected by the invasive plant removal projects.

Therefore, the Samoa Peninsula Right-of-Way Maintenance Project, taken together with past and foreseeable future projections, would not cause a cumulative adverse effect to cultural or historic resources. Given that the Project would not result in any significant impacts to cultural or historical resources, and that the projects considered in **Table 3.0-1** would not permanently affect cultural or historic resources in the Project Area or Mitigation Areas or vice versa, the potential for cumulative impacts within the study area would not result.

Mitigation Measures: No mitigation is necessary

Level of Significance: No impact

3.16.8 References

Bureau of Land Management (BLM). 2025. Humboldt Bay Municipal Water District Samoa Peninsula Waterline Replacement, Repair, and Maintenance, Ma-le'l Dunes, Subsurface Testing of Sites BLM_HBMWD_24_01 & 02. January 25 and 26.

Bureau of Land Management (BLM). 2024. Humboldt Bay Municipal Water District Samoa Peninsula Waterline Replacement, Repair, and Maintenance, Sand Borrow and Mitigation Cultural Assessment. Draft. November 26.

Bureau of Land Management (BLM). 2002. Archaeological Survey Report for the South Spit of Humboldt Bay, Humboldt County, California. Prepared by M. Grangaard of the BLM, Arcata Field Office. Site Records on-file at the BLM, Arcata Field Office.

Humboldt County. 2022. Humboldt Bay Area Plan, of the Humboldt County Local Coastal Program. Available at: https://humboldtgov.org/DocumentCenter/View/50844/Humboldt-Bay-Area-Local-Coastal-Plan

Public Resources Code Division 20. 2024. California Coastal Act. Available at: https://www.coastal.ca.gov/coastact.pdf

Roscoe and Associates. 2024. "A Cultural Resource Investigation Report for the Humboldt Bay Municipal Water District Waterline Right-of-Way Maintenance Project.

3.17 Energy

This section evaluates the potential impacts related to energy consumption during implementation of the Project and associated mitigation. To provide the basis for this evaluation, the Setting section describes the environmental setting for energy resources. The Regulatory Framework section describes the regulatory background that applies to the Project. The Impact Analysis section establishes the thresholds of significance, evaluates potential energy impacts, and identifies the significance of impacts.

3.17.1 Study Area

The study area for energy resources includes the Project Area and Mitigation Areas (see **Appendix A, Figures 2-2 through 2-5, and 2-7 through 2-7.4**).

3.17.2 Setting

3.17.2.1 Energy Resources

Energy resources in Humboldt County consist primarily of fossil fuels such as natural gas deposits, and local biomass resources sourced from lumber mill wood residue provided by Pacific Gas and Electric Company (PG&E) or Redwood Coast Energy Authority (RCEA). There are no developed industrial energy resources within the Project Area, however biomass resources were once processed at a plant located immediately adjacent to New Navy Base Road adjacent to the southern extent of the Project Area. This location continues to store biomass but is not in operation. Future use of the existing facilities on the Samoa Peninsula as biomass or biochar energy plants have been considered by the RCEA in the recent past (RCEA 2021).

Most primary energy used in Humboldt County is imported, with the exception of biomass energy. Although natural gas deposits exist in Humboldt County such as within the Tompkins Hill Gas Field in the Eel River basin, the County imports approximately 90 percent of its natural gas. There is no record of geothermal production in Humboldt County.

The District's energy needs are met from the regional power grid via PG&E. Roughly half of the electricity serving Humboldt County is generated at the PG&E Humboldt Bay Generation Station, a 163-megawatt natural gas-fired

power plant. Local biomass resources are used to provide about 25 to 30 percent of the County's electricity needs. The biomass resources are primarily derived from lumber mill wood residue.

The RCEA is a local, not-for-profit government agency established to develop and implement sustainable energy initiatives that reduce energy demand, increase energy efficiency, and advance the use of renewable resources available in the region. RCEA's Community Choice Energy program provides renewable energy sources to users, which are conveyed using PG&E infrastructure. It is projected that by 2025 all electricity sold by RCEA will come from renewable or carbon-free resources, and by 2030 RCEA aims to produce all electricity from local renewable sources including offshore wind, solar and biomass energy (RCEA 2023). Per communication with RCEA, they do expect to meet their target of all electricity coming from renewable or carbon-free sources starting this year (2025) (pers. comm. RCEA 2025).

Power poles and overhead power lines are present in the immediate vicinity of the Project Area for approximately 1.6 miles in the southern extent of the Project Area between the beach access parking lot known as "power poles" and Bay Street to the south. The Fairhaven Biomass Plant on the Samoa Peninsula is being developed into an energy storage project (RCEA 2023). As a source of electric power, biomass can replace fossil fuels and balance the intermittent supply of solar and wind power; biomass power is widely regarded as a climate change "bridge solution" (RCEA 2021). For Humboldt County, biomass power is currently the only source of renewable utility-scale electricity (RCEA 2021).

3.17.3 Regulatory Framework

Federal regulations, such as the Corporate Average Fuel Efficiency Standards, and state regulations, such as the California Green Building Standards and California Energy Efficiency Standards for Residential and Non-residential Buildings, are not included in this section as the Project does not involve components such as automobile manufacturing or the construction of structures that would be subject to such regulations.

3.17.3.1 Federal

There are no federal regulations that apply to the Project related to energy resources in Humboldt County.

3.17.3.2 State

3.17.3.2.1 California Coastal Act

The entire Project Area and Mitigation Area are located within the "Appeal" jurisdiction of the Coastal Zone, which means activities in the Coastal Zone are under local jurisdiction (described below) but appealable to the California Coastal Commission which implements regulations in the Coastal Zone under the California Coastal Act. The California Coastal Act outlines, among other things, standards for development within the Coastal Zone.

No policies from the Coastal Act regulate the maintenance of water utility infrastructure.

3.17.3.2.2 Senate Bill 350

SB 350, *Clean Energy and Pollution Reduction Act,* was signed by Governor Brown on October 7, 2015. It increases California's renewable electricity procurement goal from 33 percent by 2020 to 50 percent by 2030. This objective will increase the use of Renewables Portfolio Standard (RPS) eligible resources, including solar, wind, biomass, geothermal and others.

3.17.3.2.3 State of California Energy Action Plan

In 2003, the three key energy agencies in California— the California Energy Commission (CEC), the California Power Authority (CPA), and the California Public Utilities Commission (CPUC)—jointly adopted an Energy Action Plan (EAP) which sets goals for California's energy future and memorializes a commitment to achieve those goals through specific actions. Specifically, the EAP identifies a goal of ensuring adequate, reliable, and reasonably-priced electrical power and natural gas supplies through policies, strategies and actions that are cost-effective and environmentally sound. In

2005, the CPUC and the CEC jointly prepared a subsequent draft of the EAP (EAP II) to identify further actions necessary to meet California's future energy needs. To the extent that efficiency, demand response, renewable resources, and distributed generation are unable to satisfy increasing energy and capacity needs, the EAP II supports the use of clean and efficient fossil-fuel energy generation. The plan recognizes that concurrent improvements are required to the bulk electricity transmission grid and distribution facility infrastructure to support growing demand centers and the interconnection of new generation, both on the utility and customer side of the meter.

3.17.3.2.4 Senate Bill 1389

Senate Bill (SB) 1389, the California Integrated Energy Policy, was adopted in August 2002 and requires the CEC to prepare an Integrated Energy Policy Report (IEPR) for electricity, natural gas, and transportation fuels. The IEPR contains an analysis of the policies and actions that are necessary to ensure that the state has adequate energy resources—including a range of alternative energy resources—to meet its needs. The IEPR also includes recommendations to reduce energy demand and to improve the state's energy infrastructure.

3.17.3.2.5 Senate Bill 100

SB 100, *California's Commitment to 100 Percent Clean Energy,* was signed by Governor Brown on September 10, 2018. It commits California to operating off 100 percent clean energy by 2045, speeding up the state's timeline for moving to carbon-free power sources. Under the law 60 percent of the power purchased by California utilities must come from renewable sources by 2030. The additional 40 percent of the power California' utilities will deliver to residents, businesses and government agencies must come from 'zero-carbon' sources. This is a term still waiting to be defined by California's policy makers. For the purposes of modeling, the joint agencies (CEC, CPUC, and CARB) have interpreted 'zero-carbon' resources to be resources that qualify as renewable under the most recent RPS Eligibility Guidebook or generate zero GHG on site (CEC 2021).

3.17.3.2.6 Assembly Bill 1007

Assembly Bill 1007, (Pavley, Chapter 371, Statutes of 2005) required the CEC to prepare a state plan to increase the use of alternative fuels in California (State Alternative Fuels Plan). The CEC prepared the State Alternative Fuels Plan in partnership with the California Air Resources Board and in consultation with other state, federal, and local agencies. The final State Alternative Fuels Plan, published in December 2007, attempts to achieve an 80-percent reduction in greenhouse gas (GHG) emissions associated with personal transportation, even as California's population increases.

3.17.3.3 Regional and Local

The study area is located within Humboldt County's jurisdiction, and specifically within the appeal jurisdiction of the Coastal Zone which is regulated by the Humboldt Bay Area Plan Local Coastal Program (HBAP). The Humboldt County General Plan was not certified in the Coastal Zone and therefore General Plan goals and policies are not binding, and are not included in this section.

3.17.3.3.1 Humboldt Bay Area Plan – Local Coastal Plan

No policies related to energy resources are included in the Humboldt Bay Area Plan which regulate the maintenance of water utility infrastructure.

3.17.3.3.2 Humboldt County Regional Climate Action Plan

Humboldt County prepared a Draft Climate Action Plan in 2012 as part of the General Plan Update, which included a comparison of GHG emissions from 2006 and 1990. The emissions of carbon dioxide equivalents in unincorporated Humboldt County in 2006 were shown to have declined by approximately a half million metric tons when compared to 1990 levels. Such decreases may be attributed to a decline in industrial emissions in Humboldt County since 1990 related to a decline in the lumber industry and closure of several major industrial facilities related to timber processing (Humboldt County 2012).

The updated Regional Climate Action Plan (RCAP) was released for public review in July 2024 and includes a GHG inventory (completed in 2022) which identifies the major sources and quantities of GHG emissions produced by community wide activities within a geographic area for a given year. Humboldt County's total GHG emissions for 2022 were estimated to be 1,531,167 metric ton of carbon dioxide (MT CO_2e) with on-road transportation (73 percent) and natural gas usage in buildings (13 percent) as the two categories comprising the greatest GHG emissions. To achieve the RCAP's 2030 goal, Humboldt emissions will need to be reduced by approximately 218,000 MT CO_2e by 2030 and would be achieved by implementing specific policies and programs at the local level (Rincon 2024). The RCAP supports the 2045 state-level carbon neutrality target.

The RCEA has set several goals listed in the RCAP focused on energy procurement and reducing emissions in the region related to energy consumption. RCEA goals include: expand existing energy efficiency, conservation and electrification programs to reduce GHG emissions from fossil fuel use in buildings by 20 percent by 2030 and maintain a trajectory to reduce emissions from natural gas by 90 percent by 2050; accelerate the adoption of electric vehicles, with a target of over 6,000 electric vehicles on the road in Humboldt County by 2025 and 22,000 vehicles by 2030; by 2025 100 percent of RCEA's power mix will be from a combination of state-designated renewable energy sources; and by 2030 Humboldt County will be a net exporter of renewable electricity and RCEA's power mix will consist of 100 percent local, net-zero-carbon-emission renewable sources (Humboldt County 2024).

3.17.4 Evaluation Criteria and Significance Thresholds

Evaluation Criteria	Significance Thresholds	Sources
Would the Project result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	Result in environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources	CEQA Guidelines Appendix G, Checklist Item VI (a)
Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	Conflict with the California Energy Action Plan, SB 1389, AB 1007, or the Humboldt County Regional Climate Action Plan	CEQA Guidelines Appendix G, Checklist Item VI (b)

3.17.5 Methodology

Existing information sources were reviewed to determine whether any portions of the study area contain significant energy resources and to evaluate how these resources, if any, would be affected by the Project. This analysis evaluates the use of energy resources (e.g., fuel and electricity) during implementation of the Project. Specifically, the analysis considers whether implementation of the Project would use large amounts of fuels or energy, and whether they would be used in a wasteful manner.

3.17.6 Impacts and Mitigation Measures

Impact ER-a: Would the Project result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation? (Less than Significant Impact)

As described in Chapter 2 (Project Description), Project implementation includes vegetation management, sand relocation for reburial of infrastructure, access maintenance via grading, maintenance of the overflow discharge pipe, and installation of approximately 2,400 feet of electrical wire, conduit and a power pole. As shown in the schedule within Chapter 2, Project components would vary in frequency and duration. The prominent feature of the Project include vegetation management which would occur for up to three months per year over the first three years of Project

implementation and would involve use of a masticator, chainsaw, chipper, mower, hand tools, and utility truck. Annual vegetation maintenance would occur thereafter throughout the lifespan of the Project for up to one month per year and involve use of a chainsaw, mower, hand tools, and utility truck. See Section 2.4 for the Project Implementation Schedule which provides assumptions of the frequency of Project components occurrences, and Section 2.5 for a list of Project equipment anticipated to be used. These activities and equipment would require the use of fuels, primarily gas, diesel, and motor oil. The precise amount of Project-related energy consumption that would occur is uncertain; however, assumptions regarding Project activities are included in Section 2.4 and key Project activities are summarized below:

– Initial vegetation clearing (up to three months) within the PMA for one year (i.e. Year 1) with a crew of approximately ten workers involving a masticator, chainsaw, chipper, mower, hand tools, mini excavator (rarely) and utility truck;
– Annual vegetation maintenance (one month) throughout the lifespan of the Project (Year 2-50) with a crew of approximately six workers involving chainsaw, chipper, mower, hand tools, mini excavator (rarely) and utility truck;
– Excavation of approximately 2,400 linear feet to install electrical line, conduit and a power pole, which would occur once for up to three months and would involve an excavator, skid steer, dump truck, vacuum truck, backhoe, trench compactor, generator, loader, low pressure wide tracked grader and utility truck;
– Movement of sand to bury exposed or vulnerable infrastructure (one week per year) every five years (ten times total throughout lifespan of the Project), with a crew of one to two people using a low pressure wide tracked grader, bulldozer, backhoe and excavator;
– Grading of sandy portion of ROW to enable truck access, assumed to occur once per year, using a medium sized bulldozer;
– Miscellaneous annual maintenance work which assumes three weeks of driving along Project Area with a utility truck and six workers.

The Project activities listed above would not require a large amount of fuel or energy usage because of the limited number of construction vehicles and equipment, worker trips, and truck trips that would be required for a Project of this scale. Worker trips in passenger vehicles associated with the Project range depending on the Project activity. Vegetation maintenance is anticipated to include approximately ten trips per work day for one to three months. Heavy equipment, for sand movement or vegetation maintenance (such as bulldozer, masticator, and chipper), would remain staged in the Project Area or a previously disturbed nearby location (i.e. parking lot) once mobilized and would not be a component of the daily trip estimate. Use of these fuels would not be wasteful or unnecessary because their use is necessary to complete the Project.

Equipment idling times would be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes or less (as required by the California airborne toxics control measure [Title 13, Section 2485 of the CCR]).

Because the Project would not encourage activities that would result in the use of large amounts of fuel and energy in a wasteful manner, and with implementation of required idling restrictions, and the limited scope of construction equipment use, impacts related to the inefficient use of Project-related energy impacts would be less than significant.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than significant

Impact ER-b: Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency? (No Impact)

3.17.6.1 State Plans

The following plans were highlighted above in Section 3.5.3 and are reiterated here for ease of reference.

3.17.6.1.1 State of California Energy Action Plan

In 2003, the three key energy agencies in California— the California Energy Commission (CEC), the California Power Authority (“CPA”), and the California Public Utilities Commission (CPUC)— jointly adopted an Energy Action Plan (“EAP”) that listed goals for California’s energy future and set forth a commitment to achieve these goals through specific actions. In 2005, the CPUC and the CEC jointly prepared the EAP II to identify the further actions necessary to meet California’s future energy needs. To the extent that efficiency, demand response, renewable resources, and distributed generation are unable to satisfy increasing energy and capacity needs, the EAP II supports the use of clean and efficient fossil-fired generation. The plan recognizes that concurrent improvements are required to the bulk electricity transmission grid and distribution facility infrastructure to support growing demand centers and the interconnection of new generation, both on the utility and customer side of the meter.

3.17.6.1.2 Senate Bill 1389

Senate Bill (SB) 1389, the California Integrated Energy Policy, was adopted in August 2002 and requires the CEC to prepare an Integrated Energy Policy Report (IEPR) for electricity, natural gas, and transportation fuels. The IEPR contains an analysis of the policies and actions that are necessary to ensure that the state has adequate energy resources—including a range of alternative energy resources—to meet its needs. The IEPR also includes recommendations to reduce energy demand and to improve the state‘s energy infrastructure. The IEPR is regularly updated.

3.17.6.1.3 Assembly Bill 1007

Assembly Bill 1007, (Pavley, Chapter 371, Statutes of 2005) required the CEC to prepare a state plan to increase the use of alternative fuels in California (State Alternative Fuels Plan). The CEC prepared the State Alternative Fuels Plan in partnership with the California Air Resources Board and in consultation with other state, federal, and local agencies. The final State Alternative Fuels Plan, published in December 2007, would attempt to achieve an 80-percent reduction in GHG emissions associated with personal transportation, even as California’s population increases.

3.17.6.2 Local Plans

3.17.6.2.1 Humboldt County Regional Climate Action Plan

The Humboldt County Regional Climate Action Plan (RCAP) was released in November 2024 and includes strategies, measures, and actions addressing communitywide GHG emissions to support the state goal of a 40 percent reduction in GHG emissions below 1990 levels by 2030 and a longer-term goal of carbon neutrality by 2045 (Rincon 2024). To achieve the Humboldt 2030 GHG emissions reduction target, the County has developed 29 measures related to carbon-free energy, building energy use, transportation, waste, water/wastewater, and carbon sequestration. Measures related to the Project include transportation-oriented goals of reducing the propensity of single occupancy vehicles and shifting the County towards ride-sharing or transit (Measure T-1 Urban and Rural, Measures T-2 Urban and Rural, Measure T-8, Measure T-11).

The Project does not include components subject to the State of California Energy Action Plan listed above. Regarding the Humboldt County RCAP, electrical wiring installation work would be a relatively short-term project completed by a contractor, and vegetation maintenance work would be carried out by District staff and/or a contractor. Other Project components would be carried out by the District. Measure T-1 (Urban and Rural) and Measure T-2 (Urban and Rural) involve the implementation of programs and expansion of the public transit network that increase access to safe alternative means of transportation to increase the ridership on public transit. Measure T-8 involves the electrification or other decarbonization of small off-road vehicles and equipment incrementally (reduction by 12 percent by 2030 and 100 percent by 2045), and the use of renewable diesel in 55 percent of large heavy equipment by 2030. Measure T-11 states to electrify or otherwise decarbonize 50 percent of municipal fleets by 2030. Ridesharing of contractor staff to and from the work site would be encouraged by the District, and ridesharing would continue to be incorporated into District practices. Under existing conditions, the District staff rideshare when carrying out maintenance activities which would not change under this Project. Measures T-1 and T-2 relate to use of transit programs, which can be encouraged but not required by the District. To address Measure T-8, the selected future

contractor(s) would be encouraged to use electrified or alternative fuel equipment. To address Measure T-11 the District would consider adding electric vehicles to their fleet in accordance with their ongoing operations and budget cycles. Therefore, the proposed Project is consistent with State and local plans. No impact would result.

Mitigation Measures: No mitigation is necessary

Level of Significance: No impact

3.17.7 Cumulative Impacts

Impact ER-C-1: Would the Project contribute to a cumulatively significant impact to Energy Resources?

Cumulative effects analysis examines the current Project effects taken together with effects of past projects and known projects in the foreseeable future. Future projects considered for cumulative impacts are identified in **Table 3.0-1** and include industrial projects (Redwood Heavy Lift Marine Terminal), habitat restoration projects involving predominantly manual invasive plant removal with future potential use of prescribed fire, and improvements to the Town of Samoa and peninsula communities via infrastructure upgrades. The industrial and development projects occur within previously developed areas and construction of these facilities would result in greater energy use than under existing, baseline conditions. Activities within the dunes ecosystem from regional projects is predominantly from hand pulling of invasive species, which does not utilize energy resources beyond fuel for transportation. The potential use of prescribed fire on the South Spit, both under the proposed Project and the South Spit Resiliency Project, would both involve the use of fuel to ignite and manage the prescribed fire. However, this use of fuel is critical to prescribed fire and would be managed by CAL FIRE or a BLM Burn Boss and would not be used wastefully. As discussed in this Section, Project activities would not encourage actions that would result in the use of large amounts of fuel and energy in a wasteful manner.

Therefore, the Samoa Peninsula Right-of-Way Maintenance Project, taken together with past and foreseeable future projects, would not cause a cumulative adverse effect to energy resources. The Redwood Heavy Lift Marine Terminal project would use additional energy resources above what is currently being used; however, the proposed Project is for maintenance and would not use a substantial amount of energy. For these reasons, collectively, the incremental contribution of the Project to cumulative impacts is very small, and this potential cumulative impact is considered less than significant.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than significant impact

3.17.8 References

California Energy Commission (CEC). 2021. 2021 SB 100 Joint Agency Report. March 15.

Humboldt County Department of Community Development Services. 2012. Climate Action Plan: A strategy for Greenhouse Gas Reduction and Adaptation to Global Climate Change. January. Draft.

Rincon Consultants. 2024. Humboldt County Regional Climate Action Plan. Public Draft. Prepared for Humboldt County. July.

Redwood Coast Energy Authority (RCEA). 2021. Biomass Power in Humboldt County. Prepared by Michael Furniss, Climate and Forests Consultant to Redwood Coast Energy Authority. Original: January 2020. Available at: https://redwoodenergy.org/wp-content/uploads/2022/02/Biomass-Humboldt-RCEA-Revised_December_2021_final.pdf

Redwood Coast Energy Authority (RCEA). 2023. Community Report: RePowering Humboldt with Renewable Energy 2022-2023 Annual Report. April.

Personal communication. 2025. Email with R. Engel of Redwood Coast Energy Authority regarding status of their Annual Report. July 17.

3.18 Geology and Soils

This section evaluates the potential impacts related to geology and soils during implementation of the Project, including associated mitigation. To provide the basis for this evaluation, the Setting section describes the existing geologic resources and soil conditions in the Project Area and Mitigation Areas, and the Regulatory Framework section describes the regulatory background that applies to the Project. The Impact Analysis section establishes the thresholds of significance, evaluates geologic and soil impacts, and identifies the significance of impacts. Where appropriate, mitigation measures are presented to reduce impacts to less than significant levels.

3.18.1 Study Area

The study area for geology and soils includes the Project Area, associated access roads which include North Ma-le'l Dunes Road, Lupin Drive (and sandy portion of road west of Lupin Drive), the Samoa beach parking lot locally known as "power poles", the nameless roadway between New Navy Base Road and Vance Avenue located at the District's non-potable water storage tank, and the Mitigation Areas shown in **Appendix A,** (**Figures 2-2 through 2-5, and 2-7 through 2-7.4**).

3.18.2 Setting

The study area generally includes flat, low-lying terrain (central and southern areas), and rolling dune hills with gentle slopes. Specifically, the northern extent of the Project Area (south of the Redwood Gun Club) contains areas of steeper relief due to the active eolian dune accretion. The central Project Area contains vegetated conditions which provide slope stability, and the southern Project Area is predominantly flat and mostly vegetated with non-native invasive species cover. The far south project area is predominantly non-native species and a large patch of willow trees. The sandy access road runs north-south throughout the Project Area. The identified ingress/egress paths and the parking lot are paved except for Lupin Drive which is a sandy path that gains and loses approximately 30 feet of elevation from the community of Manila to the District's ROW. The District has historically utilized Lupin Drive to access their ROW.

The Mitigation Areas contain rolling active and stable dunes with topographic relief (Mitigation Area-1), forested dune habitat with a presumably more developed upper soil horizon (Mitigation Area-2), and the southern Mitigation Areas-3, -4 and -5 are relatively flat and contain rolling vegetated and non-vegetated dunes. The soil substrate throughout the entire study area consists of sand, and sandy mineral soils in mapped wetlands within the northern extent of the Project Area located within the Redwood Gun Club. Soils within the Project Area have been previously disturbed due to prior installation of the Humboldt Bay Municipal Water District's (HBMWD) potable and non-potable water pipelines and appurtenances. Maintenance under the proposed Project includes vegetation maintenance, movement of sand, overflow discharge pipe maintenance, and limited earthwork to a depth of three to four feet for electrical line and pole installation.

3.18.2.1 Regional Geological Setting

The Humboldt Bay region occupies a complex geologic environment characterized by very high rates of active tectonic deformation and seismicity. The region lies just north of the Mendocino Triple Junction, the intersection of three crustal plates (the North American, Pacific, and Gorda plates). North of Cape Mendocino, the Gorda plate is being actively subducted beneath North America, forming what is commonly referred to as the Cascadia subduction zone. In the Humboldt Bay region, deformation along the continental margin occurs as a series of northwest-trending, northeast-

dipping thrust faults, and intervening folds. The geomorphic landscape of the Humboldt Bay region is largely a manifestation of the active tectonic processes and a dynamic coastal environment setting.

3.18.2.2 Local Geological Setting

The Samoa Peninsula is located within the Coast Ranges Geomorphic Province of California, which is characterized by subparallel north- to northwest-trending mountain ranges and intermountain and coastal alluvial valleys and plains. The topography in the province is controlled by the predominant geological structural trends within the Coast Range that generally consist of northwest trending synclines (formations that dip upwards from a median line forming a valley-like appearance), anticlines (formations that dip downwards from a median line to form a hill-like appearance), and faulted blocks.

The Samoa Peninsula largely represents the remains of the western divide of the Mad River drainage and shares the same geological composition as the Eureka side of Humboldt Bay. Towards the southern end of the peninsula, there is a noticeable shift into a sand spit, formed by the gradual accumulation of littoral sand carried by the longshore current in the ocean. This distinction in substrate is crucial for understanding geological hazards in the area, emphasizing the importance of considering the nature of the underlying materials when assessing potential risks. The exact location of the inferred shift from an eroded "peninsula" featuring a core of older Pleistocene sediment (such as the Hookton Formation or its equivalent) to a "spit" formed by advancing sand of late Holocene age is currently uncertain. However, based on the geomorphic features observed, it is believed to take place approximately near the southern tip of the Samoa Peninsula.

3.18.2.3 Study Area Soils

Soils within the study area are dominated by eolian and marine derived sand. Soils mapped by the Natural Resources Conservation Service (NRCS) within the study area predominantly consist of the Samoa-Clambeach complex, but also contains Lanphere soil, and to a lesser degree Urban land-Anthralitic Xerorthents association. Samoa-Clambeach complex soil is primarily composed of sand apart from the first inch of slightly decomposed plant materials and is somewhat excessively drained. The parent material for both soils in the complex is derived from a combination of eolian and marine sands originating from mixed sources. Lanphere soil is derived from eolian sands and is primarily sand with the first 4 inches being slightly decomposed plant material and somewhat excessively drained. Urban land-Anthralitic Xerorthents association has a combination of gravelly loamy fine sand, sandy loam, gravelly sand, and sand that is derived from coarse-loamy fluviomarine deposits and/or coarse-loamy dredge spoils. The existing access road that traverses either within or adjacent to the ROW is considered disturbed due to use by pedestrians, equestrians and the District for maintenance activities.

3.18.2.4 Regional Seismic Setting

The north coast region of California is the most seismically active region in the continental United States due to the Mendocino Triple Junction, which is the point where the Gorda plate, North American plate and the Pacific plate meet. This area, offshore of Cape Mendocino, experiences the highest concentration of earthquake events in the continental United States. Due to the dynamic crustal deformation associated with the Mendocino Triple Junction, which is located approximately 35 miles from the study area, there is high potential for seismicity. Over sixty earthquakes have produced discernible damage in the Project vicinity since the mid-1800s (Dengler et al. 1992). Notably, in 2022 a 6.4 magnitude earthquake struck 10 miles southwest of Ferndale California in Humboldt County (CEA 2024). The Cascadia Subduction Zone (CSZ) represents the most significant potential earthquake source in the north coast region. A great subduction event may rupture along 200 kilometer or more of the coast from Cape Mendocino to British Columbia, may be up to magnitude 9.5, and could result in extensive tsunami inundation in low-lying coastal areas (Clarke 1992). The April 25, 1992, Petrolia earthquake (magnitude 7.1) appears to be the only historic earthquake involving slip along the subduction zone, but this event was confined to the southernmost portion of the fault. Paleoseismic studies along the subduction zone suggest that great earthquakes are generated along the zone every 300 to 500 years. Historic records from Japan describing a tsunami thought to have originated along the Cascadia Subduction Zone suggest the most recent event occurred on January 27, 1700, which is 324 years ago. A

great subduction earthquake would generate long duration, very strong ground shaking throughout the north coast region.

Table 3.18-1 Earthquakes in the Project Vicinity over M 5.0 in the Last 30 Years

Year	Latitude	Longitude	Magnitude
2022	40.52500	-124.423	6.4
2012	41.14317	-123.790	5.6
1994	40.73833	-124.303	5.4
2002	40.80983	-124.188	5.4

The Little Salmon fault, located south of Eureka, appears to be the most active fault in the Humboldt Bay region, and is capable of generating very large earthquakes. The Project is located 3.5 miles from the Little Salmon fault, which is a northwest-trending, southwest-vergent reverse fault. Paleoseismic studies of the Little Salmon fault indicate that the fault deforms late Holocene sediments at the southern end of Humboldt Bay (Clarke 1992). Estimates of the amount of fault slip for individual earthquakes along the fault range from 15 to 23 feet (4.5 to 7 meters). Radiocarbon dating suggests that earthquakes have occurred on the Little Salmon fault about 300, 800, and 1,600 years ago. Average slip rate for the Little Salmon fault for the past 6,000 years is between six and ten milometers per year. Based on currently available fault parameters, the maximum magnitude earthquake for the Little Salmon fault is thought to be between 7.0 and 7.3 (Geomatrix Consultants 1994). Additionally, the Project is located approximately 3.3 miles west of the Fickle Hill fault at its closest point (DOC 2024).

3.18.3 Regulatory Framework

3.18.3.1 Federal

There are no federal policies or regulations relevant to the Project for geology and soils.

3.18.3.2 State

3.18.3.2.1 Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (California Public Resources Code, Division 2, Chapter 7.5) was passed in 1972 to mitigate the hazard of surface faulting (i.e., ground rupture) to structures designed for human occupancy (CGS 2018). Title 14 of the California Code of Regulations (CCR), Section 3601(e), defines buildings intended for human occupancy as those that would be inhabited for more than 2,000 hours per year.

The Project does not include construction or use of buildings for human occupancy. Therefore, the regulatory provisions of the Alquist-Priolo Act do not apply to the Project.

3.18.3.2.2 Seismic Hazards Mapping Act

Like the Alquist-Priolo Act, the Seismic Hazards Mapping Act of 1990 (Public Resources Code [PRC] Sections 2690 to 2699.6) is intended to reduce damage resulting from earthquakes. While the Alquist-Priolo Act addresses surface fault rupture, the Seismic Hazards Mapping Act addresses other earthquake-related hazards, including strong ground shaking, liquefaction, and seismically-induced landslides. Its provisions are similar in concept to those of the Alquist-Priolo Act in that the State Geologist is charged with identifying and delineating areas at risk of strong ground shaking, liquefaction, landslides, and other corollary hazards. Counties and cities are then tasked with regulating development within the mapped Seismic Hazard Zones. In particular, cities and counties are prohibited from issuing development permits for sites within Seismic Hazard Zones until appropriate site-specific geologic and/or geotechnical investigations have been conducted by a state-licensed engineering geologist or civil engineer, and measures to reduce potential damage have been incorporated into the development plans.

Official Seismic Hazard Zone Maps have not yet been prepared for all parts of the State, and the Humboldt Bay area (which contains the Project Area) is one of the regions that has not been mapped for seismic hazards such as liquefaction and land sliding. Humboldt County's Web GIS contains generalized geologic hazard (e.g., liquefaction and landslides) zoning delineations and uses that information as part of the decision-making process in the issuance of County building permits.

3.18.3.2.3 California Public Resources Code

As part of the determination made pursuant to PRC Section 21080.1, the lead agency must determine whether a project would have a significant effect on paleontological resources.

Several sections of the PRC protect cultural resources and PRC Section 5097.5 protects vertebrate paleontological sites located on public land. Under Section 5097.5, no person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface any prehistoric ruins, vertebrate paleontological site (including fossilized footprints), or any other paleontological, or historical feature situated on public lands, except with the express permission of the public agency that has jurisdiction over the lands. Section 30244 of the PRC requires reasonable mitigation for impacts on paleontological and archaeological resources that occur as a result of development on public lands. The Project (including mitigation) is not considered development, rather it is considered maintenance and a total of approximately 160 acres of land within the study area is considered public land due to ownership or management by the Bureau of Land Management (BLM).

3.18.3.2.4 California Coastal Act

The Project Area is within the appeal jurisdiction of the Coastal Zone, and is therefore appealable to the California Coastal Commission which implements the Coastal Act. Policies from the Coastal Act that are relevant to paleontological resources include:

> *Public Resources Code Section 30244 Archaeological or paleontological resources*
>
> *Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.*

3.18.3.3 Regional and Local

The study area is located within Humboldt County's jurisdiction, and specifically within the appeal jurisdiction of the Coastal Zone which is regulated by the Humboldt Bay Area Plan Local Coastal Program (HBAP LCP). The Humboldt County General Plan was not certified in the Coastal Zone and therefore General Plan goals and policies are not binding, and are not included in this section.

3.18.3.3.1 Humboldt Bay Area Plan – Local Coastal Program

> *3.17 Hazards – Section 30253*
>
> *New Development shall:*
>
> *Minimize risks to life and property in areas of high geologic, flood and fire hazard.*
>
> *Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding areas or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.*

3.18.3.3.2 Humboldt County Geologic Hazards Ordinance

Humboldt County Code Section 336 regulations apply to those projects and activities which fall within the County's land use and development jurisdiction. The purpose of these regulations is to ensure that risks to life and property in moderate and high geologic hazard areas are minimized and further to assure stability and structural integrity, and

neither create nor contribute significantly to erosion, geologic instability or destruction of development sites or surrounding areas.

3.18.3.3.3 Humboldt County Streamside Management Ordinance

Humboldt County Code Section 314-61 regulates excavation, grading, and erosion control near streams, floodplains, and wetlands, including setback requirements.

3.18.3.3.4 Humboldt County Grading Excavation, Erosion and Sedimentation Control Ordinance

Humboldt County Code Section 331-14 regulates grading activities exceeding 50 cubic yards.

3.18.4 Evaluation Criteria and Significance Thresholds

Evaluation Criteria	Significance Thresholds	Sources
Would the Project directly or indirectly cause potential substantial adverse effects involving 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?	Placement of a structure intended for human occupancy within an Alquist-Priolo earthquake fault zone	CEQA Guidelines Appendix G, Checklist Item VII(a)(i)
Would the Project directly or indirectly cause strong seismic ground shaking?	Non-compliance with California Building Code	CEQA Guidelines Appendix G, Checklist Item VII(a)(ii) Humboldt County Geologic Hazards Ordinance
Would the Project directly or indirectly cause seismic-related ground failure, including liquefaction?	Non-compliance with California Building Code	CEQA Guidelines Appendix G, Checklist Item VII(a)(iii) California Building Code Section 1803.5.11 and 1803.5.12 Humboldt County Geologic Hazards Ordinance
Would the Project directly or indirectly cause landslides?	Non-compliance with California Building Code	CEQA Guidelines Appendix G, Checklist Item VII(a)(iv) California Building Code Section 1803.5.11 and 1803.5.12 Humboldt County Geologic Hazards Ordinance
Would the Project result in substantial soil erosion or the loss of topsoil?	Non-compliance with the County's Grading, Excavation, Erosion and Sedimentation Control Code	CEQA Guidelines Appendix G, Checklist Item VII(b) Grading Excavation, Erosion and Sedimentation Control (Humboldt County Code Section 331-14).

Evaluation Criteria	Significance Thresholds	Sources
Would the Project 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?	Non-compliance with California Building Code	CEQA Guidelines Appendix G, Checklist Item VII(c) California Building Code Section 1803.5.11 and 1803.5.12 Humboldt County Geologic Hazards Ordinance
Would the Project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	Non-compliance with Uniform Building Code	CEQA Guidelines Appendix G, Checklist Item VII(d) 1994 Uniform Building Code Chapter 18, Division 1, Table 18-1-B and Standard 18-2
Would the Project 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?	Placement of a septic tank or alternative wastewater disposal system in the Project Area	CEQA Guidelines Appendix G, Checklist Item VII(e)
Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Disturbance of a known vertebrate fossil locality or within a geologic unit that has high sensitivity for vertebrate fossils	CEQA Guidelines Appendix G, Checklist Item VII(f)

3.18.5 Methodology

Project activities are evaluated in terms of their potential significance to impact (i.e., increase risks associated with) the identified geologic hazards. Where appropriate, impact analysis relied on the California Department of Conservation's online earthquake hazard mapping tool, EQ Zapp. Mitigation measures are then described for those impacts determined to be potentially significant.

3.18.6 Impacts and Mitigation Measures

Impact GEO-a.i: **Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. (No Impact)**

According to the most recent Alquist-Priolo Earthquake fault Zoning Map, the Project is located approximately 3.3 miles west of the Fickle Hill fault at its closest point, and 3.5 miles northwest of the Little Salmon fault at its closest point (DOC 2024). Both faults are northwest-trending, reverse faults and the Little Salmon Fault is considered the most active fault in the Humboldt Bay region. Project activities, which include excavation up to approximately four feet, vegetation maintenance and other maintenance activities, would not impact the Little Salmon or Fickle Hill faults or any other known fault because no faults occur within the study area. Additionally, no structures or buildings for human use or occupancy are proposed in this Project, and therefore the Project would not increase the direct or indirect adverse potential effects to people because the Project would not cause people to visit the Project Area above existing conditions. Therefore, no impact would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: No impact

Impact GEO-a.ii: Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking? (No Impact)

The Project is located in a seismically active area close to several seismic sources capable of generating moderate to strong ground motions. Given the proximity of the Fickle Hill fault, Little Salmon Fault and other significant active faults such as the Cascadia subduction zone, and other active faults within and offshore of northern California, it is reasonable to assume the Project site could experience strong ground shaking.

The Project is located 3.3 miles west of the Fickle Hill fault, which is the closest recognized active fault, and 3.5 miles northwest of the Little Salmon fault (DOC 2024). The Project does not include structures or residences and therefore does not provide human occupancy. Project activities would not increase or decrease the potential for seismic events and associated ground shaking, and due to the absence of habitable structures and minor increase in maintenance under the Project there would be no substantial increase in exposure of people within the Project Area that could be subject to loss, injury or death. Due to the distance from the Project site to the nearest recognized active faults, and the relatively shallow excavation (up to four feet below ground surface), the potential for ground surface fault rupture to occur at the Project site or throughout the study area is considered low. Thus, Project implementation would not increase the risk of strong seismic ground shaking or exposure to strong seismic ground shaking above existing conditions that could cause loss, injury or death.

Mitigation Measures: No mitigation is necessary

Level of Significance: No Impact

Impact GEO-a.iii, iv, c, d: Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving liquefaction, landslides, or otherwise unstable soils? (No Impact)

The seismic setting poses significant threats, including serious liquefaction and subsidence risks, particularly around Humboldt Bay's muds and sands. Liquefaction is a phenomenon involving loss of soil strength and resulting in fluid mobility through the soil. Liquefaction typically occurs when loose, uniformly-sized, saturated sands or silts are subjected to repeated shaking in areas where the groundwater is less than 50 feet below ground surface. In addition to the necessary soil and groundwater conditions, the ground acceleration must be high enough, and the duration of the shaking long enough for liquefaction to occur.

The Project Area exists on a peninsula consisting of coastal sand deposits making it susceptible to liquefaction. The potential for liquefaction-related settlement exists at the Project site. However, Project implementation would not increase the risk of liquefaction because liquefaction is a product of ground shaking which occurs independent of the Project. Exposure to potential liquefaction would temporarily increase above existing conditions during maintenance activities when workers are onsite. However, this exposure would be temporary and insignificant given how speculative liquefaction is. Therefore, no impact is anticipated.

Landslides can be triggered by ground shaking, especially in saturated conditions.

The Project and Mitigation Areas are located on predominantly flat areas and areas with rolling dune hills. As described in the Setting, portion of the northern extent of the Project Area contain steeper dune hills and the Lupin Drive access road contains approximately 30 feet of elevation gain and loss. Implementation of the Project would not permanently alter the topography; however, it would temporarily alter topography during sand relocation and minor grading activities. The risk of landslide would not substantially change due to implementation of the Project. Therefore, no impact is anticipated.

Mitigation Measures: No mitigation is necessary

Level of Significance: No impact

Impact GEO-b: Would the Project result in substantial soil erosion or the loss of topsoil? (Less than Significant Impact)

Project ground disturbing activities, including excavation, grading, operation of heavy machinery, and the occasional removal of tree roots would disturb the soil substrate (i.e. sand). Mitigation activities could include the removal of invasive species to restore dune mat habitat, improvements to wetlands and potential wetland creation. Sand has low erodibility due to the high infiltration capacity, meaning water runoff potential is low. Sand within the study area is most susceptible to wind-driven erosion (eolian transfer).

In accordance with local and state regulations, ground disturbing activities (i.e. excavation and grading) would be performed in compliance with the BMPs prescribed in the Humboldt County Code and NCRWQCB regulations. BMPs may include: silt fences and/or straw wattles adjacent to sensitive environmental resources, soil stabilization controls, and site watering for controlling eolian-driven sand erosion. If implemented, the predominant means of European beachgrass removal would include herbicide application and prescribed burning, followed by manual and/or mechanical approaches as the secondary means of removal. The sequencing of prescribed burning and herbicide application has the advantage over mechanical removal because it preserves the remnant European beachgrass stubble and roots as anchoring to retain the semi-stability of the dune system (Pickart 1997). Therefore, a substantial loss of topsoil (sand) would not occur under this scenario because the root system would remain relatively intact over a longer period of time as compared to mechanical removal. The Project Area is dominated by sand and areas with mineral topsoil that are not proposed for disturbance.

It should be noted that dune mat habitat relies on dynamic, moving sand, and it is anticipated that following invasive plant removal there would be greater movement of the top layer of sand.

This potential impact would be less than significant.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than Significant Impact

Impact GEO-e: Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater? (No Impact)

The Project does not involve the use or installation of septic tanks, nor would it impact any area where septic tanks or alternative wastewater disposal systems are in use or proposed. Project activities include conducting activities to ensure continued access for maintenance to the District's infrastructure at any time. The Project would not require the use of additional septic tanks or an alternative wastewater disposal system nor would it have any effect on the current Samoa Peninsula Wastewater Project. There would be no impact.

Mitigation Measures: No mitigation is necessary

Level of Significance: No Impact

Impact GEO-f: Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? (Less than Significant Impact with Mitigation)

Paleontological resources are the remains or traces of prehistoric animals and plants. Paleontological resources, which include fossil remains and geologic sites with fossil-bearing strata are non-renewable and scarce and are a sensitive resource afforded protection under environmental legislation in California. Under California PRC Section 5097.5, unauthorized disturbance or removal of a fossil locality or remains on public land is a misdemeanor. State law

also requires reasonable mitigation of adverse environmental impacts that result from development of public land and affect paleontological resources (PRC Section 30244).

The Project involves excavation in a limited 2,400-foot area with a maximum depth of up to four feet for electrical line installation, in a location that has undergone prior disturbance through utility installation. Excavation up to six feet may occur within the Mitigation Areas to bury invasive vegetation. Surface-level sand would be utilized from the sand borrow area, which is within an active dune plane that is heavily affected by the wind. While there is very low likelihood that Project construction would adversely affect potentially significant paleontological resources because the dune system is dynamic and shifting over time, there exists the potential for the discovery of unique paleontological resources or distinctive geologic features during the construction process. Mitigation Measure GEO-1 is included in event paleontological resources are inadvertently discovered within the Project Area during construction, reducing the potential impact to less than significant.

3.18.6.1 Mitigation

Mitigation Measure GEO-1: Inadvertent Discovery of Paleontological Resources

If potential geologic or paleontological resources are encountered during Project subsurface activities or geotechnical testing, all work within 50 feet of the find shall be stopped, and a qualified archaeologist funded and approved by the County shall be contacted to evaluate the find, determine its significance, and identify any required mitigation, which would likely include documentation, procurement, and preservation of the found artifact. The County shall be responsible for implementing the mitigation prior to construction activities being re-started at the discovery site.

Implementation of Mitigation Measure GEO-1 would reduce this potentially significant impact to a less-than-significant level during Project implementation because a plan to address discovery of unanticipated paleontological resources and to preserve and/or record those resources consistent with appropriate laws and requirements would be implemented.

Level of Significance: Less than significant with mitigation

3.18.7 Cumulative Impacts

Impact GEO-C-1: Would the Project contribute to a cumulatively significant impact to Geology or Soils?

Projects considered for cumulative impacts are identified in **Table 3.0-1** and include industrial projects such as the Redwood Heavy Lift Terminal projects, habitat restoration projects such as the ongoing invasive plant removal efforts by Friends of the Dunes and the BLM, and development projects such as cannabis operations and minor improvements to existing facilities within the Town of Samoa. The only projects considered on **Table 3.0-1** that occur within the dune ecosystem are habitat improvement projects, which would have no impact on soil and geology because no heavy equipment is being utilized. Proposed habitat restoration efforts including use of fire and herbicide would not result in erosion because the root system of the burned vegetation would remain intact during the transition from an invasive monoculture to natural dune processes which include the movement of sand.

Given that the Project would not result in any significant impacts to geology and soils, and that the projects considered in **Table 3.0-1** would not permanently affect geology and soil resources in the study area or vice versa, there is no potential for cumulative geology and soils impacts within the study area, and no impact would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: No impact

3.18.8 References

California Building Standards Commission. 2022. 2022 California Building Code, Title 24, Part 2, Volume 1 of 2.

California Department of Conservation (DOC). 2024. *Online Earthquake Hazard Zone Mapping Tool EQ Zapp*. Available online: https://maps.conservation.ca.gov/cgs/EQZApp/app/ Accessed on January 3. 2024.

California Geological Survey (CGS). 2018. Earthquake Fault Zones: A Guide for Government Agencies, Property Owners/Developers, and Geoscience Practitioners for Assessing Fault Rupture Hazards in California (revised). Calif. Dept. of Conservation. Calif. Geol. Surv. Special Publication SP-42. 83 p.

California Geological Survey (CGS). 2022. Seismic Hazards Program: Alquist Priolo Fault Hazard Zones. Available online at: https://gis.data.ca.gov/maps/ee92a5f9f4ee4ec5aa731d3245ed9f53/explore?location=38.183861%2C-91.284100%2C2.35

California Earthquake Authority (CEA). 2024. List of Major Earthquakes in California. Available online at: **List of Major Earthquakes in California | CA Earthquake History Timeline (earthquakeauthority.com)**Clarke. 1992. Geology of the Eel River Basin and Adjacent Region: Implications for Late Cenozoic Tectonics of the Southern Cascadia Subduction Zone and Mendocino Triple Junction.

Dengler, L.A., Carver, G.A., and McPherson R.C. 1992. *Sources of North Coast Seismicity. California Geology*, v. 45, pp. 40-53.

Geomatrix Consultants. 1994. *Seismic ground motion study for Humboldt Bay bridges on Route 255*. Unpublished consultants report for the California Department of Transportation.

Humboldt County. 2002. *Central Humboldt County Bedrock Faults*. Available online at: https://humboldtgov.org/DocumentCenter/View/1413/Figure-10-1b-Central-Humboldt-Bedrock-and-Faults-11-x-17-PDF

Humboldt County. 2017*. Humboldt County General Plan. Chapter 10: Conservation and Open Space Elements*. Available at: https://humboldtgov.org/205/General-Plan

Humboldt County. 2022*. Humboldt Bay Area Plan, of the Humboldt County Local Coastal Program.* Available at: https://humboldtgov.org/DocumentCenter/View/50844/Humboldt-Bay-Area-Local-Coastal-Plan

Humboldt County. 2023. *The Humboldt County Code.* Available at **https://humboldt.county.codes/Code/3**

Pickart, A. 1997. Control of European Beachgrass (*Ammophila arenaria*) on the West Coast of the United States. California Exotic Pest Plant Council, 1997 Symposium Proceedings.

Public Resources Code Division 20. 2021. *California Coastal Act*. Available at: https://www.coastal.ca.gov/coastact.pdf

United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS). 2023. *Custom Soil Resource Report for Humboldt County, Central Part, California*

United States Geological Survey (USGS). 2013. *Magnitudes of Selected Significant Earthquakes*. Available at: https://earthquake.usgs.gov/data/comcat/catalog/official/significant_earthquake_magnitudes.pdf

3.19 Greenhouse Gas Emissions

This section evaluates the potential greenhouse gas (GHG) emissions impacts from implementation of the Project and associated mitigation. The GHG analysis below discusses GHG and consistency with the State of California's 2022 Climate Change Scoping Plan.

3.19.1 Study Area

The CEQA Guidelines generally address greenhouse gas emissions as a cumulative impact due to the global nature of climate change (Pub. Resources Code, § 21083(b)(2)). As the California Supreme Court explained, "because of the global scale of climate change, any one project's contribution is unlikely to be significant by itself" (Cleveland National Forest Foundation v. San Diego Assn. of Governments (2017) 3 Cal.5th 497, 512). Because of the global nature of GHG, and the state-wide application of CEQA, the study area for GHG impacts is the State of California.

3.19.2 Environmental Setting

3.19.2.1 Climate and Meteorology

The proposed Project is located in the western portion of Humboldt County, California, which is in the jurisdiction of the North Coast Air Basin. The Coastal Zone of Humboldt County experiences wet, cool winters, and dry, mild foggy summers. Coastal summer highs range from the mid-60s to 70s, with lows from the upper 40s to mid-50s. In the winter, highs range from the low 40s to high 50s, with lows in the 30s and 40s. The Coastal Zone experiences a number of frosty nights in winter and early spring, though snowfall and hard freezes are rare.

3.19.2.2 Global Climate Change – Greenhouse Gases

Gases that trap heat in the atmosphere are referred to as GHGs because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse. The accumulation of GHGs has been implicated as the driving force for global climate change. The primary GHGs are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), ozone (O_3), and water vapor (H_2O).

While GHGs in the atmosphere are naturally occurring, the emission rate of CO_2, CH_4 and N_2O has been accelerated by human activities. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas CH_4 results from off-gassing associated with such activities as agricultural practices and landfills. Other GHGs include hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride, which are generated during certain industrial processes. GHGs are typically reported in "carbon-dioxide-equivalent" measures (CO_2e).

The Project site is located within an existing utility corridor right-of-way (ROW) and adjacent area of open space (sand borrow area). Residences and predominantly out-of-operation industrial facilities exist adjacent to the southern extent of the Project Area. The majority of GHGs emitted from the Project region are from vehicular use along Highway 255, New Navy Base Road, electrical operation of District pipelines and other infrastructure, and adjacent industries. No other major sources of GHG emissions exist in the Project vicinity.

3.19.3 Regulatory Framework

3.19.3.1 Federal

On January 9, 2023, the Council on Environmental Quality (CEQ) provided a draft guidance memorandum for public consideration and comment on the ways in which federal agencies can improve their consideration of the effects of greenhouse gas emissions and climate change in evaluations of proposals for federal actions under the NEPA (CEQ 2023). However, in early 2025, the CEQ issued an interim final rule to remove the all CEQ Regulations implementing NEPA from the Code of Federal Regulations. The CEQ's 2023 guidance on greenhouse gases has been removed from the CEQs available publications.

3.19.3.2 State

3.19.3.2.1 Executive Order S-3-05

In 2005, the Governor of California signed Executive Order S-3-05, which established greenhouse gas emission reduction targets to reduce emissions as follows:

– By 2010, reduce GHG emissions to 2000 levels,
– By 2020, reduce GHG emissions to 1990 levels, and
– By 2050, reduce GHG emissions to 80 percent below 1990 levels.

3.19.3.2.2 Assembly Bill 32, California Global Warming Solutions Act of 2006

In 2006, the Governor of California signed the Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32), committing California to reducing GHG emissions to 1990 levels by 2020. The statute requires the California Air Resources Board (CARB) to track emissions through mandatory reporting, determine the 1990 emission levels, set annual emissions limits that would result in meeting the 2020 target, and design and implement regulations and other feasible and cost effective measures to ensure that statewide GHG emissions would be reduced to 1990 levels by 2020. CARB calculated the 2020 emissions limit as 431 million metric tons (MMT) CO2e. Projected business-as-usual emissions for 2020 are 509 MMT CO2e. A reduction of 78 MMT CO2e is needed to meet the goal (CARB 2012). This bill was extended via Senate Bill (SB) 32, described below.

3.19.3.2.3 Executive Order B-30-15

On April 29, 2015, the Governor of California announced EO B-30-15 and established the 2030 target of reducing GHG emissions to 40 percent below 1990 levels. The emission reduction target is an interim-year goal to provide substantial progress toward the ultimate goal of reducing emissions by 80 percent below 1990 levels by 2050.

3.19.3.2.4 Senate Bill 32 and Assembly Bill 197

Senate Bill 32, passed in 2016, extended the goals of AB 32 and codifies the GHG reduction target of 40 percent below 1990 levels by year 2030, consistent with EO B-30-15. The companion bill to SB 32, AB 197, provides additional direction to CARB in developing each update to the Climate Change Scoping Plan (see below).

3.19.3.2.5 Climate Change Scoping Plan

In December 2008, pursuant to AB 32, CARB adopted the Climate Change Scoping Plan (Scoping Plan), which outlined measures to attain the 2020 GHG emissions limit. AB 32 requires CARB to update the Scoping Plan at least every five years. The Scoping Plan was updated in 2014, 2017, and again in 2022. The current 2022 Scoping Plan assesses progress toward the statutory 2030 target, while laying out a path to achieving carbon neutrality no later than 2045. Appendix D of the 2022 Scoping Plan lays out local actions recommended by CARB for local governments to take that align with the State's climate goals. These actions are not regulatory, but are provided to assist local governments, including during project review under CEQA (CARB 2022). The actions identified as 'impactful' by CARB are listed as "Priority GHG Reduction Strategies" organized by the following priority areas:

– Transportation Electrification
– Vehicle Miles Traveled (VMT) Reduction
– Building Decarbonization

None of the priority GHG reduction strategies are applicable to the Project.

3.19.3.2.6 California Coastal Act

The entire Project Area and Mitigation Area are located within the "Appeal" jurisdiction of the Coastal Zone, which means activities in the Coastal Zone are under local jurisdiction (described below) but appealable to the California

Coastal Commission which implements regulations in the Coastal Zone under the California Coastal Act. The California Coastal Act outlines, among other things, standards for development within the Coastal Zone.

No policies from the Coastal Act regulate the maintenance of water utility infrastructure.

3.19.3.3 Regional and Local

The study area is within the North Coast Air Basin and is therefore regulated by the North Coast Unified Air Quality Management District (NCUAQMD), within Humboldt County jurisdiction and regulated by the Humboldt County General Plan, and within the "Appeal" designation of the Coastal Zone which is regulated by the Humboldt County Local Coastal Program Humboldt Bay Area Plan (HBAP). The Humboldt County General Plan was not certified in the Coastal Zone and therefore General Plan goals and policies are not binding, and are not included in this section.

3.19.3.3.1 North Coast Unified Air Quality Management District

The NCUAQMD is a regional environmental regulatory agency with jurisdiction over Humboldt County. The NCUAQMD enforces local, state and federal air quality regulations and air quality permits. In 2011, NCUAQMD adopted Rule 111 (Federal Permitting Requirements for Sources of Greenhouse Gases) into the District rules and thus established a threshold above which New Source Review (NSR) and federal Title V permitting applies. Rule 111 also established federally enforceable limits on GHG emissions for stationary sources. This Project does not include any new stationary sources; therefore, Rule 111 would not apply.

The NCUAQMD has not adopted regulations regarding the evaluation of GHG emissions in a CEQA document, or established CEQA significance criteria specific to evaluating the effects of project-related GHG emissions.

3.19.3.3.2 Humboldt County Regional Climate Action Plan

Humboldt County published a Draft Humboldt Regional Climate Action Plan (RCAP) on August 7, 2025 (Humboldt County 2025a). The Draft 2025 RCAP is a regional plan that would serve the County and the incorporated cities, and was prepared in partnership with the seven incorporated Cities (Arcata, Blue Lake, Eureka, Ferndale, Fortuna, Rio Del and Trinidad), the Redwood Coast Energy Authority, Humboldt Transit Authority, Humboldt Waste Management Authority (HWMA) and the Humboldt Area Council of Governments.

3.19.3.3.3 Humboldt Bay Area Plan – Local Coastal Plan

There are no applicable policies in the HBAP that address GHG emissions.

3.19.4 Evaluation Criteria and Significance Thresholds

Evaluation Criteria	Significance Thresholds	Sources
Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Consistency with the Draft Humboldt RCAP	CEQA Guidelines Appendix G, Checklist Item VIII (a) Consistency with the Draft Humboldt RCAP
Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Conflict with the State's adopted 2022 Scoping Plan	CEQA Guidelines 2022 Scoping Plan

3.19.5 Methodology

Emissions from Project implementation were estimated using CalEEMod version 2022.1.1.29 and AP-42 emission factors, as described in Chapter 3.2 - Air Quality, of this Draft EIR. The Project's estimation of generated GHG emissions were evaluated qualitatively against the State's AB 32 GHG reduction goals, and the Project's continued operations were further evaluated for consistency the State's *2022 Scoping Plan for Achieving Carbon Neutrality* (CARB 2022).

3.19.6 Impacts and Mitigation Measures

Impact GHG-a, b: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases? (Less than Significant)

As described above, there are no local or regional thresholds for evaluating GHG emissions. Therefore, consistency with the State's adopted 2022 Scoping Plan is used to evaluate the Project's potential significance. This document is appropriate as it identifies the State's plan to achieve the emission reductions for the statutory 2030 target and the plan to achieve carbon neutrality no later than 2045, as well as provides the local actions recommended by CARB for local governments to utilize during CEQA evaluations of proposed projects. The Project is analyzed for consistency with the 2022 Scoping Plan in **Table 3.19-1**. As shown in the table, the Project is consistent with the applicable Scoping Plan measures. Therefore, the Project would result in a less than significant impact.

Table 3.19-1 Consistency Analysis between Project and the 2022 Climate Change Scoping Plan

Scoping Plan Recommended Location action	Consistency/Applicability Determination
Transportation Electrification	
Convert local government fleets to ZEVs and provide EV charging at public sites.	**Not Applicable.** This is a measure applicable to government fleets and EV charging facilities. The Project is a water/utility access maintenance project; the Project would not include facilities subject to this measure.
Create a jurisdiction-specific ZEV ecosystem to support deployment of ZEVs statewide (such as building standards that exceed state building codes, permit streamlining, infrastructure siting, consumer education, preferential parking policies, and ZEV readiness plans).	**Not Applicable.** This is a measure applicable to ZEV use and local land use planning environment. The Project is a water/utility access maintenance project; the Project does not include jurisdiction over building standards or other planning components that would affect the ZEV ecosystem.
VMT Reduction	
Reduce or eliminate minimum parking standards.	**Not Applicable.** The Project does not include facilities subject to this measure.
Implement Complete Streets policies and investments, consistent with general plan circulation element requirements.	**Not Applicable.** The Project does not include facilities subject to this measure.
Increase access to public transit by increasing density of development near transit, improving transit service by increasing service frequency, creating bus priority lanes, reducing or eliminating fares, microtransit, etc.	**Not Applicable.** The Project does not include facilities or services subject to this measure.
Increase public access to clean mobility options by planning for and investing in electric shuttles, bike share, car share, and walking.	**Not Applicable.** The Project does not include facilities or services subject to this measure.
Implement parking pricing or transportation demand management pricing strategies.	**Not Applicable.** The Project does not include facilities or services subject to this measure.

Scoping Plan Recommended Location action	Consistency/Applicability Determination
Amend zoning or development codes to enable mixed-use, walkable, transit-oriented, and compact infill development (such as increasing the allowable density of a neighborhood).	**Not Applicable.** The Project does not include facilities or services subject to this measure.
Preserve natural and working lands by implementing land use policies that guide development toward infill areas and do not convert "greenfield" land to urban uses (e.g., green belts, strategic conservation easements).	**Not Applicable.** The Project would be managing natural lands as part of the facilities maintenance; however, the Project does not have jurisdiction over development or infill.
Building Decarbonization	
Adopt all-electric new construction reach codes for residential and commercial uses.	**Not Applicable.** The Project does not include facilities subject to this measure.
Adopt policies and incentive programs to implement energy efficiency retrofits for existing buildings, such as weatherization, lighting upgrades, and replacing energy-intensive appliances and equipment with more efficient systems (such as Energy Star-rated equipment and equipment controllers).	**Not Applicable.** The Project does not include facilities subject to this measure.
Adopt policies and incentive programs to electrify all appliances and equipment in existing buildings such as appliance rebates, existing building reach codes, or time of sale electrification ordinances.	**Not Applicable.** The Project does not include facilities subject to this measure.
Facilitate deployment of renewable energy production and distribution and energy storage on privately owned land uses (e.g., permit streamlining, information sharing).	**Not Applicable.** The Project does not include facilities subject to this measure.
Deploy renewable energy production and energy storage directly in new public projects and on existing public facilities (e.g., solar photovoltaic systems on rooftops of municipal buildings and on canopies in public parking lots, battery storage systems in municipal buildings).	**Not Applicable.** The Project does not include facilities subject to this measure.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than significant impact

3.19.7 Cumulative Impacts

Impact GHG-C-1: Would the Project contribute to a cumulatively significant impact to Greenhouse Gas Emissions? (Less than Significant Impact)

GHG emissions, by their nature, represent a cumulative impact. No single project could generate enough GHG emissions to noticeably change the global average temperature. Instead, GHG emissions contribute, on a cumulative basis, to the significant adverse environmental impacts of global climate change. Therefore, the Project analysis presented above represents the cumulative analysis for impacts from GHG emissions. Any increases in Project-related GHG emissions would not impede the state in meeting AB 32 GHG reduction goals. The Project would not contribute to a significant cumulative impact related to GHG emissions.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than Significant

3.19.8 References

California Air Resources Board. 2022. Scoping Plan for Achieving Carbon Neutrality. November.

Council on Environmental Quality (CEQ). 2023. Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Review. Effective August 5, 2016.

Humboldt County. 2014. Humboldt Bay Area Plan, of the Humboldt County Local Coastal Program. December. Available at: https://humboldtgov.org/DocumentCenter/View/50844/Humboldt-Bay-Area-Local-Coastal-Plan

Humboldt County. 2025a. Humboldt County Regional Climate Action Plan – Final Report. August 7.

Humboldt County. 2025b. Humboldt Regional Climate Action Plan Greenhouse Gas Inventory, Forecast, and Targets Report. August 7.

Humboldt County. 2025c. Humboldt Regional Climate Action Plan Greenhouse Gas Emissions Measure Reduction Quantification and Substantial Evidence Report. August 7.

Humboldt County. 2025d. California Environmental Quality Act Greenhouse Gas Emissions Threshold and Guidance – Final Report. August.

North Coast Unified Air Quality Management District (NCUAQMD). 2011. Rule 111 – Federal Permitting Requirements for Sources of Greenhouse Gases. January 2011.

North Coast Unified Air Quality Management District (NCUAQMD). 2017. NCUAQMD Website – Greenhouse Gases (GHG) & Climate Change. www.ncuaqmd.org.

Public Resources Code Division 20. 2021. California Coastal Act. Available at: https://www.coastal.ca.gov/coastact.pdf

3.20 Hazards and Hazardous Materials

This section evaluates potential impacts related to hazards and hazardous materials during implementation of the Project and associated mitigation. To provide the basis for this evaluation, the Setting section describes the existing hazards and hazardous materials within the Project Area and Mitigation Areas. The Regulatory Framework section describes the regulatory background that applies to hazards and hazardous materials. The Impact Analysis section establishes the thresholds of significance, evaluates potential hazard-related impacts, and identifies the significance of impacts. Where appropriate, mitigation measures are presented to reduce impacts to less than significant levels.

3.20.1 Study Area

The study area for hazards and hazardous materials include the Project Area and Mitigation Areas (see **Appendix A, Figures 2-2 through 2-5, and 2-7 through 2-7.4**).

3.20.2 Setting

3.20.2.1 Definition of Hazardous Materials

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency, or if it has characteristics defined as hazardous by such an agency. Factors that influence the health effects of exposure to hazardous materials include the dose to which the person is exposed, the frequency of exposure, the exposure pathway, and individual susceptibility.

The California Code of Regulations (CCR) defines a hazardous material as a substance that, because of physical or chemical properties, quantity, concentration, or other characteristics, may either: (1) cause an increase in mortality or an increase in serious, irreversible, or incapacitating illness; or (2) pose a substantial present or potential hazard to

human health or the environment when improperly treated, stored, transported or disposed of, or otherwise managed (CCR, Title 22, Division 4.5, Chapter 10, Article 2, Section 66260.10). Hazardous materials are classified according to four properties: toxicity, ignitability, corrosivity, and reactivity (CCR, Title 22, Chapter 11, Article 3), which are defined in the CCR, Title 22, Sections 66261.20-66261.24.

3.20.2.2 Regional Description

The study area is predominantly located on the Samoa Peninsula, except for Mitigation Area-5 which is located on the South Jetty, which was a bustling industrial hub for the region particularly in the second half of the twentieth century. Industrial uses within the peninsula were centered around timber processing and included two pulp mills, two lumber mills, and associated structures and infrastructure. In the mid 20th century it was common for timber processing facilities to use wood preservatives and other additives that contain toxic chemicals such as chromated arsenicals (which include preservatives containing chromium, copper and arsenic), creosote (which is derived from coal tar), and pentachlorophenol (PCP) which is a pesticide (EPA 2024). On the Samoa Peninsula, dioxins from these chemicals, heavy metals and petroleum products persist via the detection of them in Humboldt Bay near discharge sites in proximity to former timber processing facilities (Humboldt Waterkeeper 2024). Dioxins are a highly toxic compound produced as a byproduct, and is considered a serious and persistent environmental pollutant. Many of the dioxins in the former mill sites are from PCP, which was used as a fungicide in wood products until its restriction to commercial uses (Humboldt Waterkeeper 2023). The PCP would be sprayed onto wood in lumber mills or held in containers to dip wood into, and was often mixed with petroleum products (Humboldt Waterkeeper 2023). It is likely that the PCP/petroleum mixture was dripped onto the ground and permeated into the soil (Humboldt Waterkeeper 2023). There have been some regional clean ups of identified contaminated areas, including because of the legal ruling in 2008 which required Simpson Timber Company to clean up dioxins present in the tidal wetland on the Eureka waterfront, and at the Sierra Pacific Mill located approximately 1,500 feet southeast of the Project Area along the Mad River Slough (Humboldt Waterkeeper 2023).

The District installed their non-potable water pipeline in the early 1960's, and potable water pipeline in the early 1970's to provide both non-potable and potable water to the pulp mills on the Samoa Peninsula.

At around the turn of the 21st century, timber operations slowed and processing facilities within the Samoa Peninsula began to close. The last major pulp mill facility, Freshwater Tissue Company, closed in 2010. Infrastructure remains within the industrial footprints of previous pulp mill facilities, although they are not in operation.

The South Jetty has remained undeveloped and no industrial uses have occurred there; therefore, it is unlikely any contamination exists along the South Jetty.

3.20.2.3 Study Area Description

The study area does not overlap into any of the industrial footprints within the Samoa Peninsula. However, it should be noted that a former "teepee burner", which was utilized to burn wooden waste products from timber processing facilities, is located adjacent to (and outside of) Mitigation Area-2. This location would not be disturbed by the Project because it is outside of the Mitigation Area boundary. Furthermore, proposed mitigation activities within Mitigation Area-2 include forest habitat enhancements via manual removal of invasive species either at the surface or via shallow excavations with hand tools, and would therefore not include ground disturbance that could indirectly affect the former teepee burner area if done in proximity to it. No hazardous materials are anticipated to occur within the study area; however, hazardous materials exist in the vicinity of the study area which is further described below.

3.20.2.3.1 Hazardous Materials within One Mile of the Study Area

According to Geotracker and Envirostor, there are 16 sites within one mile of the study area that have recorded hazardous materials within them, see **Table 3.20-1** below for the location of the sites. The sites are listed from north to south. Sites that are considered "closed" indicate that the implementing agency determined that the remaining contamination in the soil, surface water, groundwater or soil gas no longer poses a significant risk to human health or the environment (EPA 2025). An open site indicates that the site is still undergoing cleanup and has not yet been declared adequately remediated. There are no hazardous material sites that extend into the study area.

Table 3.20-1 Recorded Hazardous Materials Sites within One Mile of the Study Area

Site Number	Site Name	Type of Site[1]	Cleanup Status	Potential Contaminants
1	Sierra Pacific Arcata Division	Cleanup Program Site	Open	Dioxin/furans; other insecticides/pesticide/fumigants/ herbicides; pentachlorophenol (PCP); total petroleum hydrocarbons (TPH).
2	Sierra Pacific Industries	LUST Cleanup Site	Closed	Waste Oil / Motor / Hydraulic / Lubricating
3	Redwood Coast Trucking, INC	LUST Cleanup Site	Closed	Gasoline
4	Big Oil & Tire Manila	LUST Cleanup Site	Closed	Benzene, Diesel, Gasoline, Toluene, Xylene
5	Simpson Timber Company Samoa	Cleanup Program Site	Open	Diesel
6	Simpson Samoa Wood Mill	LUST Cleanup Site	Closed	Gasoline
7	Samoa Peninsula	Cleanup Program Site	Open	Aviation
8	US Section Base, Seaplane, Lighter than Air Base	Military Cleanup Site	Closed	N/A
9	Lorenzos Shell Service	LUST Cleanup Site	Closed	Diesel / Gasoline
10	Louisiana Pacific/ Samoa Pulp Mill Chip	LUST Cleanup Site	Closed	Waste Oil / Motor / Hydraulic / Lubricating
11	Evergreen Pulp Incorporated	Cleanup Program Site	Open	Gasoline, Metals / Heavy Metals, Solvents
12	Louisiana-Pacific Samoa Solid Waste Disposal Site	Land Disposal Site	Open – Closed/ with monitoring as of 9/1998	None specified
13/14	Simpson Paper Humboldt Pulp Mill	Cleanup Program Site	Closed, and Open – Assessment and Interim Remedial Action as of 6/2017	Chromium, Diesel, Lead, Nickel, Other Metal, Waste Oil / Motor / Hydraulic / Lubricating / Zinc

[1] Type of Site includes:
- Cleanup Program Site: a site that has released pollutants into the environment.
- LUST Program Site: Leaking Underground Storage Tank; the LUST Program is a federal environmental program that addresses petroleum releases from underground storage tanks.
- Military Cleanup Site: a military site that has released pollutants into the environment.

Site Number	Site Name	Type of Site[1]	Cleanup Status	Potential Contaminants
15	Fairhaven Business Park	LUST Cleanup Site	Closed	Gasoline
16	Fairhaven Fire Protection District	LUST Cleanup Site	Closed	Gasoline

Sites are further described below in regards to their orientation to Humboldt Bay and Pacific Ocean and analysis of potential groundwater movement.

3.20.2.3.1.1 Sites: 1-6, 10, 13-16

The following sites are located either immediately along Humboldt Bay or are within 850 feet of the Bay: Sierra Pacific Arcata Division (Site 1), Sierra Pacific Industries (Site 2), Redwood Coast Trucking, Inc. (Site 3), Big Oil & Tire Manila (Site 4), Simpson Timber Company Samoa (Site 5), Simpson Samoa Wood Mill (Site 6), Louisiana-Pacific/Samoa Pulp Mill Chip (Site 10), Simpson Paper Humboldt Pulp Mill (Sites 13 & 14), Fairhaven Business Park (Site 15), and the Fairhaven Fire Protection District (Site 16). Groundwater monitoring data from the Louisiana-Pacific/Samoa Pulp Mill Chip (Site 10) that is located 850 feet from the Bay indicates that groundwater flow direction at the site has been consistently to the east-southeast, toward Humboldt Bay (MFG 2003). All other sites are closer to the Bay than this site and would therefore exhibit similar groundwater directional movement (south-southeast) which is away from the Project Area. Therefore, no contamination from these sites is anticipated to be within the Project Area.

3.20.2.3.1.2 Sites 7,8,9 and 11

The Evergreen Pulp Incorporated site (Site 11) is located immediately along Humboldt Bay and extends inland approximately 1,700 feet. Its western edge is located approximately 525 feet from the Project Area at its closestpoint. The site has been undergoing monitoring and remediation since 2006. Groundwater flow direction at the site has consistently been to the east-southeast, toward Humboldt Bay (MFG 2005; SHN 2016). The site is considered open and is still under remediation activity. The following sites are located closer to Humboldt Bay, and exhibit the same groundwater flow directional movement: Samoa Peninsula (Site 7), US Section Base Seaplane, Lighter than Air Base (Site 8), and Lorenzos Shell Service (Site 9). Therefore, no contamination from these sites is anticipated to be within the Project Area.

3.20.2.3.1.3 Site 12

The Louisiana-Pacific Samoa Solid Waste Disposal Site (Site 12) is located near the industrial reservoir within the southern Project Area. The site is considered “Open – Closed/with monitoring”, which means:

> *A land disposal site that has ceased accepting waste and was closed in accordance with applicable statutes, regulations, and local ordinances in effect at time of closure. Land disposal site in post closure maintenance period as waste could have an adverse effect on the quality of the waters of the state. Site has waste discharge requirements.* (SWRCB nd)

The site contains four waste management units (WMUs) that border the Project Area, and four monitoring wells outside of the WMUs (see **Image 3.20-1**, below). The monitoring wells are between 600 – 725 feet away from each other. Each WMU has a barrier layer made of sand, followed by low permeability clay, a few feet of dirt and sand, and a vegetative layer mostly comprised of grasses and shrubs (pers. comm. SHN 2025). The site is a closed and capped ash landfill, and no material has been disposed of at the landfill since June 1997 (SHN 2025). The site is presumed to have been a waste disposal site for wood products. The site permanently closed in accordance with Title 27 closure requirements in 1999.



Image 3.20-1 ***View of the four Waste Management Units and four monitoring wells. MW-3 is located approximately 35 feet east of the Project Area boundary.***

Groundwater samples have been taken since 2002 from four monitoring wells located west and east of the Project Area; monitoring well 3 (MW-3) is located approximately 35 feet east of the Project Area. Groundwater samples were analyzed for chemical oxygen demand, pH, nitrate as nitrogen, chloride, total dissolved solids, electrical conductivity, hardness as calcium carbonate, and select metals: aluminum, arsenic, barium, calcium, chromium, cobalt, iron, magnesium, manganese, potassium, sodium, strontium, and vanadium (SHN 2025). This location is in the vicinity of where trenching is proposed for the electrical line installation.

A comparison of the first sampling data from February 2002 and the most recent sampling data from February 2025 indicates an increase in arsenic, iron, sodium and vanadium at MW-3, and either insignificant change or a decrease in all other tested metals at MW-3 (SHN 2025). All data is recorded in mg/L and the upper tolerance limit (UTL) identified for each constituent for MW-3 is noted in parentheses. Arsenic increased from 0.072 in September 2002 to 0.190 in February 2025 (UTL of 0.24), iron increased from 53 in February 2002 to 60 in February 2025 (UTL of 110), sodium increased from 22 in February 2002 to 31 in February 2025 (UTL of 50), and vanadium increased from 0.054 in February 2002 to 0.061 in February 2025 (UTL of 0.13) (SHN 2025). Although these constituent's have increased from initial sampling to most recent sampling, they are all below the identified UTL for MW-3 (SHN 2025).

Groundwater movement at this site trends to the northwest (towards the ocean), generally during the first half of the monitoring year (from October through March) and moves to the southeast (towards the Bay), generally during the second half of the monitoring year (from April through September) (SHN 2025; SHN 2024). Project activities in this location include the installation of 2,400 feet of electrical wire and conduit, which would occur either through trenching to approximately 3-4 feet depth and backfilling, or through horizontal directional drilling. The depth to groundwater at MW-3 was 21.0 feet during the August 2024 reading, and at 19.20 feet in February 2025 (SHN 2024; SHN 2025). Therefore, it is unlikely that work within the Project would encounter groundwater; however, is possible that arsenic, iron, sodium and vanadium concentrations above the UTL could potentially be present in soil within this portion of the Project Area that is adjacent to MW-3.

3.20.2.4 Potential Sensitive Receptors/Exposure

The sensitivity of potential receptors in the areas of known or potential hazardous materials contamination is dependent on an individual's potential pathway for exposure. Exposure pathways include dermal absorption, inhalation, and ingestion of tainted air, water, or food. Depending on the magnitude, frequency, and duration, human exposure to hazardous materials can cause a variety of health effects ranging from short-term acute symptoms to long term chronic effects. The principal elements of exposure assessments typically include:

– Evaluation of the fate and transport processes for hazardous materials at a given site;
– Identification of potential exposure pathways;
– Identification of potential exposure scenarios;
– Calculation of representative chemical concentrations; and
– Estimation of potential chemical uptake.

Schools and residences are examples of sensitive receptors that could be susceptible to significant effects from exposure to hazardous materials.

3.20.2.4.1 Sensitive Receptors in the Study Area

No sensitive receptors exist within the study area; however, structures that contain sensitive receptors exist adjacent to the study area, including: the Redwood Coast Montessori school, offices and residences. The Redwood Coast Montessori school is approximately 0.20 miles from the study area at its closest point, and approximately three residences are also within 0.20 miles of the study area. Additionally, recreationists whose location will vary by day and time and should be assumed are utilizing the trail system in the northern and central portions of the study area, and beach goers should be assumed to be utilizing the beach adjacent to the entire study area. Recreational hubs include the Ma-le'l Dunes, Friends of the Dunes and "Power Poles", of which their parking lots are 0.25, 0.26, 0.03 miles from the study area, respectively. It is unknown how many recreationists may be within the vicinity of the study area at a given time; however, in general, people visit the beach and dunes more so in the spring, summer and fall as compared to the winter.

3.20.2.5 Fire Hazards

The study area is located within two fire districts being the Arcata Fire District, and the Samoa Peninsula Community Services District, both within the Humboldt Bay Area planning unit (Humboldt County 2018). In responding to emergencies, local fire departments work closely with law enforcement, public utilities, the County Office of Emergency Services, and ambulance companies. The California Department of Forestry and Fire Protection (CAL FIRE) identifies Fire Hazard Severity Zones, which represent the likelihood of wildfire hazard, throughout California (CAL FIRE 2022). Areas throughout the State are classified into fire hazard severity zones of moderate, high, or very high, based on fuel loading, slope, fire weather, and other relevant factors including areas where winds may be a major cause of wildfire spread. CAL FIRE also identifies Federal, State, and Local Responsibility Areas, which correspond to the level of government financially responsible for preparing for, responding to, or mitigating wildfire hazards. The study area is predominantly in a Local Responsibility Area (LRA) and is ranked as having a moderate to high fire hazard severity index (CAL FIRE 2008). The portions of the study area owned by the BLM (Bureau of Land Management) are within the Federal Responsibility Area (FRA).

3.20.2.6 Airports

The closest airport to the study area is the Samoa Air Field, located approximately one mile south of the Project Area and immediately adjacent to Mitigation Area-3. The Samoa Air Field is owned by the City of Eureka and is a public airport. The airport covers 657 acres and is approximately 20 feet above sea level, and contains one **runway.** It is estimated that approximately 2,764 annual operations (i.e. flights or activity at the airport) or eight average annual daily operations would occur at the Samoa Air Field in 2039 (ESA 2021).

3.20.3 Regulatory Framework

Hazardous materials and hazardous wastes are subject to federal, state, and local laws and regulations intended to protect public health and safety and the environment. The U.S. Environmental Protection Agency (EPA), U.S. Department of Transportation (DOT), California Environmental Protection Agency (Cal/EPA), and Department of Toxic Substances Control (DTSC) are the primary agencies that enforce these regulations. The main focus of the federal Occupational Safety and Health Administration (OSHA) and California Occupational Safety and Health Administration (Cal/OSHA) are to prevent work-related injuries and illnesses, including those from exposures to hazardous materials. CAL FIRE implements fire safety regulations. In accordance with Chapter 6.11 of the California Health and Safety Code (CHSC, Section 25404, et seq.), local regulatory agencies enforce many federal and state regulatory programs through the Certified Unified Program Agency program, including:

– State Uniform Fire Code requirements (Section 80.103 of the Uniform Fire Code as adopted by the State Fire Marshal pursuant to Health and Safety Code Section 13143.9); and
– Underground storage tanks (Chapter 6.7 of the Health and Safety Code, Sections 25280 et seq.).

The Certified Unified Program Agency for the study area is the Humboldt County Division of Environmental Health.

3.20.3.1 Federal

The primary federal agencies with responsibility for hazardous materials management are the EPA, OSHA, and the DOT. Federal laws, regulations, and responsible agencies relevant to the Project are summarized in **Table 3.20-2**.

Table 3.20-2 Federal Regulations Related to Hazardous Materials Management

Classification	Law or Responsible Federal Agency	Description
Hazardous Materials Management and Soil and Groundwater Contamination	Community Right-to-Know Act of 1986 (also known as Title III of the Superfund Amendments and Reauthorization Act [SARA])	Imposes requirements to ensure that hazardous materials are properly handled, used, stored, and disposed of and to prevent or mitigate injury to human health, or the environment, in the event that such materials are accidentally released.
	Comprehensive Environmental Response, Compensation and Liability Act of 1980 (amended by SARA 1986 and Brownfields Amendments 2002)	Regulates the clean-up of sites contaminated by releases of hazardous substances.
Hazardous Materials Transportation and Handling	U.S. Department of Transportation	Regulates the safe transportation of hazardous materials. The DOT regulations govern all means of transportation except packages shipped by mail (49 CFR).
Occupational Safety	Occupational Safety and Health Act of 1970	OSHA sets standards for safe workplaces and work practices, including the reporting of accidents and occupational injuries (29 CFR).

State and local agencies often have either parallel or more stringent regulations than federal agencies. In most cases, state law mirrors or overlaps federal law and enforcement of these laws is the responsibility of the state or of a local agency to which enforcement powers are delegated. For these reasons, the requirements of the law and its enforcement are discussed under either the state or local regulatory section.

3.20.3.2 State

3.20.3.2.1 Soil and Groundwater Contamination

The clean-up of sites contaminated by releases of hazardous substances is regulated primarily by the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), which was amended by the Superfund Amendment and Reauthorization Act of 1986 (SARA), the Brownfields Amendments (2002) and by similar state laws.

Under CERCLA, the EPA has authority to seek the parties responsible for releasing hazardous substances and to ensure their cooperation in site remediation.

Section 30232 (Oil and hazardous substance spills) of the California Coastal Act of 1976 (Coastal Act) provides for the protection against the spillage of crude oil, gas, petroleum products, or hazardous substances in relation to any development or transportation of such materials. Effective containment and clean-up facilities and procedures must be provided for accidental spills that do occur.

The DTSC's Hazardous Waste and Substances Sites List (Cortese List, Government Code Section 65962.5) identifies sites with leaking underground fuel tanks, hazardous waste facilities subject to corrective actions, solid waste disposal facilities from which there is a known migration of hazardous waste, and other sites where environmental releases have occurred. Before a local agency accepts an application as complete for any development project, the applicant must certify whether or not the project site is in the Cortese List. Databases that provide information regarding the facilities or sites identified as meeting Cortese List requirements are managed by the DTSC and State Water Resources Control Board (SWRCB).

3.20.3.2.2 Hazardous Materials Transportation

The State of California has adopted DOT regulations for the intrastate movement of hazardous materials. State regulations are contained in Title 26 of the CCR. In addition, the State of California regulates the transportation of hazardous waste originating in the state and passing through the state. Both regulatory programs apply in California. The two state agencies that have primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol (CHP) and California Department of Transportation (Caltrans).

3.20.3.2.3 Occupational Safety

Worker health and safety is regulated at the federal level by OSHA. Under this jurisdiction, workers at hazardous waste sites (or workers coming into contact with hazardous wastes that might be encountered during excavation of contaminated soils) must receive specialized training and medical supervision according to the Hazardous Waste Operations and Emergency Response (HAZWOPER) regulations. Worker health and safety in California is regulated by Cal/OSHA. California standards for workers dealing with hazardous materials (including hazardous wastes) are contained in CCR Title 8. The DTSC and Cal/OSHA are the agencies that are responsible for ensuring that appropriate measures are taken to protect workers from exposure to potential soil or groundwater contaminants.

3.20.3.2.4 Emergency Response

California has developed an emergency response plan to coordinate emergency services provided by federal, state, and local government agencies. Responding to hazardous materials incidents is a part of this plan. The plan is administered by the State Office of Emergency Services (OES), which coordinates the responses of other agencies such as local fire and police agencies, emergency medical providers, CHP, CDFW and Caltrans.

Humboldt County has an adopted Humboldt County Operational Area Hazard Mitigation Plan as identified below. FEMA approved the Humboldt Operational Area Hazard Mitigation Plan on March 20, 2014.

3.20.3.2.5 Fire Regulation

State fire safety regulations that apply to activities proposed under the Project include the following:

– Earthmoving and portable equipment with internal combustion engines must be equipped with a spark arrestor to reduce the potential for igniting a wildland fire (PRC Section 4442).
– Appropriate fire suppression equipment must be maintained during the highest fire danger period – from April 1 to December 1 (PRC Section 4428).
– On days when a burning permit is required, flammable materials must be 10 feet (3 meters) from any equipment that could produce a spark, fire, or flame, and the construction contractor must maintain the appropriate fire suppression equipment (PRC Section 4427).

– On days when a burning permit is required, portable tools powered by gasoline-fueled internal combustion engines must not be used within 25 feet (7 meters) of any flammable materials (PRC Section 4431).

CAL FIRE also provides oversight for all potential prescribed burning in the study area, except for prescribed burning on federally owned lands which would be under the oversight of the BLM. Prescribed burning is one of the methods to be used in invasive plant removal as a component of mitigation.

3.20.3.2.6 Water Quality

The Porter Cologne Water Quality Control Act (Porter-Cologne) is the primary state statute for protection of water quality in California. Under Porter-Cologne, the nine Regional Water Quality Control Boards (RWQCBs), with oversight from the SWRCB, regulate discharges to waters of the State based on the regulatory standards and objectives set forth in Water Quality Control Plans (also referred to as Basin Plans) prepared for each region. The North Coast RWQCB has regulatory oversight of the study area, with standards and objectives provided in the Water Quality Control Plan for the North Coast Region (NCRWQCB 2018).

Responsibility for implementation of Section 402 of the Clean Water Act has also been delegated to the SWRCB/RWQCBs, where they implement and enforce permits that fall under the National Pollutant Discharge Elimination System (NPDES). The General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) (Order No. 2009-0009, as amended by Order No. 2010-0014) applies to discharges from construction sites that include one or more acre of soil disturbance. Project activities include clearing, grading, grubbing, excavation, stockpiling, and reconstruction of existing facilities involving removal or replacement. The Statewide General NPDES Permit for Residual Aquatic Pesticide Discharges to Waters of the United States from Algae and Aquatic Weed Control Applications (Order No. 2013-0002-DWQ) applies to any pesticide applications at aquatic sites that will result in discharges to Waters of the U.S, including the use of imazapyr herbicide.

The Coastal Act includes policies related to management of resources in California's Coastal Zone. The policies of the Coastal Act constitute the statutory standards applied to planning and regulatory decisions made by the California Coastal Commission (CCC), pursuant to the Coastal Act. Hazardous substances are addressed in Chapter 3, Section 30232 (Oil and hazardous substance spills) of the Coastal Act. Per Section 30232 of the Coastal Act, "(p)rotection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and clean-up facilities and procedures shall be provided for accidental spills that do occur" (CCC 1976).

3.20.3.2.7 California Coastal Act

The following policies of the California Coastal Act specifically regulate hazards and hazardous materials:

> *Section 30232.*
>
> *Protection against the spillage of crude oil, gas petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.*
>
> *Section 30253. New Development shall do all of the following:*
>
> *(a) Minimize risks to life and property in areas of high geologic, flood and fire hazard.*
>
> *(b) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.*

3.20.3.3 Local

The study area is located within Humboldt County's jurisdiction, and specifically within the appeal jurisdiction of the Coastal Zone which is regulated by the Humboldt Bay Area Plan Local Coastal Program (HBAP LCP). The Humboldt

County General Plan was not certified in the Coastal Zone and therefore General Plan goals and policies are not binding, and are not included in this section.

3.20.3.3.1 Humboldt Bay Area Plan – Local Coastal Plan

The proposed Project is not considered "new" development, rather is considered maintenance of existing development. There are no policies from the HBAP LCP regarding hazardous materials and maintenance of existing infrastructure.

3.20.3.3.2 Humboldt County Operational Area Hazard Mitigation Plan

The 2019 Humboldt County Operational Area Hazard Mitigation Plan Update is the County's plan to identify and reduce hazards before any type of hazard event occurs (Humboldt County 2019). The Hazard Mitigation Plan aims to reduce losses from future disasters such as dam failure, drought, earthquake, fish losses, flooding, landslide, severe weather, tsunami, and wildfire. The Hazard Mitigation Plan also includes a vulnerability analysis and proposed initiatives designed to minimize future hazard-related damage.

3.20.3.3.3 Humboldt County Emergency Operations Plan

The 2015 Humboldt County Emergency Operations Plan (EOP) for the Humboldt Operational Area addresses the planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and national security emergencies in or affecting Humboldt County (Humboldt County 2015). The EOP addresses integration and coordination with other governmental levels when required. The EOP accomplishes the following:

– Establishes the emergency management organization required to mitigate any significant emergency or disaster affecting Humboldt County;
– Identifies the policies, responsibilities, and procedures required to protect the health and safety of Humboldt County communities, public and private property, and the environmental effects of natural and technological emergencies and disasters;
– Establishes the operational concepts and procedures associated with field response to emergencies, County Emergency Operations Center activities, and the recovery process.

3.20.4 Evaluation Criteria and Significance Thresholds

Evaluation Criteria	Significance Thresholds	Sources
Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Potential for improper transport, use, disposal, or accidental release of hazardous materials or wastes due to non-compliance with State and federal hazardous materials or waste regulations	CEQA Guidelines Appendix G, Checklist Item IX (a) Hazardous Materials Transportation Act of 1975 Resource Conservation and Recovery Act of 1978 (RCRA)
Would the Project 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?	Potential for improper transport, use, disposal, or accidental release of hazardous materials or wastes due to non-compliance with State and federal hazardous materials or waste regulations	CEQA Guidelines Appendix G, Checklist Item IX (b) Hazardous Materials Transportation Act of 1975 Resource Conservation and Recovery Act of 1978 (RCRA)
Would the Project emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste	Use, storage, or emission, of acutely hazardous materials or waste within 0.25 mile of a school	CEQA Guidelines Appendix G, Checklist Item IX (c)

Evaluation Criteria	Significance Thresholds	Sources
within one-quarter mile of an existing or proposed school?		
Would the Project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment (State CEQA Guidelines Section 15186)?	Location of Project on or adjacent to a site with presence or likely presence of hazardous substances or petroleum products	CEQA Guidelines Appendix G, Checklist Item IX (d)
Would the Project be 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, result in a safety hazard or excessive noise for the people residing or working in the area?	Location of Project within an airport land use plan or within two miles of an airport and introduction of new or increased safety hazard	CEQA Guidelines Appendix G, Checklist Item IX (e)
Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Location of Project in areas that impair or interfere with an adopted emergency plan, including emergency access routes	CEQA Guidelines Appendix G, Checklist Item IX (f)
Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	Exposure of people to wildland fires where loss, injury or death could occur	CEQA Guidelines Appendix G, Checklist Item IX (g)

3.20.5 Methodology

Project activities are evaluated in terms of their potential significance to impact with identified hazardous waste sites and hazardous materials. Impact analysis utilized the SWRCB's Geotracker mapping tool of recorded sites that have had hazardous material leaks or spills, monitoring and remediation reports associated with the recorded sites, historical and anecdotal accounts of potential contamination within the study area, and outside references from groups or agencies that track hazardous materials. Mitigation measures are described for those impacts determined to be potentially significant.

3.20.6 Impacts and Mitigation Measures

Impact HAZ-a: Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? (Less than Significant Impact)

Implementation of the Project would include the transport and use of common hazardous materials inherent to maintenance processes, including use of heavy equipment, motorized hand tools, and vehicles all of which use petroleum products. These materials are commonly used during land and infrastructure maintenance activities, are not acutely hazardous, and would be used in relatively small quantities.

Caltrans and the CHP regulate the transportation of hazardous materials and wastes, including container types and packaging requirements, as well as licensing and training for truck operators, chemical handlers, and hazardous waste haulers. The California Division of Occupational Safety and Health also enforces hazard communication program regulations which contain worker safety training and hazard information requirements, such as procedures for identifying and labeling hazardous substances, communicating hazard information related to hazardous substances and their handling, and preparation of health and safety plans to protect workers and employees.

Best management practices (BMPs) addressing materials management would be implemented during transportation of equipment to the Project Maintenance Area (PMA), including proper material delivery and storage, spill prevention and control, and management of wastes.

Because the District and its contractors would be required to comply with existing and future hazardous materials laws and regulations and applicable best management practices addressing the transport, storage, use, and disposal of hazardous materials, the potential to create a significant hazard to the public or the environment during implementation of the Project over the long term would be avoided. This potential impact is considered less than significant.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than significant

Impact HAZ-b: Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? (Less than Significant Impact)

The Project would utilize heavy machinery to perform vegetation maintenance, sand movement and grading, shallow excavations for the electrical line installation. Heavy machinery may also be utilized during mitigation efforts. There is an inherent possibility that an accident involving fuel release could occur when equipment is operating. Equipment on site during construction would be required to have emergency spill cleanup kits immediately accessible in the case of fuel or oil spills, which is a standard BMP. The potential impact is less than significant.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than significant

Impact HAZ-c: Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? (No Impact)

As mentioned, the Redwood Coast Montessori Arcata Campus is approximately 0.20 miles from the study area at its closest point. Project activities are assumed to include the use of hazardous materials such as fuels, lubricants, degreasers, and solvents. These materials are commonly used during operation of heavy equipment, are not acutely hazardous, and would be used in small quantities. Numerous laws and regulations ensure the safe transportation, use, storage, and disposal of hazardous materials (see Regulatory Framework in Section 3.8.3 and Impact discussion in Impact HAZ-a, and HAZ-b above). Although Project activities could result in the inadvertent release of small quantities of hazardous construction chemicals, a spill or release at a construction area is not expected to endanger individuals at the nearby school given the nature of the materials and the small quantities that would be used as well as the distance away from the school. Additionally, standard construction flagging and barricades would be installed to prohibit students, or any other sensitive receptor, from getting too close to equipment during use. Anticipated use of heavy equipment in the vicinity of the school includes a masticator and mower, given the school's location near the wooded corridor. By complying with existing and future hazardous materials laws and regulations covering the transport, use, and disposal of hazardous materials, no impact would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: No Impact

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

The provisions in Government Code Section 65962.5 are commonly referred to as the "Cortese List." A search of the Cortese List (DTSC 2025) was completed to determine if any known hazardous waste sites have been recorded on or adjacent to the Project alignment or Mitigation Areas. The Cortese List data resources include numerous sources such as Envirostor and Geotracker. The study area does not contain hazardous materials sites compiled pursuant to Government Code Section 65962.5, i.e. the Cortese List. However, as described above, one site (the Louisiana-Pacific Samoa Solid Waste Disposal Site) is located immediately adjacent to the study area, specifically located east of Vance Avenue in the southern Project Area. As described in **Section 3.8.2**, this site was a landfill presumably for wood products and is considered “Open – Closed/with Monitoring” meaning although it is considered closed it is still undergoing monitoring to comply with waste discharge requirements. The site contains four WMUs, and four monitoring wells outside of the WMUs. Each WMU has a barrier layer made of sand, clay, dirt, and a vegetative layer mostly comprised of grasses and shrubs (pers. comm. SHN 2025). According to monitoring reports taken from the site between 2002 and 2025, there is potential for arsenic, iron, sodium and vanadium to be present in groundwater at MW-3 which is located approximately 35 feet east of the Project Area; however, the UTL for each constituent has not been exceeded. Project activities in this location include installation of electrical wire and conduit involving either excavation and trenching to approximately 3-4 feet and backfilling with native material, or horizontal directional drilling (HDD). No groundwater would be contacted during either trenching or HDD because construction would occur during the summer months and would not occur at a depth where groundwater has historically been observed during summer months (21.0 feet below ground surface). There is potential for these constituents to be present in the soil near MW-3; however, no soil data has been collected at this location. Exposure to these constituents has the potential to result in a potentially significant impact, therefore Mitigation Measure HAZ-1 is proposed to reduce this potential impact.

3.20.6.1 Mitigation

The following mitigation measure would be implemented by the District to avoid construction worker and District personnel exposure to potentially hazardous materials during installation of the electrical line and conduit within 50 feet of MW-3.

Mitigation Measure HAZ-1: Wear Proper Personal Protective Equipment

District personnel and construction workers shall wear personal protective equipment (PPE) within 50 feet of MW-3 in order to avoid exposure to potential hazardous materials in the soil in this location. PPE shall include face masks, latex or nitrile gloves underneath work gloves, and goggles.

With inclusion of Mitigation Measure HAZ-1, exposure to potential hazardous materials would be reduced to a less-than-significant level. This potential impact is considered less than significant with mitigation incorporated.

Level of Significance: Less than significant after mitigation

Impact HAZ-e: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project Area? (Less than Significant Impact with Mitigation)

The Samoa Field Airport, located approximately 1,500 feet from the southern boundary of the Project Area and adjacent to Mitigation Area-3, serves as the closest airport to the study area. The County adopted the Airport Land Use Compatibility Plan, which addresses the potential conflicts between airport operations in Humboldt County and neighboring land uses, emphasizing safety and minimizing noise-related impacts (ESA 2021). It establishes guidelines for zoning and development within specified zones around the airports, aiming to protect public safety, promote responsible growth, and support the long-term viability of aviation facilities (ESA 2021). The Plan involves collaboration between the airport authorities, local jurisdictions, and stakeholders to create a harmonious balance between aviation activities and surrounding land uses.

There are four compatibility factors discussed in the Plan for the Samoa Air Field including noise compatibility, safety zone compatibility, airspace compatibility, and overflight compatibility policy; the noise and safety compatibility factors

are pertinent to the Project. The Project would result in a potentially significant impact if it were to conflict with these compatibility factors. **Images 3.8-1 and 3.8-2** depict the noise contours and safety zones, which overlap into Mitigation Area-3 and -4. Portions of the Community Noise Equivalent Level (CNEL) 55 dB noise contour and Safety Zone 3, which is the Inner Turning Zone, overlap into Mitigation Area-3. And Safety Zone 6 (Airport Traffic Pattern Zone) overlaps into Mitigation Area-4. The Inner Turning Zone is a triangular area where aircraft transition from takeoff to climb mode and begin to turn onto their destination route, and before landing, it is the turn from the base of the final approach portion within the standard traffic pattern (Caltrans 2011). The Traffic Pattern Zone is an elliptical area that includes the majority of other portions of regular air traffic patterns and entry routes (Caltrans 2011).

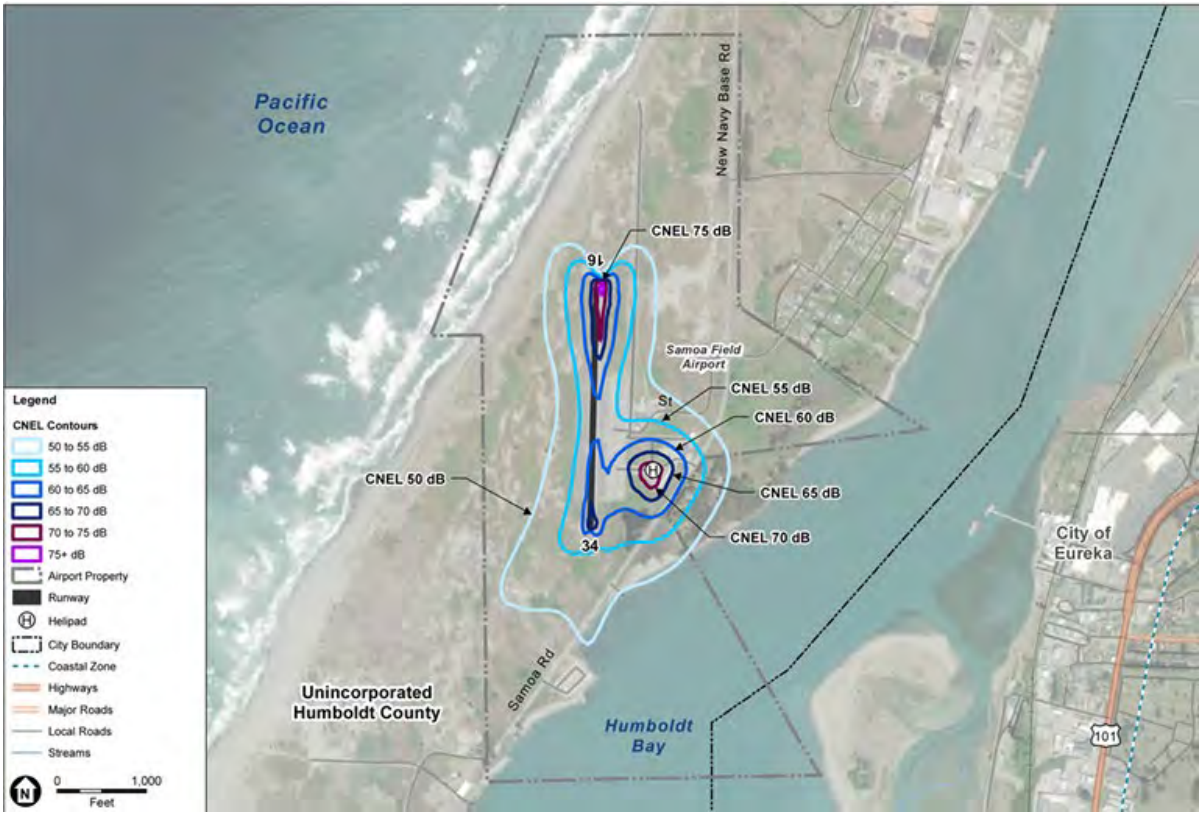


Image 3.20-2 Noise Compatibility Policy Map, Samoa Air Field (ESA 2021)



Image 3.20-3 Safety Compatibility Policy Map, Samoa Air Field (ESA 2021)

The Humboldt County Airport Land Use Compatibility Plan does not provide details of what development or land uses are allowable in the safety zones. Additionally, the zoning of the parcels comprising Mitigation Area-3 and -4 do not contain combining zones “AP” requiring airport safety review. As a proxy for the lacking details within the Humboldt County Airport Land Use Compatibility Plan, the Santa Cruz County Land Use Plan was reviewed. According to the Santa Cruz County land use code the following land uses are allowed in Safety Zone 3: greenhouses, low-hazard materials storage, mini storage, warehouses, light industrial, very low density residential uses or other commercial uses, and the following land uses are allowed in Safety Zone 6: restaurants, industrial, residential use (Santa Cruz County 2024). The Project does not propose development within Mitigation Areas-3 or -4, however, it could include planting of vegetation which could have the potential to exceed height limitations. To avoid these potential significant impacts regarding vegetation height, Mitigation Measure HAZ-2 would be implemented. Regarding noise, in addition to aircraft noise, implementation of Project mitigation activities in Mitigation Area-3 could result in momentary noise levels exceeding ambient conditions. However, this potential noise would be temporary and would not constitute development that would conflict with the noise zones, and therefore potential mitigation actions in Mitigation Area-3 would have a less than significant impact on noise levels.

3.20.6.2 Mitigation

The following mitigation measures would be implemented by the District to avoid potential hazardous impacts within the Samoa Air Field land use plan safety compatibility areas associated with implementation of mitigation for the Project.

Mitigation Measure HAZ-2: Specifications to Mitigation Areas 3 and 4

To avoid safety impacts within the Humboldt County Airport Land Use Plan compatibility zones for the Samoa Air Field, the District shall implement the following:

- New vegetation, or vegetation practices, that may result in substantially taller trees than existing trees shall not be planted within Mitigation Area-3 or -4. Substantially taller is defined as 20 feet taller than existing vegetation.

With inclusion of Mitigation Measure HAZ-2, potential hazardous impacts associated with safety near the Samoa Air Field due to implementation of the Project would be avoided. This potential impact is considered less than significant with mitigation incorporated.

Level of Significance: Less than significant after mitigation

Impact HAZ-f: Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? (No Impact)

The Humboldt County Emergency Operations Plan (Humboldt County 2015) does not designate specific evacuation routes or emergency shelter locations or include policies or procedures with which the Project would conflict. Therefore, the Project would not impair implementation of or physically interfere with the Emergency Operations Plan. Furthermore, implementation of Project activities would not block access of emergency vehicles. No impact would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: No impact

Impact HAZ-g: Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires? (Less than Significant Impact)

As described in **Section 3.8.2** (Setting; Fire Hazards), the study area is predominantly in a Local Responsibility Area (LRA) and is ranked as having a moderate to high fire hazard severity index (CAL FIRE 2008). The portions of the study area owned by the BLM are within the Federal Responsibility Area (FRA). These responsibility areas determine which entity has financial responsibility to manage the fire, therefore the LRA corresponds to Humboldt County providing financial resources to fight a fire should one occur within the study area (outside of BLM lands). The implementation of the Project does not present significant risks to people or structures since there are no residents or homes in the study area. Although the Project is in the moderate to high fire hazard severity index, the specific study area has low potential for wildfire due to the fog and ocean mist that typically occurs daily within the study area. It should be noted that “LRA Moderate” is the lowest severity index mapped. Due to the consistent fog and ocean mist, absence of residences within the study area, and fire hazard severity index, it is unlikely that a wildland fire would occur and would not result in significant risk of loss, injury or death involving a wildfire. The potential use of prescribed burns would be coordinated with CAL FIRE and is anticipated to require a Burn Plan. The Plan would close off the area to the public prior to burning and would include a contingency plan to implement actions or trigger the need for additional resources if the prescribed burn is not meeting, exceeds or threatens to exceed the burn boundary within the burn area. Additionally, the Burn Plan would include provisions for use of adequate fire suppression equipment. The potential use of prescribed fire would not get out of control and cause hazards due to the implementation of a Burn Plan. Therefore, the potential impact is considered to be less than significant.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than significant

3.20.7 Cumulative Impacts

Impact HAZ-C-1: Would the Project contribute to a cumulatively significant impact to Hazards and Hazardous Materials?

Cumulative effects analysis examines the current Project effects taken together with effects of past projects and known projects in the foreseeable future. Future projects considered for cumulative impacts are identified in **Table 3.0-1** and include industrial projects (Redwood Heavy Lift Marine Terminal), habitat restoration projects involving predominantly manual invasive plant removal with future potential use of prescribed fire, and improvements to the Town of Samoa and peninsula communities via infrastructure upgrades. The proposed regional industrial projects (i.e. Redwood Heavy Lift Marine Terminal) occur within previously developed areas that have varying levels of legacy contamination present. As described above, groundwater outside of, but within 35 feet of, the southern Project Area at MW-3 contains four constituents that were recorded below the UTL. No disturbance of groundwater in this area is proposed. With inclusion of Mitigation Measure HAZ-1 construction workers and District personnel would be required to wear PPE when handling soil within 50 feet of MW-3. It is speculative whether hazardous material is located within soil in this area, therefore implementation of Mitigation Measure HAZ-1 would reduce potential impacts to a less than significant level and no cumulative impact would occur. Disturbance within the dunes ecosystem from regional projects is located outside of the Samoa Air Field vicinity, and predominantly involve hand pulling of invasive species, which is unlikely to create hazardous conditions. Additionally implementation Mitigation Measure HAZ-2 would prevent tall trees from growing within the compatibility zones of the Samoa Air Field. The anticipated use of fire on the South Jetty, both under the proposed Project and the South Spit (or “Jetty”) Resiliency Project, would each be implemented under respective Burn Plans and implemented under the instruction of CAL FIRE and/or a BLM Burn Boss, and would therefore not cause a cumulative increase in hazardous impacts.

Therefore, the Samoa Peninsula Right-of-Way Maintenance Project, taken together with past and foreseeable future projections, would not cause a cumulative adverse effect to hazards or hazardous materials. Given that the Project would not result in significant impacts to hazards or hazardous materials, and that the projects considered in **Table 3.0-1** would not permanently affect hazards or hazardous materials in the Project Area or Mitigation Areas or vice versa, the potential for cumulative impacts within the study area would not result.

Mitigation Measures: No mitigation is necessary

Level of Significance: No impact

3.20.8 References

California Department of Forestry and Fire Protection (CAL FIRE). 2008. Fire Hazard Severity Zones in State and Local Responsibility Areas. http://frap.fire.ca.gov/webdata/maps/statewide/fhszs_map.pdf

California Department of Industrial Relations. 2024. The Cal/OSHA Hazard Communication Regulation. Available online at: https://www.dir.ca.gov/dosh/dosh_publications/hazcom.pdf

California Department of Toxic Substances Control. 2024. EnviroStor Database. Available online at: https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=samoa+peninsula.

California State Water Resources Control Board (State Water Board). 2024. GeoTracker. Available online at: https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=samoa+peninsula

ESA. 2021. Airport Land Use Compatibility Plan. Prepared for Humboldt County Airport Land Use Commission. Available online at: https://humboldtgov.org/DocumentCenter/View/95080/2021-Airport-Land-Use-Compatibility-Plan-adopted-04132021-33-MB

Humboldt County. 2022. Humboldt County Local Responsibility Area Fire Hazard Severity Zones – Update, 6/2008. https://osfm.fire.ca.gov/divisions/community-wildfire-preparedness-and-mitigation/wildfire-preparedness/fire-hazard-severity-zones/fire-hazard-severity-zones-map/

Humboldt County. 2019. Humboldt County Communities Wildfire Protection Plan. via https://humboldtgov.org/2431/CWPP-2019 Humboldt County. 2019.

Humboldt County. 2018. CWPP Fire Planning Units. Via https://humboldtgov.org/DocumentCenter/View/84360/Fire-Planning-Units-map

Humboldt County. 2015. Emergency Operations Plan, Humboldt Operational Area. Humboldt County, CA https://humboldtgov.org/DocumentCenter/View/51861/Humboldt-County-Emergency-Operations-Plan-2015

Humboldt Waterkeeper. 2023. Legacy of the Lumber Industry. Written by Dezmond Remington for EcoNews. Available at: https://humboldtwaterkeeper.org/programs/toxics-initiative/1761-legacy-of-the-lumber-industry. December 2.

SHN. 2025. First Semi-Annual 2025 Monitoring Report. Sa moa Solid Waste Disposal Site Samoa, California. WDR & MRP Order No. R1-2017-001. Prepared for: Humboldt Bay Harbor, Recreation and Conservation District. April.

SHN. 2024. Second Semi-Annual 2024 Monitoring Report and Annual Summary. Samoa Solid Waste Disposal Site Samoa, California. WDR & MRP Order No. R1-2017-001. Prepared for: Humboldt Bay Harbor, Recreation and Conservation District. October.

Santa Cruz County. 2024. Land Use Code. Chapter 13.12. Airport Combining Zone District. Available at: https://www.codepublishing.com/CA/SantaCruzCounty/html/SantaCruzCounty13/SantaCruzCounty1312.html#:~:text=Note%20A:%20Maintain%20current%20General,on%20their%20en%20route%20headings

State of California Department of Toxic Substances Control. 2025. Hazardous Waste and Substances Site List (Cortese). Envirostor. Available online at https://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=CORTESE&site_type=CSITES,FUDS&status=ACT,BKLG,COM&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+%28CORTESE%29

TetraTech. 2019. Humboldt County Operational Area Hazard Mitigation Plan. Prepared for Humboldt County Planning and Building Department. Available online at: https://humboldtgov.org/DocumentCenter/View/78686/2019-08-15_HumboldtCountyHMP_Vol1_InitialReviewDraft?bidId=ESA.

United States Environmental Protection Agency (EPA). 2024. Overview of Wood Preservative Chemicals. Available at: https://www.epa.gov/ingredients-used-pesticide-products/overview-wood-preservative-chemicals . June 3.

3.21 Hydrology and Water Quality

This section evaluates the potential impacts related to hydrology and water quality resulting from implementation of the Project and associated mitigation. To provide the basis for this evaluation, the Setting section describes the existing hydrologic resources and water quality in the Project Area and Mitigation Areas, and the Regulatory Framework section describes the regulatory background that applies to the Project. The Impact Analysis section establishes the thresholds of significance, evaluates potential impacts to hydrology and water quality, and identifies the significance of impacts. Where appropriate, mitigation measures are presented to reduce impacts to less than significant levels.

3.21.1 Study Area

The study area for hydrological resources includes the Project Area and Mitigation Areas (see **Appendix A, Figures 2-2 through 2-5, and 2-7 through 2-7.4**). Three-parameter and one-parameter wetlands exist intermittently and consistently throughout the Project Area (see **Appendix A, Figures 3.3-3.1 through 3.3-3.22**). A formal wetland

delineation was not conducted within the Mitigation Areas, therefore information on hydrologic resources within these areas is considered preliminary and based upon data from the U.S. Fish and Wildlife Service's National Wetlands Inventory (see **Appendix A, Figures 3.3-4.1 through 3.3-4.4**).

3.21.2 Setting

Hydrology within the study area is driven by precipitation which is influenced by Pacific Ocean and atmospheric weather patterns. In the last 20 years, air temperature ranged between 40 to 64 degrees Fahrenheit annually, with an average of 52.8 degrees and record low and high temperatures of 27 degrees in 2013 and 87 degrees in 2017 (AgACIS 2024). Average annual rainfall is approximately 39 inches per year, based on historic records for 2004 through 2021 (AgACIS 2024). Storms generated by the Pacific Ocean contribute high amounts of annual rainfall between October and March, and in some years, additional significant rainfall occurs through April and/or May. During the remainder of the year, coastal marine influences result in fog that (at times) is dense enough to generate moisture in the form of mist. Seasonal rainfall is typically high in intensity and results in a temporary increase in groundwater elevation due to increased infiltration and standing water in areas within the study area. Wetlands are typically located in depressions between the foredunes and backdunes, which are generally parallel to the Project Area (however are sometimes located within the Project Area). See **Appendix A, Figure 3.3-3.1 through 3.3-3.24** for the location of mapped three- and one-parameter wetlands in the Project Area, and **Figure 3.3-4 through 3.3-4.4** for location of National Wetland Inventory wetlands in the Mitigation Areas.

The Pacific Ocean is adjacent to the study area and washes into the study area regularly at the overflow discharge point, which is located approximately 50-100 feet from the ocean (depending on the tide and weather) (see **Appendix A, Figure 2-4** – **Project Area South**). To note, the overflow discharge point is the closest portion of the study area to the Pacific Ocean. Sea level rise is a global phenomenon with localized implications. The rate of sea level rise is slowly increasing and is predicted to accelerate throughout the end of the century (OPC 2024). Rising ocean levels have the potential to result in greater frequency of wave overwash events, increased area of inundation and flooding during storm events, elevated groundwater levels which could affect drainage and result in longer duration of standing water, among other potential impacts.

According to the Humboldt Coastal Resilience Project, the study area is within areas containing a vulnerability ranking of 2 to 5 for relative sea level (UCSB, Friends of the Dunes, et. al. 2025). The relative sea level was determined by combining a recent regional sea level rise estimate, which was estimated at 4.61 mm/year by the National Oceanic and Atmospheric Administration North Spit Tidal Gauge, with vertical land motion data which includes a subsidence rate of -2.33 mm/year (UCSB, Friends of the Dunes, et. al. 2025; Patton et al. 2023). The relative sea level vulnerability ranking increased while moving south, i.e. the northern Project Area has a vulnerability ranking of 2, and Mitigation Area-5, located on the South Jetty, contains a vulnerability ranking of 5 (meaning it is the most vulnerable to relative sea level rise) (UCSB, Friends of the Dunes, et. al. 2025).

Sea level rise projections are ultimately determined by future fossil fuel emissions, which are unpredictable, therefore scenario-based data of potential sea level elevations in the study area were determined using ocean elevation data from the North Spit Tidal Gauge (NOAA 2025) and emission scenario data from the Ocean Protection Council's Sea Level Rise Guidance (OPC 2024). **Exhibit 3.9-1** provides a visual overview of anticipated fossil fuel emission categories and associated sea level rise (SLR) elevations.

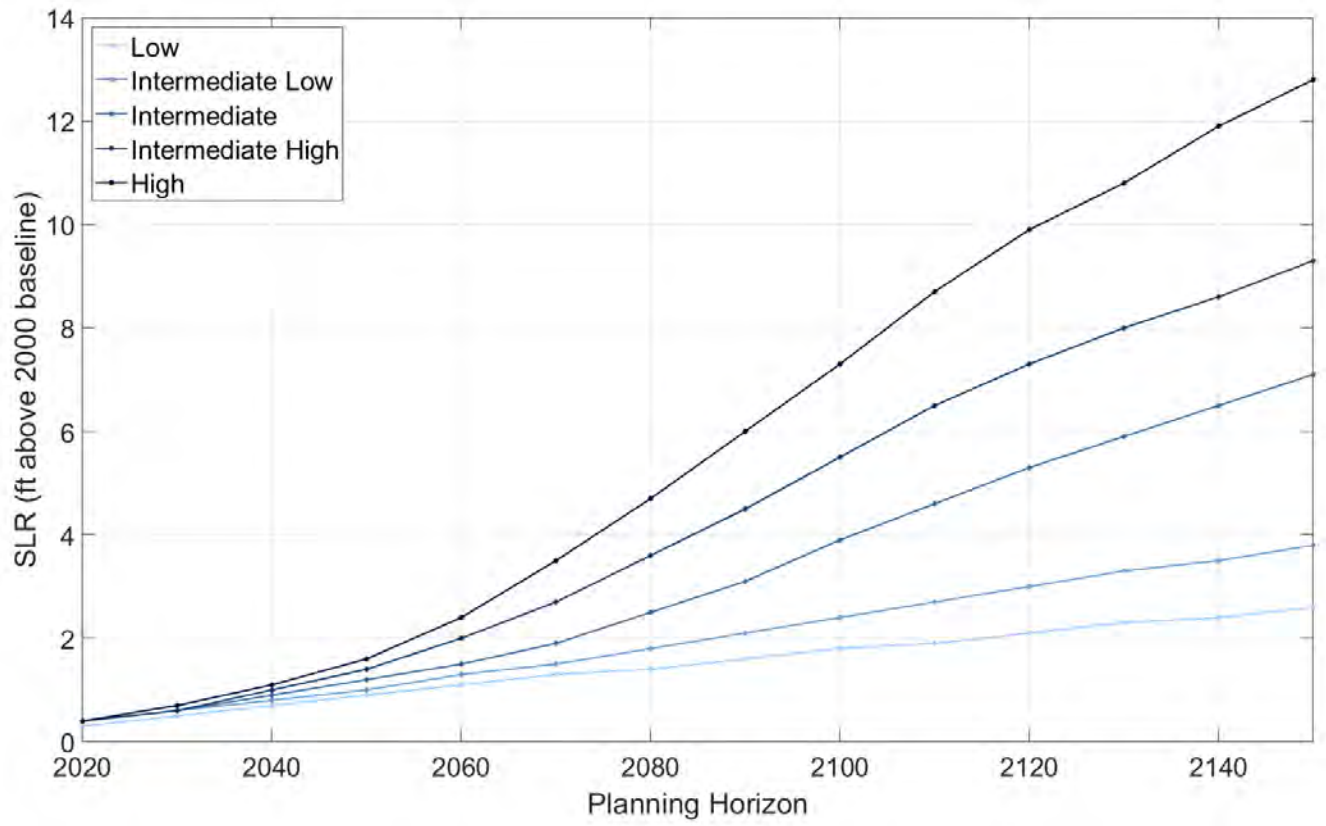


Exhibit 3.21-1 Sea level rise projections for the North Spit Tide Gauge (OPC 2024).

The Project lifespan is 50 years (to approximately 2075), therefore according to **Exhibit 3.9-1** the range of anticipated sea level rise is 1.75 feet to 4.10 feet above the 2000 baseline sea level rise predictions. The U.S. Geological Survey Coastal Storm Modeling System (CoSMos) was utilized to simulate flooding under different sea level rise elevation scenarios. The standard sea level rise scenarios for CoSMos at the national scale are 0, 0.25, 0.5, 1, 1.5, 2 and 3 meters (pers. comm. Barnard 2025), which correspond to 0, 0.82, 1.64, 3.28, 4.92, 6.56, and 9.84 feet of sea level rise.

Under the low emissions scenario (1.75 ft sea level rise at the North Spit Tide Gauge) and using the 1.64 feet measurement in the CoSMos tool, and assuming annual, 20-year and 100-year storm events, flooding would not result in the Project Area with the exception of the discharge overflow pipe which is located immediately adjacent to the ocean (USGS 2025). Under the same assumptions, there would be limited areas along South Jetty Road within Mitigation Area-5 that would be considered flood-prone under the annual, 20-year and 100-year storm events, and areas within Mitigation Areas-3 and -4 that would experience flooding and increased flood prone areas under the 100-year storms (USGS 2025). Flooding is not anticipated under the annual, 20-year or 100-year storm events in Mitigation Areas-1 and -2.

The high emissions scenario of 4.10 ft of sea level rise at the North Spit Tide Gauge is predicted for the year 2075. The closest measurement to this prediction in the CoSMos tool is 4.92 feet of sea level rise. Under this high emissions and annual storm event scenario, a few locations within the southern Project Area in Samoa are considered flood prone, and no flooded or flood prone areas throughout the rest of the Project Area. Assuming the 20-year storm event, select locations in the northern and southern Project Area would flood or are considered flood prone, but the vast majority of the Project Area is not considered to flood or be flood prone. Under the 100-year storm event, much of the northern and southern Project Area is considered flooded or flood prone, and the central Project Area is not anticipated to flood or be flood prone. Similar to the low emissions scenario, the discharge overflow pipe (which is located immediately adjacent to the ocean) would flood under all storm frequency scenarios, as well as under a no

storm event. Under the high emissions and annual storm event scenario moderate areas in Mitigation Area-4 and -5 and minor areas in Mitigation Area-3 would be considered flood prone, and no areas in Mitigation Areas-1 or -2 would be considered flood prone or would flood. Under the 20-year storm event, flooding and flood prone areas would be substantial in Mitigation Area-4, moderate flood prone or flooded areas would occur in Mitigation Areas-3 and -5, minor flooding or flood prone areas would occur in Mitigation Area-1, and no flooding or flood prone areas would occur in Mitigation Area-2. Under the 100-year storm event, substantial areas in Mitigation Areas-3, -4 and -5 would flood or be flood prone, minor areas of Mitigation Area-1 would flood or be flood prone, and no areas within Mitigation Area-2 would flood or have flood prone areas. (UGS 2025).

3.21.3 Regulatory Framework

3.21.3.1 Federal

3.21.3.1.1 Clean Water Act

The Clean Water Act (CWA) enacted by Congress in 1972 and amended several times since, is the primary federal law regulating water quality in the United States and forms the basis for several state and local laws throughout the country. It established the basic structure for regulating discharges of pollutants into Waters of the United States. It also gave the EPA the authority to implement federal pollution control programs, such as setting water quality standards for contaminants in surface water, establishing wastewater and effluent discharge limits for various industry categories, and imposing requirements for controlling nonpoint source pollution. At the federal level, the CWA is administered by the EPA and U.S. Army Corps of Engineers (USACE). At the state and regional levels in California, the CWA is administered in part and enforced by the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs).

Section 303(d) of the CWA requires state governments to present the EPA with a list of “impaired water bodies,” defined as those water bodies that do not meet water quality standards, even after point sources of pollution have been equipped with the minimum required levels of pollution control technology. In accordance with CWA Section 303(d), the State of California periodically identifies “*those waters within its boundaries for which the effluent limitations ... are not stringent enough to implement any water quality standard applicable to such waters.*” There are no impaired water bodies within the Project Area. Sections 404 and 401 of the CWA require permitting and state certification for construction and/or other work conducted in jurisdictional “Waters of the United States.” The definition of “Waters of the United States” was updated in 2023 to conform to the Supreme Court’s decision in Sackett v. EPA. Key changes include the requirement for waters (including wetlands) to contain a “continuous surface connection” to other jurisdictional waters. The three-parameter wetlands within the Project Area are not anticipated to be jurisdictional (federally) due to the absence of continuous (or seasonal) surface connection with other federally jurisdictional waters. However, the three-parameter wetlands within the Project Area are Waters of the State because they are either natural wetlands, or artificial wetlands caused by human activity that have been a relatively permanent part of the natural landscape. Therefore, it is anticipated the Project will require a Waste Discharge Requirement permit from the North Coast Regional Water Quality Control Board (NCRWQCB).

3.21.3.1.2 National Flood Insurance Program

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains. FEMA also issues Flood Insurance Rate Maps identifying which land areas are subject to flooding. The maps provide flood information and identify flood hazard zones in each community. The design standard for flood protection is established by FEMA, with the minimum level of flood protection for new development determined to be the 1-in-100 annual exceedance probability (i.e. the 100-year flood event).

According to FEMA regulations, "a revision of floodplain delineation based on fill must demonstrate that such fill has not resulted in a floodway encroachment" (44 CFR 65.5 (a) (7)). The State of California model ordinance defines encroachment as "the advance or infringement of uses, plant growth, fill, excavation, buildings, permanent structures or development into a floodplain which may impede or alter the flow capacity of a floodplain." The Floodplain

Management and Protection of Wetlands section of the Federal Code of Regulations (44 CFR Section 9.2) states that it is FEMA's environmental review policy to:

1. Avoid long- and short-term adverse impacts associated with the occupancy and modification of floodplains and the destruction and modification of wetlands;
2. Avoid direct and indirect support of floodplain development and new construction in wetlands wherever there is a practicable alternative;
3. Reduce the risk of flood loss;
4. Promote the use of nonstructural flood protection methods to reduce the risk of flood loss;
5. Minimize the impact of floods on human health, safety, and welfare;
6. Minimize the destruction, loss, or degradation of wetlands;
7. Restore and preserve the natural and beneficial values served by floodplains;
8. Preserve and enhance the natural values of wetlands.

3.21.3.1.3 National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program was established in the CWA to regulate industrial and municipal discharges to surface Waters of the United States. NPDES permit regulations have been established for broad categories of discharges including point source municipal waste discharges and nonpoint source stormwater runoff. An NPDES permit is required when proposing to or discharging waste into any surface water of the state. The SWRCB issues NPDES permits to cities and counties through RWQCBs, and implements and enforces the NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009, as amended by Order No. 2010-0014). Order No. 2009-0009 took effect on July 1, 2010 and was amended on February 14, 2011. The Order applies to construction sites that include one or more acre of soil disturbance. Construction activities include clearing, grading, grubbing, excavation, stockpiling, and reconstruction of existing facilities involving removal or replacement.

3.21.3.1.4 Federal Antidegradation Policy

The federal antidegradation policy is set forth in 40 Code of Federal Regulations (CFR) Section 131.12. It serves as a catch-all water quality standard to be applied where other water quality standards are not specific enough for a particular waterbody, or where other water quality standards do not address a particular pollutant. SWRCB Order No. 68-16 incorporates the federal antidegradation policy into the state policy for water quality control and ensures consistency with federal CWA requirements. This federal regulation establishes a three-part test for determining when increases in pollutant loadings or other adverse changes in surface water quality may be permitted, including consideration of existing instream uses and water quality.

3.21.3.2 State

3.21.3.2.1 Porter Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne) is the primary statute covering the quality of waters in California. Under Porter-Cologne, the SWRCB allocates water rights, adjudicates water right disputes, develops state-wide water protection plans, establishes water quality standards, and guides the nine RWQCBs state-wide. The joint authority of water allocation and water quality protection enables the SWRCB to provide comprehensive protection for California's waters. RWQCB boundaries are based on watersheds and water quality requirements are based on the unique differences in climate, topography, geology, and hydrology for each watershed. The RWQCBs regulate water quality under Porter-Cologne through the standards and objectives set forth in Water Quality Control Plans (also referred to as Basin Plans) prepared for each region.

3.21.3.2.2 North Coast Regional Water Quality Control Board, Basin Plan

The current 2018 Basin Plan prepared by the NCRWQCB provides a definitive program of actions designed to preserve and enhance water quality and to protect beneficial uses of water in the North Coast region. The beneficial uses serve as a basis for determining appropriate water quality objectives for the region. Beneficial uses in the North Coast Basin Plan include: Municipal and Domestic Supply; Agricultural Supply; Industrial Service Supply; Industrial Process Supply; Groundwater Recharge; Freshwater Replenishment; Navigation; Hydropower Generation; Water Contact Recreation; Non-Contact Water Recreation; Commercial and Sport Fishing; Aquaculture; Warm Freshwater Habitat; Cold Freshwater Habitat; Inland Saline Water Habitat; Estuarine Habitat; Marine Habitat; Wildlife Habitat; Preservation of Areas of Special Biological Significance; Rare, Threatened, or Endangered Species; Migration of Aquatic Organisms; Spawning, Reproduction, and/or Early Development; Water Quality Enhancement; Flood Peak Attenuation/Flood Water Storage; Wetland Habitat; Native American Culture; Subsistence Fishing (NCRWQCB 2018). To protect these beneficial uses, the Basin Plan sets forth water-resource protection objectives for inland surface waters by hydrologic unit spanning many parameters. The study area is within the Eureka Plain hydrologic unit which encompasses the Jacoby Creek, Elk River, Salmon Creek and Humboldt Bay watersheds (NCRWQCB 2024).

3.21.3.2.3 State Water Resources Control Board

As of July 1, 2015, all construction projects over one acre within a designated small Phase II municipal separate storm sewer system (MS4) must comply with both the state Construction General Permit and Phase II Small MS4 General Permits, as outlined below:

- NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities Order No. 2009-0009-DWQ NPDES No. CAS000002 (Construction General Permit or CGP).

  Post-Construction Permit runoff standards do not need to be met where a project is subject to MS4 Permit Post-Construction Standards. In the event MS4 Requirements are not used, the CGP calls for replicating the pre-project water balance for the 85th percentile, 24-hour runoff event. Regardless of the MS4 requirements, a CGP must be obtained and a construction Storm Water Pollution Prevention Plan (SWPPP) must be prepared and submitted to the State Water Board, via SMARTS, with the appropriate Permit Registration Documents, Notice of Intent and appropriate fee. Appropriate best management practices (BMPs) and site monitoring must be outlined in the SWPPP and implemented onsite.

- Water Quality Order No. 2013-0001 – DWQ NPDES General Permit No. CAS000004 Waste Discharge Requirements (WDRs) for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (MS4 Permit).

  Projects that create or replace 5,000 sq ft or more of impervious surface are considered Regulated Projects under this Permit. Regulated Projects must use Site Design Measures, as defined in the Permit, to capture the maximum amount of the 85th percentile, 24-hour storm runoff event. Any runoff that cannot be captured by Site Design Measures must then be routed to an appropriate bioretention facility. Additionally, for projects creating or replacing over one acre of impervious surface, the MS4 Hydromodification Standards must be met. For this geomorphic province, the post-project runoff shall not exceed the estimated pre-project runoff for the 2-year, 24-hour storm event.

In order to help guide its communities to meet these MS4 low impact development (LID) requirements, Humboldt County developed the Humboldt County Low Impact Development Stormwater Manual (HLIDSMS) with which the Project would comply. The majority of the Project is located within sandy substrate and does not require stormwater management, however the southern New Navy Base Road Project work may replace 5,000 square feet and will comply with these water quality orders.

3.21.3.2.4 State Policy for Water Quality Control

The SWRCB adopted a State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures), for inclusion in the forthcoming Water Quality Control Plan for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California. The Procedures took effect May 28, 2020 and was

revised on April 6, 2021, and consist of four major elements: 1) a wetland definition; 2) a framework for determining if a feature that meets the wetland definition is a Water of the State; 3) wetland delineation procedures; and 4) procedures for the submittal, review, and approval of applications for Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities. The Procedures, formerly known as the Wetland Riparian Area Protection Policy, has been renamed to communicate that the Procedures apply to all discharges of dredged or fill material to waters of the state, not just wetlands.

3.21.3.2.5 California Coastal Act

The California Coastal Act (Coastal Act) of 1976 requires any person proposing to develop in the Coastal Zone to obtain a Coastal Development Permit or obtain coverage under a Consistency Determination. The Coastal Zone extends from the State's three-mile seaward limit to an average of approximately 3,000 feet inland from the mean high tide of the sea. In coastal estuaries, watersheds, wildlife habitats, and recreational areas, the Coastal Zone may extend as much as five miles inland. In developed urban areas, the Coastal Zone may extend inland less than 3,000 feet. The entire study area (comprised of the Project Area, Mitigation Areas and access routes) is within the Coastal Zone, specifically within the Appeal Jurisdiction which is regulated by the Humboldt County Local Coastal Program through the Humboldt Bay Area Plan (HBAP) Local Coastal Program (LCP) (HBAP 2022). The HBAP was amended and fully adopted by the Coastal Commission in 1983. Given the Project is appealable to the Coastal Commission, the following Coastal Act policies relevant to hydrologic and water quality resources include the following (see HBAP policies below):

Section 30233 Diking, filling or dredging

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:

(4) Incidental public service purposes

3.21.3.3 Local

The study area is located within Humboldt County's jurisdiction, and specifically within the appeal jurisdiction of the Coastal Zone which is regulated by the Humboldt Bay Area Plan Local Coastal Program (HBAP LCP). The Humboldt County General Plan was not certified in the Coastal Zone and therefore General Plan goals and policies are not binding, and are not included in this section.

3.21.3.3.1 Humboldt Bay Area Plan – Local Coastal Program

The policies within the Humboldt Bay Area Plan Local Coastal Program that regulate hydrology and water quality include the following:

Section 30240 – ESHA

a. *Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas.*

b. *Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas.*

Section 30233 – Filling of Wetlands

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:

(5) Incidental public service purposes, including, but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.

Section 30607.1 – Mitigation for Wetland Fill

Where any dike and fill development is permitted in wetlands in conformity with this division, mitigation measures shall include, at a minimum, either acquisition of equivalent areas of equal or greater biological productivity or opening up equivalent areas to tidal action; provided, however, that if no appropriate restoration site is available, an in-lieu fee sufficient to provide an area of equivalent productive value or surface areas shall be dedicated to an appropriate public agency, or such replacement site shall be purchased before the dike or fill development may proceed. Such mitigation measures shall not be required for temporary or short-term fill or diking; provided that a bond or other evidence of financial responsibility is provided to assure that restoration will be accomplished in the shortest feasible time.

3.21.4 Evaluation Criteria and Significance Thresholds

Evaluation Criteria	Significance Thresholds	Sources
Would the Project violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or groundwater quality?	Non-compliance with the NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities Alteration of the course of a wetland in a manner that creates erosion or siltation Creation of increased quantity of runoff such that capacity of storm drains would be exceeded	CEQA Guidelines Appendix G, Checklist Item X (a) (e) General Construction Permit (Order No. 2009-0009, as amended by Order No. 2010-0014 & 2012-006)
Would the Project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?	Creation of a deficit in aquifer volume or lowering of groundwater levels Creation of a substantial amount of new impervious surfaces that would interfere with groundwater recharge	CEQA Guidelines Appendix G, Checklist Item X (b) (e)
Would the Project substantially alter the existing drainage pattern of the site or area in a manner which would result in substantial erosion or siltation on- or off-site?	Uncontrolled runoff from construction site	CEQA Guidelines Appendix G, Checklist Item X (c)(i) Humboldt County Grading, Excavation, and Erosion and Sediment Control Ordinance
Would the Project substantially alter the existing drainage pattern of the site or area in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	Creation of a substantial amount of new impervious surfaces that would result in an increase in runoff from or within the Project Area	CEQA Guidelines Appendix G, Checklist Item X (c)(ii) FEMA flood protection standards

Evaluation Criteria	Significance Thresholds	Sources
Would the Project substantially alter the existing drainage pattern of the site or area in a manner which would 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?	Installation of stormwater retention basins that do not comply with County standards, are not sustainable, and would increase erosion or sedimentation.	CEQA Guidelines Appendix G, Checklist Item X (c)(iii) Humboldt County Low Impact Development Stormwater Manual
Would the Project substantially alter the existing drainage pattern of the site or area in a manner which would impede or redirect flood flows?	Project actions would result in on-site or off-site flooding.	CEQA Guidelines Appendix G, Checklist Item X (c)(iv)
In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?	Placement of facilities in a 100-year flood hazard area Non-compliance with the Humboldt County Flood Damage Prevention Ordinance	CEQA Guidelines Appendix G, Checklist Item X (d), and Item VIII (b) Humboldt County Flood Damage Prevention Ordinance
Conflict with or obstruct implementation of a water quality plan or sustainable groundwater management plan?	Conflict with Basin Plan or groundwater management planning.	CEQA Guidelines Appendix G, Checklist Item X (a) (e) Humboldt Bay Clean Water Act 303(d) listing for dioxin and polychlorinated biphenyls (PCBs)

3.21.5 Methodology

Impact assessment methodology considered existing proximity of the Project activities to existing wetlands, streams, ditches, other watercourses, and existing informal storm drainage within the study area. Impact assessment also evaluated the FEMA 100-year flood zone relative to the study area.

3.21.6 Impacts and Mitigation Measures

Impact HWQ-a: Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality? (Less than Significant Impact)

There are 0.336 acres of three-parameter wetlands delineated that may be impacted by the Project, and according to the National Wetlands Inventory (NWI) there are 91.5 acres of three-parameter wetlands within Mitigation Areas-2, -3 and -4; there are no NWI wetlands in Mitigation Areas-1 and -5 (USFWS 2025). No stream courses or other waterways exist within the study area, and the Pacific Ocean is adjacent to, but outside of, the study area. Implementation of the following Project components would have no effect on surface water quality (i.e. water quality of wetlands that contain surface water) because no Project activity in three-parameter wetlands would occur when standing water is present: movement of sand from the sand borrow area, overflow pipe area maintenance, and electrical line and pole installation. Project activities occurring in dry wetlands that could affect the functionality of a wetland, i.e. wetland fill, are discussed in Section 3.3 – Biological Resources. Wetlands occurring along the Project Area alignment may be affected during vegetation maintenance depending on the seasonality of construction.

Vegetation maintenance would typically occur after the nesting bird season ends (i.e. vegetation maintenance would typically occur on and after August 16th), however there may be some instances where vegetation maintenance needs to occur during the wet season. However, no wetland fill (i.e. permanent impacts) would occur due to vegetation maintenance. Potential impacts associated with vegetation maintenance (e.g. driving through a wetland) would be temporary, and impacts to surface water quality are unlikely to occur given vegetation maintenance would typically occur in the late summer and early fall. Trimming of wetland vegetation would occur under the Project, and these impacts are addressed in Section 3.3 – Biological Resources.

Wetlands delineated within the Project Area were observed to contain standing water in March, therefore it is possible that standing water could be present in April and potentially early May or later depending on the amount of winter precipitation received. No Project components are planned to occur from approximately November through early May, during the rainy season or when standing water may be present. Regardless of the seasonality of when Project activities would occur, due to the presence of Waters of the State (i.e. wetlands) and the plans to implement Project components that overlap with these Waters of the State, the District will acquire a waste discharge requirement permit from the NCRWQCB. This permit will document impacts to Water of the State, include measures to reduce impacts, and document mitigation to offset impacts. Although Project activities would not occur during the wet season or when standing water is present, this permit is required because Project components would occur in dry wetlands which are still considered Waters of the State.

Under the high emissions scenario (which assumes 4.9 feet of sea level rise), wave overwash events into the Project Area are predicted to occur under the 20-year and 100-year storm events which could result in hydrologic connectivity between the Project Area and the ocean. This potential hydrologic connectivity is speculative and would be temporary and is therefore not considered a potentially significant impact to water quality. Due to the temporal nature of Project activities and that they would not occur during the wet season or timeframe when standing water is typically present, and due to the requirement to acquire a waste discharge requirement permit from the NCRWQB, no water quality standards would be violated. For these reasons, a less than significant impacdt to water quality standards and degradation of surface water quality would occur. As discussed, see Section 3.3 – Biological Resources for a discussion of potential wetland fill occurring without surface water present.

Activities within the mitigation areas include invasive species removal via herbicide, prescribed burning, mechanical and manual methods, and excavation to create wetlands. Mitigation Areas-2 and -5 are prioritized for invasive species removal and forested wetland habitat enhancement, and dune mat habitat establishment, respectively. However, mitigation activities could occur in any of the mitigation areas. No wetland fill would occur as a component of mitigation, however temporary impacts to wetlands may occur during the implementation of mitigation activities. Per the National Wetlands Inventory, no wetlands within the mitigation areas are hydrologically connected to a receiving waterway and thus potential activities within wetlands would not degrade surface water quality. As discussed above, under a high emissions scenario when there are 20-year or 100-year storm events, portions of Mitigation Areas-1, -3, -4 and -5 either flood or are flood prone, which could result in hydrologic exchange with the Pacific Ocean. This potential connectivity is speculative and mitigation activities are planned to be completed relatively soon after Project permitting is completed, and thus the high emissions scenario would not be occurring during mitigation activities, and this potential impact is considered less than significant.

Mitigation may include the mechanical removal of invasive species, involving excavation of pits (down to eight feet), placement of invasive materials, and then cover with three to six feet of clean sand. This work would occur during the dry season, and outside of wetlands, and potential impacts to surface water quality would not occur. It is possible that groundwater may be contacted during excavation, however groundwater would not be pumped or utilized, rather it would remain in the excavated pit. No impact to groundwater would occur.

The use of hand tools in the mitigation areas could temporarily disturb surface water quality, i.e. if planting were to occur within the wet season; however, would not permanently degrade surface water quality. Prescribed burning would have no impact on surface water quality because it would occur during the dry season when surface water is unlikely to occur. Herbicide would be applied as close to the plant as feasible to limit drift and would include the use of Imazapyr which is an aquatically approved herbicide by the Environmental Protection Agency. Herbicide would be

utilized during the dry season when standing water is not present. Therefore, no impact would occur to surface or groundwater quality from implementation of mitigation activities.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than significant impact

Impact HWQ-b: Would the Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin? (No Impact)

The Project would not decrease groundwater supplies nor interfere with groundwater management because there is no proposed use of groundwater. Trenching for the installation of the replacement electrical line conduit and pole would be carried out at a maximum depth of four feet. If groundwater is encountered during excavations, then it would be pumped out of the construction area and into an area of uplands to settle and infiltrate which would not interfere with groundwater recharge. For these reasons, no impact would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: No impact

Impact HWQ-c.i: Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site? (No Impact)

Implementation of the Project and associated mitigation is located within sandy substrate with high porosity and thus fast infiltration. Some expansive areas of wetlands occur outside of the Project Area, specifically between the foredune and backdune west of and parallel to the northern/central extent of the Project Area, and would not be modified by Project activities. Project components involving excavation (i.e. electrical line conduit and pole installation) would not substantially alter existing drainage patterns because the electrical line would be installed at a maximum depth of four feet below ground surface, with 3-5 feet of cover and would not result in the placement of sand that could alter drainage patterns. Sand is extremely porous and drainage predominantly consists of infiltration into the sandy substrate in dune ecosystems due to the high infiltration. Wetlands and other areas of standing water in the Project Area are driven by fluctuations in groundwater levels throughout the year, and not surface-level drainage. As discussed in Section 3.3 – Biological Resources, it is possible that areas of wetlands may be inadvertently filled by Project activities such as grading of the northerly access road, however, due to the high infiltration, areas of fill are not anticipated to substantially alter drainage patterns. Other Project components, i.e. vegetation maintenance, movement of sand, maintenance of the discharge overflow pipe area, would not alter drainage patterns because alterations to topography that would substantially change drainage patterns would not occur. No additional impervious surfaces would be introduced within the Project Area or Mitigation Areas under the Project, and therefore modifications to drainage associated with impervious surfaces would not occur. For these reasons, no impact would occur.

Mitigation activities involve removal of invasive species and establishment of native dune habitat, and or enhancement to existing forest and wetland habitats. Creation of three-parameter wetlands may occur if required which would involve excavation to a depth that intersects the groundwater table to create wetland conditions. The removal of invasive species and establishment of native dune habitat, enhancements to existing forest and wetland habitat, and creation of wetlands would not have an adverse environmental impact. Therefore, no impact would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: No impact

Impact HWQ-c.ii, iii: Would the Project substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? Would the Project 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? (No Impact)

As mentioned above in response to HWQ-c.i., the Project does not propose any new impervious surfaces above and beyond what is currently existing. Therefore, implementation of the Project would have no effect on the rate or amount of surface runoff, or the planned stormwater drainage systems, or contribute polluted runoff. There would be no change to potential fooding on- or off-site due to implementation of the Project. For these reasons, no impact would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: No impact

Impact HWQ-c.iv: Would the Project impede or redirect flood flows? (Less than Significant Impact)

Portions of the Project Area are located within the 100-year floodplain as mapped by FEMA, specifically along the central Project Area closest to the Highway 255 bridges (Humboldt County 2025). This refers to an area that has a 1% chance of experiencing a flood in any given year. The only Project component that involves new infrastructure is the proposed power pole near the intersection with Bay Street. This feature is common within the Project vicinity and would not substantially redirect potential flood flows due to the linear nature of the pole. Surface level activities including vegetation management could have a minor impact on redirecting potential flood flows because there would be less vegetation present. Maintenance of the discharge overflow pipe area would have no impact on flood flows because the footprint of the structure would not be substantially modified. For these reasons, a less than significant impact would occur. Mitigation actions would not result in surface level changes that could impede or redirect flows and therefore they would have no impact on flood flows.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than significant

Impact HWQ-d: Would the Project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation? (Less than Significant Impact)

The Project Area is located in the tsunami zone and portions of the Project Area are within the 100-year flood zone as mentioned above. No pollutants or other fuel associated with the Project are proposed to be stored within the Project Area during day-to-day Project operations. Project components involving the use of fuel for hand tools, heavy equipment and trucks for implementation of vegetation maintenance, movement of sand, or grading of the sand access road would involve storage of fuels or equipment within the Project Area. It is likely that only heavy equipment would be stored within or near the Project Area during implementation of Project components, however hand tools, trucks and supplies may be stored in the Project Area if necessary for operations. Once the Project component was completed, the heavy equipment and other potential tools, trucks and supplies that may be stored onsite, would be removed from the Project Area. Heavy equipment, hand tools, trucks and supplies would not be stored in sandy substrate, rather would be stored on paved or previously disturbed areas, such as the HBMWD Samoa Pump Station or within a nearby area (in coordination with the landowner). Equipment would not be stored within the Project Area on a long-term basis, and would only potentially be stored onsite during the dry season when Project components are being implemented. Therefore, it is unlikely that storage of such equipment would occur during a flood where pollutant release may occur. Tsunamis are only predictable after an earthquake occurs, which is within a relatively short window of time before they may occur. If a tsunami occurred, there would be an increased risk of release of pollutants (i.e. fuel) due to inundation, however fuel would be stored within the equipment's fuel chambers which would reduce (but not eliminate) the risk. Due to the short-term storage of equipment and unknown occurrence of a tsunami, the potential

risk of pollutants associated with a tsunami is not considered a significant impact. For these reasons, a less than significant impact would occur.

Mitigation activities include the use of herbicide to treat European beachgrass or other invasive species prior to and after prescribed burning. Herbicide would be utilized by qualified applicators in accordance with the guidance on the herbicide label. Herbicide would not be stored within the Mitigation Areas or Project Area when not in use. Herbicide application would occur during the dry season, when precipitation is unlikely to occur. It is possible that a tsunami could occur immediately after herbicide was applied and cause pollutants to be released, however this occurrence is highly unlikely due to the unlikelihood of a tsunami occurring. For these reasons, a less than significant impact would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than significant

Impact HWQ-e: Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? (Less than Significant Impact)

As discussed above, Project components that require excavation such as the electrical line and pole installation have the potential to contact groundwater during implementation and cause temporary impacts. However, it is unlikely to occur due to the seasonality of construction (to occur during the dry season), porous substrate, and low water table within the study area during the dry season. Implementation of other Project components would have no impact on groundwater because they do not involve subsurface activities.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than significant impact

3.21.7 Cumulative Impacts

Impact HWQ-C-1: Would the Project contribute to a cumulatively significant impact to Hydrologic and Water Quality Resources?

Cumulative effects analysis examines the current Project effects taken together with effects of past projects and known projects in the foreseeable future. Projects considered for cumulative impacts are identified in **Table 3.0-1** and include industrial projects (Redwood Heavy Lift Terminal), habitat restoration projects involving predominantly manual invasive plant removal with future potential use of prescribed fire, and improvements to the Town of Samoa and peninsula communities via infrastructure upgrades. The industrial and development projects occur within previously developed areas that predominantly already contain existing water connections. Disturbance within the dunes ecosystem from regional projects is predominantly from hand pulling of invasive species, which does not affect hydrology or water quality because European beachgrass does not grow in wetlands. The potential use of fire on the South Spit, both under the proposed Project and the South Spit Resiliency Project, would not cumulatively adversely affect hydrology and water quality because use of prescribed fire would occur periodically and would not be a new consistent source of potential fire water needed which could affect water management and supply.

Therefore, the Samoa Peninsula Right-of-Way Maintenance Project, taken together with past and foreseeable future projections, would not cause a significant cumulative adverse effect to hydrology and water quality. Given the Project would not result in any significant impacts to hydrology and water quality, and the projects considered in **Table 3.0-1** would not permanently affect hydrology and water quality in the Project Area or Mitigation Areas or vice versa, the potential for cumulative impacts within the study area would not result.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than significant

3.21.8 References

Applied Climate Information System (AG-ACIS). 2024. AG-ACIS for Humboldt County. Available at: https://agacis.rcc-acis.org/?fips=06023

CA Department of Water Resources (DWR). 2025. Sustainable Groundwater Management Act Basin Prioritization Dashboard. Available at: https://gis.water.ca.gov/app/bp-dashboard/final/

California Ocean Protection Council (OPC). 2024. DRAFT: State of California Sea Level Rise Guidance: 2024 Science and Policy Update. In collaboration with the California Ocean Science Trust and a scientific task force. Available at: https://opc.ca.gov/wp-content/uploads/2024/05/California-Sea-Level-Rise-Guidance-2024-508.pdf

Humboldt County. 2022. Humboldt Bay Area Plan, of the Humboldt County Local Coastal Program. Available at: https://humboldtgov.org/DocumentCenter/View/50844/Humboldt-Bay-Area-Local-Coastal-Plan

Humboldt County. 2025. Humboldt County WebGIS Online Database. Available online: https://webgis.co.humboldt.ca.us/HCEGIS3.0/ Accessed on May 17, 2024.

National Oceanic and Atmospheric Administration (NOAA). 2025. North Spit, CA – Station ID: 9418767. Available at: https://tidesandcurrents.noaa.gov/stationhome.html?id=9418767

North Coast Regional Water Quality Control Board (NCRWQCB). 2024. Eureka Plain. Available online at: https://www.waterboards.ca.gov/northcoast/water_issues/programs/watershed_info/eureka_plain/

Patton, Jason R.; Williams, Todd B.; Anderson, Jeffrey K.; Hempill-Haley, Mark; Burgette, Reed J.; Weldon, Ray II; McPherson, Robert C.; and Leroy, Thomas H. 2023. 20th to 21st Century Relative Sea and Land Level Changes in Northern California: Tectonic Land Level Changes and their Contributions to Sea-Level Rise, Humboldt Bay Region, Northern California. Local Reports and Publications. Available at: https://digitalcommons.humboldt.edu/cgi/viewcontent.cgi?article=1062&context=hsuslri_local

University of California Santa Barbara (UCSB), Friends of the Dunes, U.S. Fish and Wildlife Service (USFWS), GHD. 2024. Humboldt Coastal Resilience Project Web App. Available at: https://experience.arcgis.com/experience/01d80f8ca0794a9590825bc5a7317b92

U.S. Fish and Wildlife Service (USFWS). 2025. National Wetlands Inventory Mapper. Available at: https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/

U.S. Geological Survey (USGS). 2025. Hazard Map – Our Coast, Our Future. Coastal Storm Modeling System (CoSMos). Available at: https://ourcoastourfuture.org/hazard-map/

3.22 Land Use and Planning

This section evaluates the potential impacts related to land use and planning due to implementation of the Project and associated mitigation. To provide the basis for this evaluation, the Setting section describes the existing land use character for the Project Area and Mitigation Areas, and the Regulatory Framework section describes the regulatory background that applies to the Project. The Impact Analysis section establishes the thresholds of significance, evaluates potential land use and planning impacts, and identifies the significance of impacts. Where appropriate, mitigation measures are presented to reduce impacts to less than significant levels.

3.22.1 Study Area

The study area for land use and planning analysis includes the Project Area and Mitigation Areas (see **Appendix A, Figures 2-2 through 2-5, and 2-7 through 2-7.4)**.

3.22.2 Setting

The study area is located in the Coastal Zone in Humboldt County, California. Communities in the study area include: Manila, Samoa, and Fairhaven. The study area is within the appeal jurisdiction of the Coastal Zone which is regulated under the Humboldt Bay Area Plan Local Coastal Program (HBAP LCP) by Humboldt County, and appealable to the California Coastal Commission which implements regulations in the Coastal Zone under the California Coastal Act.

The entire study area is in unincorporated Humboldt County, and therefore land use is regulated by Humboldt County Zoning Ordinance and Humboldt County General Plan, certified in 2017.

The northern 0.8 miles of the study area is also within the Planning Area of the City of Arcata (City of Arcata 2025). Accordingly, the City of Arcata tracks and provides input on actions in their Planning Area, but does not propose land use designations or zoning within their Planning Area;, rather the Humboldt County Planning Department is the governing land use authority in these locations.

General Plan Land Use Designations

On the Samoa Peninsula, most of the Project Area is designated as Natural Resources (NR), but one area overlaps with Public Facility (PF) near Lupin Drive near the Manila Community Services District (MCSD) facilities, and one area in Samoa with Industrial General (MG in the Coastal Zone) (Humboldt County 2017a, Humboldt County 2025a). Additionally, in the Fairhaven area there are coastal dependent industrial (MC) and single family residential (RS) designated areas. The Mitigation Areas are in NR and Industrial Coastal Dependent (MC) (Humboldt County 2025a). See **Appendix A, Figure 3.10-3.1 through 3.5** for an overview of land use designations in the study area.

Zoning

Similarly, most of the Project Area is zoned Natural Resources (NR) with an area that is zoned PF that corresponds to the area near Lupin Drive with the PF land use designation. The southern extent of the Project Area is zoned Industrial General (MG). These zoning designations have a variety of combining zones: Archaeological Resources (A), Beach and Dune Areas (B), and Coastal Wetlands (W). Mitigation Areas are zoned NR, and Industrial/Coastal-Dependent (MC). Additionally, in the Fairhaven area there are coastal dependent industrial (MC) and single family residential (RS) zoned areas.

Existing Land Uses

The study area contains open space with partially wooded vegetative conditions, concrete cylindrical vaults, underground water pipelines and appurtenances, the Samoa Booster Station, and a portion of the power poles parking lot. In Fairhaven, the project occurs near single family residences. Most water and wastewater systems in the County were constructed using grant funds in the 1950s and 1960s, including the infrastructure considered under this Project (i.e. non-potable water pipeline constructed in 1960, and the potable water pipeline constructed in 1971-1972) (Humboldt County 2017b). In general, although upgrades have occurred throughout the County since publishing of the General Plan in 2017, water and wastewater systems in Humboldt County are quite old and deteriorating and are in need of improvement. Without exception, all service providers face the need to invest in maintenance and upgrades required to keep their systems in compliance with state standards (Humboldt County 2017b).

3.22.3 Regulatory Framework

3.22.3.1 Federal

There are no federal regulations that apply to the proposed Project related to land use and planning; however, the Humboldt Bay National Wildlife Refuge is located adjacent to the study area to the north which manages its property in

accordance with their Comprehensive Conservation Plan. The Project partially occurs on lands owned by the Bureau of Land Management which are primarily managed under the Arcata Resource Area Resource Management Plan.

3.22.3.1.1 Humboldt Bay National Wildlife Refuge Complex Comprehensive Conservation Plan

The Humboldt Bay National Wildlife Refuge Complex includes Humboldt Bay National Wildlife Refuge and Castle Rock National Wildlife Refuge. The Humboldt Bay National Wildlife Refuge is located adjacent to the north of the study area with refuge units distributed around Humboldt Bay. The U.S. Fish and Wildlife Service prepared a Comprehensive Conservation Plan to guide management of fish, wildlife, plants, other natural resources, and visitor uses on the Humboldt Bay National Wildlife Refuge Complex between 2009 and 2024.

3.22.3.2 State

3.22.3.2.1 California Coastal Act

The entire study area (comprised of the Project Area, and Mitigation Areas) is within the Coastal Zone, specifically within the Appeal Jurisdiction which is regulated by the Humboldt County Local Coastal Program through the Humboldt Bay Area Plan (HBAP) Local Coastal Program (LCP) (Humboldt County 2022). The HBAP was amended and fully adopted by the Coastal Commission in 1983. Given the Project is appealable to the Coastal Commission, the following Coastal Act policies relevant to land use and planning include the following:

Section 30001.5 Legislative findings and declarations; goals

The Legislature further finds and declares that the basic goals of the state for the coastal zone are to:

(a) Protect, maintain, and, where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources.

(b) Assure orderly, balanced utilization and conservation of coastal zone resources taking into account the social and economic needs of the people of the state.

(c) Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources conservation principles and constitutionally protected rights of private property owners.

(d) Assure priority for coastal-dependent and coastal-related development over other development on the coast.

(e) Encourage state and local initiatives and cooperation in preparing procedures to implement coordinated planning and development for mutually beneficial uses, including educational uses, in the coastal zone.

Section 30233 Diking, filling or dredging; continued movement of sediment and nutrients

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:

(4) Incidental public service purposes.

Section 30240 – ESHA

c. *Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas.*

d. *Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas.*

3.22.3.3 Regional and Local

The study area (comprised of the Project Area, and Mitigation Areas) is located within Humboldt County's jurisdiction, and (as mentioned above) specifically within the appeal jurisdiction of the Coastal Zone which is regulated by the HBAP LCP. The Humboldt County General Plan was not certified in the Coastal Zone and therefore General Plan goals and policies are not binding in the Coastal Zone.

3.22.3.3.1 Humboldt Bay Area Plan – Local Coastal Program

There are no additional HBAP LCP policies, other than those listed above within the Coastal Act, that regulate land use and planning with a nexus to maintenance of public water supply infrastructure. The Project is not considered new development.

3.22.4 Evaluation Criteria and Significance Thresholds

Evaluation Criteria	Significance Thresholds	Sources
Would implementation of the Project physically divide an established community?	Physical division of an established community via relocation of homes or businesses.	CEQA Guidelines Appendix G, Checklist Item XI (a)
Would implementation of the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	Conflict with a land use plan or zoning.	CEQA Guidelines Appendix G, Checklist Item XI (b)

3.22.5 Methodology

Impact analysis in this section is based upon land use designation and zoning information from Humboldt County WebGIS, Humboldt County zoning code and land use designation information from the Humboldt County Planning Department. Potential impacts are determined by comparing proposed Project activities in an area to the zoning and land use designations of those areas.

3.22.6 Impacts and Mitigation Measures

Impact LUP-a: **Would implementation of the Project physically divide an established community? (No Impact)**

The proposed Project would not result in the relocation of any residences or businesses. Access to critical potable and non-potable water infrastructure would be maintained under the Project which would not divide an established community. There would be no impact.

Mitigation Measures: **No mitigation is necessary**

Level of Significance: No impact

Impact LUP-b: **Would implementation of the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? Less than Significant Impact with Mitigation)**

Land use designations in this analysis are sourced from the Humboldt County WebGIS platform. Land use designations in the Coastal Zone are regulated by the HBAP LCP. See **Appendix A, Figures 3.10-3.1 through 3.10-3.5** for an overview of all land use designations.

Proposed Project activities within the Project Area, which is entirely within the Coastal Zone, are predominantly within the NR land use designation, with a small component within PF near Lupin Avenue, and MG designations in the southern Project Area. These areas are outside of identified urban limit lines in the HBAP for Manila and Samoa. Associated subsequent zoning of these areas uses the same naming convention, and includes NR, PF and MG. According to zoning code “minor utilities” is principally permitted in the PF and MG zones, and conditionally permitted in the NR zone.

Project activities involve vegetation maintenance, movement of sand and minor grading to ensure access to HBMWD infrastructure, which would support the “minor utilities” within the Project Area. The interpretation of Project activities appears that they would fit within the conditionally permitted use types within the NR zoning and principally permitted use types within the MG and PF zones.Therefore, no impact would occur.

Mitigation activities to offset impacts to biological resources include the eradication of invasive species (i.e. European beachgrass) to restore native dune mat habitat, establishment of rare plant species in the restored dune mat habitat through active and passive revegetation, and enhancement of existing wetlands and forest habitat. Mitigation activities are anticipated to primarily occur in Mitigation Areas-2 and -5, however may also occur in Mitigation Areas-1, -3 and -4. All mitigation areas, except for Mitigation Area-3 which is owned by the City of Eureka, are zoned NR and therefore the proposed activities would be principally permitted because they can be considered “fish and wildlife management” “watershed management” or “wetland management.” Mitigation Area-3 is located immediately south of the Samoa Field Airport and is zoned MC, which does not principally or conditionally permit habitat restoration activities. Use of Mitigation Area-3 for mitigation under its current zoning would conflict with zoning code and result in a potentially significant impact. To avoid this potentially significant impact, Mitigation Measure LUP-1 would be implemented if Mitigation Area-3 is used for biological mitigation.

3.22.6.1 Mitigation

The following mitigation measure would be implemented by the District prior to any mitigation activities occurring at Mitigation Area-3 to avoid a violation of land use policy.

Mitigation Measure LUP-1: Update Zoning of Mitigation Area-3

Prior to Mitigation Area-3 being used for mitigation activities, and to avoid a zoning violation, the District would work with the City of Eureka to re-zone Mitigation Area-3 to Natural Resources with the Humboldt County Planning Department. Following the re-zone, an amendment to the Humboldt Bay Area Plan, Local Coastal Program would be required as part the re-zone.

If no mitigation activities occur within Mitigation Area-3 then no re-zone would occur or be necessary.

With inclusion of Mitigation Measure LUP-1, there would be no violation of zoning policy and the potentially significant impact would be avoided. Therefore, this potential impact is considered less than significant with mitigation incorporated.

Level of Significance: Less than significant after mitigation

3.22.7 Cumulative Impacts

Impact LUP-C-1: Would implementation of the Project contribute to a cumulatively significant impact to land use and planning? (Less than Significant Impact)

Cumulative effects analysis examines the current Project effects taken together with effects of past projects and known projects in the foreseeable future. Future projects considered for cumulative impacts are identified in **Table**

3.0-1 and include industrial projects (Redwood Heavy Lift Marine Terminal), habitat restoration projects involving predominantly manual invasive plant removal with future potential use of prescribed fire, and improvements to the Town of Samoa and peninsula communities via infrastructure upgrades. The proposed regional industrial projects (i.e. Redwood Heavy Lift Marine Terminal) occur within previously developed areas that are zoned for future industrial development. The District would acquire a Conditional Use Permit from Humboldt County for minor utility work in the NR-zoned areas, and would re-zone Mitigation Area-3 to a suitable zoning classification prior to implementing habitat improvement projects as mitigation in this location. Therefore, these actions would not cumulatively contribute to potential impacts involving land use and planning. Disturbance within the dunes ecosystem from regional projects is predominantly from hand pulling of invasive species, which does not violate zoning because these activities occur within the NR zoned areas. The anticipated use of fire on the South Jetty, both under the proposed Project and the South Spit Resiliency Project, would each be implemented under respective Burn Plans and implemented under the instruction of CAL FIRE and/or a BLM Burn Boss, and can be considered “fish and wildlife management” because of the native habitats that would be promoted through the prescribed burning. Implementation of prescribed burning would therefore not cause a cumulative impact to land use and planning.

Therefore, the Samoa Peninsula Right-of-Way Maintenance Project, taken together with past and foreseeable future projections, would not cause a cumulative adverse effect to land use and planning. Given that the Project would not result in significant impacts to land use and planning (with incorporation of Mitigation Measure LUP-1), and that the projects considered in **Table 3.0-1** would not permanently affect land use and planning in the Project Area or Mitigation Areas or vice versa, the potential for cumulative impacts within the study area would not result.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than significant

3.22.8 References

City of Arcata. 2025. Planning Area Boundary. Available at: https://www.cityofarcata.org/DocumentCenter/View/1669/Arcata-Planning-Area-Map-PDF

City of Eureka. 2025. City of Eureka GIS Web Application. City of Eureka Zoning Code. ESRI interface. Available at: https://arcgis-svr.ci.eureka.ca.gov/portal/apps/webappviewer/index.html?id=49037ddcf4474c6ba4bdb661ee203604

Humboldt County Planning and Building Department (Humboldt County). 2025a. Humboldt County WebGIS. Available at: https://cty-gis-web.co.humboldt.ca.us/HCEGIS3.0/

Humboldt County Planning and Building Department (Humboldt County). 2025b. County Code: Chapter 3, Regulations Inside the Coastal Zone. Available at: https://humboldt.county.codes/Code/313_SecA

Humboldt County Planning and Building Department. 2022. Humboldt Bay Area Plan of the Humboldt County Local Coastal Program. March. Available at: https://humboldtgov.org/DocumentCenter/View/50844/Humboldt-Bay-Area-Local-Coastal-Plan.

Humboldt County Planning and Building Department (Humboldt County). 2017a. Humboldt County General Pan for the Areas Outside the Coastal Zone. October 23.

Humboldt County Planning and Building Department (Humboldt County). 2017b. Revised Draft Environmental Impact Report, SCH# 2007012089. Humboldt County General Plan Update. April 19.

3.23 Noise

This section evaluates potential impacts related to noise during implementation of the Project and associated mitigation. To provide the basis for this evaluation, the Setting section describes the noise setting of the Project Area and Mitigation Areas, and the Regulatory Framework section describes the regulatory background that applies to the Project. The Impact Analysis section establishes the thresholds of significance, evaluates potential noise-related impacts, and identifies the significance of impacts. Where appropriate, mitigation measures are presented to reduce impacts to less than significant levels.

3.23.1 Study Area

The study area for this section includes the Project Area and the surrounding 0.25-mile buffer, and Mitigation Areas (see **Appendix A, Figures 2-2 through 2-5, and 2-7 through 2-7.4**). Numerous residences, the Redwood Coast Montessori school, and a small number of municipal, industrial business and nonprofit organization offices and facilities exist within the study area, such as the Manila Community Services District facilities. The study area does not overlap east of Highway 255, however does overlap the roadway when it transitions to New Navy Base Road at and south of the Samoa bridges.

3.23.2 Setting

3.23.2.1.1 Fundamentals of Acoustics

Noise may be defined as objectionable or disturbing sound caused by its pitch or its loudness. Pitch is the height or depth of a tone or sound, depending on the relative frequency of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. Loudness is the intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave.

In addition to the concepts of pitch and loudness, there are several measurement scales which are used to describe noise in a particular location. A decibel (dB) is a unit of measurement that indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 decibels represents a ten-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities.

There are several methods of characterizing sound. The most common method in California is the A-weighted sound level or (dBA). This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound/noise descriptor is called Leq. The most common averaging period is hourly, but Leq can describe any series of noise events of arbitrary duration.

Since the sensitivity of noise receptors to noise increases during the evening and at night, and because excessive noise interferes with the ability to sleep, 24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The Day/Night Average Sound Level (Ldn) is average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 PM and 7:00 AM. The Community Noise Equivalent Level (CNEL) is a measure of the cumulative noise exposure in a community, with a 5 dB penalty added to evening (7:00 PM - 10:00 PM) and a 10 dB addition to nocturnal (10:00 PM - 7:00 AM) noise levels.

3.23.2.1.2 Fundamentals of Groundborne Vibration

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several methods are typically used to quantify the amplitude of vibration including Peak Particle Velocity (PPV) and Root Mean Square (RMS) velocity. PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. RMS velocity is defined as the average of the squared amplitude of the signal, usually measured in decibels referenced to one micro-inch per second (in/sec) and reported in velocity decibels (VdB). PPV and VdB vibration velocity amplitudes are used in this analysis to evaluate the effect of vibration on buildings and people in the vicinity of Project activities.

The PPV descriptor has been used routinely to measure and assess groundborne vibration and almost exclusively to assess the potential of vibration to induce structural damage and the degree of annoyance for humans. The two primary concerns with construction-induced vibration, the potential to damage a structure and the potential to interfere with the enjoyment of life, are evaluated against different vibration limits. Studies have shown that the threshold of perception for average persons is in the range of 0.008 to 0.012 in/sec PPV. Human perception to vibration varies with the individual and is a function of physical setting and the type of vibration. Persons exposed to elevated ambient vibration levels, such as people in an urban environment, may tolerate a higher vibration level, whereas the opposite is true for people in rural areas. The use of pile driving and vibratory compaction equipment typically generates the highest construction-related groundborne vibration levels (neither of which are proposed under the Project).

Structural damage can be classified as cosmetic only, such as minor cracking of building elements, or may threaten the integrity of the building. Safe vibration limits that can be applied to assess the potential for damaging a structure vary by researcher and there is no general consensus as to what amount of vibration may pose a threat for structural damage to a building. Construction-induced vibration that can be detrimental to a building is very rare and has only been observed in instances where the structure is at a high state of disrepair and the construction activity occurs immediately adjacent to the structure.

3.23.2.1.3 Existing Noise and Vibration Environment

The study area is located along the Samoa Peninsula and predominantly includes open space. Ambient noise is comprised of ocean waves, wind, communication among recreationists, and in the northern extent gunshots from the Redwood Gun Club. Gunshot noise from the Redwood Gun Club is audible from within the Ma-le'l Dunes located approximately 0.50 miles southwest. Some residences and offices are located within the western fringe of the study area in proximity to Highway 255; the majority of residences are located between approximately 1.5 and 2.5 miles south of the northern extent of the Project Area. The study area also includes a roadway (New Navy Base Road) in the southern extent of the Project Area, which is comprised of driving by passenger vehicles and trucks. The Mitigation Areas are all wild spaces and do not contain infrastructure; ambient noise is also comprised of ocean waves, wind and recreationist communication (predominantly in Mitigation Areas-1 and -2). The northern and central portion of the Project Area supports a high degree of recreation and the trail system is well used. The southern portion of the study area includes New Navy Base Road and industrial land uses either within or adjacent to the study area. The majority of industrial uses are non-operational and therefore do not emit operational noise. The Samoa Field Airport is located outside of the southern extent of the Project Area and outside of Mitigation Area-3, but within the study area, and in late 2004 supported on average 13 airport operations daily. The airport is also unofficially used as a drag strip where automobile races regularly occur which produce a substantial amount of noise. Highway 255 is outside of the study area. The overarching noise environment throughout the entire study area (with the exception of the southern Project Area) is one of low ambient noise due to the open space nature of these areas. Sources of groundborne vibration within the study area are from work trucks entering and leaving industrial businesses along New Navy Base Road, and vehicle use of New Navy Base Road, drag racing and airplane activity at the Samoa Field Airport. There are no other sources of vibration within the study area.

3.23.2.1.4 Sensitive Receptors

Sensitive receptors are land uses or people who are particularly susceptible to the adverse effects of noise, and include: residences, schools, playgrounds, childcare centers, retirement homes, hospitals, and medical clinics.

Sensitive receptors within the study area include residences (located approximately 630 feet away from the Project Area), and the Redwood Coast Montessori School (located approximately 1,150 feet east of the Project Area). Recreationists and beach goers, whose location vary by day and time, are not assumed to be sensitive receptors because they are mobile and can voluntarily move away from noise. Therefore, residences and the Redwood Montessori School are sensitive receptors are within the study area (which includes the Project Area boundary surrounding 0.25-mile buffer, and Mitigation Areas).

3.23.3 Regulatory Framework

3.23.3.1 Federal

There are no federal noise regulations that apply to the Project.

3.23.3.2 State

There are no state noise regulations that apply to the Project.

3.23.3.3 Local

The study area is located within Humboldt County's jurisdiction, and specifically within the appeal jurisdiction of the Coastal Zone which is regulated by the Humboldt Bay Area Plan Local Coastal Program (HBAP LCP). The Humboldt County General Plan was not certified in the Coastal Zone and therefore General Plan goals and policies are not binding, and are not included in this section. However, a specific policy from the General Plan is being utilized in this EIR as a significance threshold for impact analysis, and is therefore listed below. Additionally, applicable Humboldt County Code provisions are included.

3.23.3.3.1 Humboldt County General Plan

The Noise Element of the Humboldt County General Plan sets forth standard NS-7 which provides guidance on short term noise emission limits, and is therefore an appropriate significance threshold.

> *N-S7. Short-term Noise Performance Standards (Lmax)*
>
> *The following noise standards, unless otherwise specifically indicated, shall apply to all property within their assigned noise zones and such standards shall constitute the maximum permissible noise level within the respective zones:*

Table 3.23-1 Short-term Noise Standards in Lmax

Zoning Classification	Day (Maximum) 6:00 a.m. to 10:00 p.m. dBA	Night (Maximum) 10:00 p.m. to 6:00 a.m. dBA
MG, MC, AE, TPZ, TC, AG, FP, FR, MH	80	70
CN, MB, ML, RRA, CG, CR, C-1, C-2, C-3	75	65
RM, R-3, R-4	65	60
RS, R-1, R-2, NR	65	60

> *Exceptions:*
>
> *The short-term noise levels shown in the above table shall not apply to certain uses, including but not limited to the following:*

- Portable generator use in areas served by public electricity when electrical service is interrupted during emergencies as determined by the Planning Director.
- Temporary events in conformance with an approved Conditional Use Permit.

- Use of chainsaws for cutting firewood and power equipment used for landscape maintenance when accessory to permitted on-site uses.
- Heavy equipment and power tools used during construction of permitted structures when conforming to the terms of the approved permit.
- Emergency vehicles.

3.23.3.3.2 Humboldt County Code– Section 103.1 Industrial Performance Standards

101.3.1. Noise

All noise generating operations shall be buffered so that they do not exceed the exterior ambient noise level by more than 5 dB(A).

101.3.4. Vibrations

No perceptible vibrations shall be permitted off the building site.

3.23.3.3.3 Humboldt Bay Area Plan – Local Coastal Plan

There are no applicable policies in the HBAP that address noise.

3.23.4 Evaluation Criteria and Significance Thresholds

Evaluation Criteria	Significance Thresholds	Sources
Would the Project result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Short-term Noise Performance Standards (Standard N-S7)	CEQA Guidelines Appendix G, Checklist Item XIII (a) General Plan Land Use/Noise Compatibility Standards (Standard N-S7)
Would the Project result in the generation of excessive groundborne vibration or noise levels?	Peak particle velocity of 0.3 in/sec	CEQA Guidelines Appendix G, Checklist Item XIII (b)
Would the Project be located within the vicinity of a private airstrip or an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, exposing people residing or working in the Project Area to excessive noise levels?	Location of Project in area exposed to effects of airport noise	CEQA Guidelines Appendix G, Checklist Item XIII (c)

3.23.5 Methodology

Impact assessment related to noise compares Project-related noise levels to local noise policies and guidelines, as well as existing noise in the study area.

3.23.6 Impacts and Mitigation Measures

Impact NOI-a: **Would the Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? (Less than Significant Impact)**

Implementation of the proposed Project would temporarily increase noise within and in the immediate vicinity of the Project Area due to the initial vegetation clearing to occur for up to three months per year for the first three years of the Project. Thereafter vegetation maintenance activities would be routine and last for up to one month per year throughout the life of the Project. Power equipment to be used includes: a masticator, chainsaws, and a chipper would be approximately 85 dB, which is above ambient noise levels.

To avoid or reduce noise disturbances within the study area, all Project components (e.g., vegetation removal, reburial of pipeline with sand, inspecting infrastructure) would be implemented between 8 am and 5 pm Monday through Friday. No work (except for emergencies) shall be implemented on Sunday or holidays.

The Project Area is predominantly within the Natural Resources (NR) zoning designation with limited overlap into the Industrial General (MG) and Industrial/Coastal-Dependent (MC) zoning designated areas in the southern portion of the Project Area. The Mitigation Areas are all zoned Natural Resources (NR), except for Mitigation Area-3 which is zoned MC and NR. According to Standard N-7 in the General Plan and as shown in **Table 3.23-1** (above), the NR zoned area has the most sensitive short term noise standards ranging from a daily maximum (6 am-10 pm) of 65 dBA and a nightly maximum (10 pm to 6 am) of 60 dBA, and the MC and MG zoned areas have a daily maximum of 80 dBA and nightly maximum of 70 dBA (Humboldt Couty 2017). It is likely that noise associated with the Project would generally stay within the thresholds shown in **Table 3.11-1**, however Standard N-7 includes exceptions to the noise standards for use of heavy equipment and power tools for appropriately permitted uses. All Project activities would occur in accordance with Project permits, therefore use of equipment that exceeds the noise standards listed in **Table 3.23-1** would not conflict with local standards. The rise in noise within the Project Area wouldn't result in a significant escalation of ambient noise levels in the surrounding area, and the Project would not violate General Plan regulations because it will be appropriately permitted. Consequently, the impact is considered to be less than significant.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than significant

Impact NOI-b: Would the Project result in generation of excessive groundborne vibration or noise levels? (Less than Significant Impact)

Implementation of the Project would generate temporary noise. Sensitive noise receptors in the study area, including local residences, and the Redwood Montessori School, may be in the audible range of some noise-emitting maintenance activities such as vegetation cutting. Equipment that could be used in the Project and each piece of equipment's reference noise level is shown in **Table 3.23-2** below.

Table 3.23-2 Construction Equipment Reference Noise Levels as Measured at 50 feet

Equipment	Noise Level (dB[2])	Equipment	Noise Level (dB)
Dump truck	84	Grader	85
Bulldozer	85	Chainsaw	85
Front end loader or Backhoe	80	Tree trimmer	85
Excavator	85	Pneumatic tools	85

Source: Federal Highway Administration, 2017.

Sound emanating from a single source is known to decrease by -6 dB for every doubling of distance. For instance, if the noise level measures 84 dB Leq at a distance of 50 feet from the source, it would diminish to 78 dB Leq at 100 feet and further to 72 dB Leq at 200 feet from the source to the receptor. Referring to the noise level standards outlined in **Table 3.23-2**, construction equipment at the Project site might produce noise levels reaching up to approximately 85 dB Leq at 50 feet (FHA 2017). While this maximum noise level could temporarily elevate noise levels for sensitive receptors within and near the study area (i.e. residences in the immediate vicinity of Project activities), the majority of stationary sensitive receptors (i.e. residences and the Redwood Montessori School) are located at least 500 feet away

[2] "dB" is a weighted decibel measurement for assessing hearing risk and, therefore, is used by most regulatory compliance.

from the study area. Specifically, the closest residence is 630 feet, and the Redwood Montessori School is 1,150 feet from the study area. See **Table 3.23-3** below for an overview of how 85 dB sound would travel and anticipated noise levels at various identified sensitive receptors.

Table 3.23-3 Noise Attenuation from Noise Source to Sensitive Receptors

Sensitive Receptor	Distance from Project Area (feet)	Excavator (85 dB at various distances from source)					
		50’	100’	200’	400’	800’	1,600’
Residences	630	85	79	73	67	61	
Redwood Montessori School	1,150	85	79	73	67	61	55

Taking the average of noise levels, it is assumed that the 85 dB would attenuate to approximately 64 dB at the closest residence, and to 58 dB at the Redwood Montessori School, while assuming Project work is occurring at the closest distance to these sensitive receptors. Noise levels ranging from 55-70 dB can be equated to an air conditioner, normal conversation, a washing machine and dishwasher (CDC 2024). These noise levels are not significant.

The Project is long-term and ongoing and would involve regular maintenance activities and associated noise. As mentioned, the sensitive receptors identified above are displayed utilizing the closest distance to the Project Area footprint. The majority of sensitive receptors will hear even less noise because they are located further from Project activities.

Ground vibrations would not be expected since there are no plans for pile driving or any other high-impact activities. Based on the negligible noise levels anticipated at sensitive receptors and the absence of groundborne vibrations, the Project's impacts are concluded to be less than significant.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than significant

Impact NOI-c: For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project Area to excessive noise levels? (Less than Significant Impact)

At its closest point, the Project is situated about 0.20 miles away from the Samoa Field Airport and Drag Strip, which fall outside the Project Area but within the study area. This proximity could subject individuals carrying out the Project to compounded higher noise levels due to noise associated with Project activities and from the Air Field and Drag Strip. Flights into or out of the Samoa Field Airport are uncommon and compounded noise impacts are not anticipated. Due to the intermittent nature of Project activities, and low use of the Samoa Field Airport and Drag Strip, this potential impact is considered less than significant.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than significant

3.23.7 Cumulative Impacts

Impact NOI-C-1: Would the Project contribute to a cumulatively significant impact from Noise?

Cumulative effects analysis examines the current Project effects taken together with effects of past projects and known projects in the foreseeable future. Future projects considered for cumulative impacts are identified in **Table**

3.0-1 and include industrial projects (Redwood Heavy Lift Marine Terminal), habitat restoration projects involving predominantly manual invasive plant removal with future potential use of prescribed fire, and improvements to the Town of Samoa and peninsula communities via infrastructure upgrades. The industrial and development projects occur within previously developed areas and construction of these facilities would likely result in noise greater than those shown on **Table 3.23-1** in Standard N-7. However, as discussed, temporary noise levels that exceed those shown in **Table 3.23-1** are allowable when the noise occurs in accordance with permitted activities. Although there may be a cumulative increase in noise from the Project and Redwood Heavy Lift Marine Terminal project, the Project is located approximately 1,200 feet west of the Redwood Heavy Lift Marine Terminal project. This distance would enable attenuation of noise levels so that noise from the proposed Project would not be audible within the Redwood Heavy Lift Marine Terminal project. Disturbance within the dunes ecosystem from regional projects is predominantly from hand pulling of invasive species, which does not generate substantial noise because no equipment is used. The potential use of fire on the South Spit, both under the proposed Project and the South Spit Resiliency Project, would not cumulatively adversely affect noise because use of prescribed fire would occur periodically and would not be a new consistent source of noise that could adversely affect sensitive receptors.

Therefore, the Project, considered together with past and foreseeable future projects, would not cause a cumulative adverse noise impact. Given that the Project would not result in any significant impacts to noise, and that the projects considered in **Table 3.0-1** would not permanently affect noise in the Project Area or Mitigation Areas or vice versa, cumulative impacts within the study area would not result.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than significant

3.23.8 References

Centers for Disease Control and Prevention. 2024. What Noises Cause Hearing Loss?. Available online at: https://www.cdc.gov/nceh/hearing_loss/what_noises_cause_hearing_loss.html

City of Arcata. 2008. General Plan Noise Element. Arcata, CA. Available online at: http://www.cityofarcata.com/DocumentCenter/View/39/Chapter-6-Health-and-Safety---2-Noise-Element-PDF?bidId=

Humboldt County. 2017. Humboldt County General Plan. Noise Element. Available online at: https://humboldtgov.org/DocumentCenter/View/61989/Chapter-13-Noise-Element-PDF

Federal Highway Administration (FHA). 2017. Construction Noise Handbook. Available online: https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook09.cfm

3.24 Population and Housing

This section evaluates the potential impacts related to population and housing from implementation of the Project and associated mitigation. To provide the basis for this evaluation, the Setting section describes the existing housing resources and population in the Project Area and Mitigation Areas, and the Regulatory Framework section describes the regulatory background that applies to the Project. The Impact Analysis section establishes the thresholds of significance, evaluates potential impacts to population and housing, and identifies the significance of impacts. Where appropriate, mitigation measures are presented to reduce impacts to less than significant levels.

3.24.1 Study Area

The study area for population and housing analysis includes the Project Area and Mitigation Areas (see **Appendix A, Figures 2-2 through 2-5, and 2-7 through 2-7.4)**.

3.24.2 Setting

3.24.2.1 Population within the Study Area

According to the U.S. Census data as of 2020, the populations within the census designated places (CDPs) within and surrounding the study area on the Samoa Peninsula include: 798 in Manila, 229 in Samoa, and 165 in Fairhaven (U.S. Census 2024). Altogether this totals approximately 1,192 people that live in close proximity to HBMWD infrastructure along the Samoa Peninsula. There has been an incremental increase in regional population and this trend is anticipated to continue. The Project's lifespan is assumed to be 50 years, and for the purposes of this analysis is assumed to commence in 2026 and would therefore end in the year 2076. The current annual growth rate is approximately 0.6 percent and is utilized in the Humboldt County General Plan to complete growth planning (Humboldt County 2017a). Under this annual growth rate, there would be approximately 1,676 people in the Project's study area by the year 2076. Utilizing a more conservative annual growth rate of 1 percent annually, would result in 2,102 people in the Project's study area. This latter estimate is considered conservative and is likely higher than what the actual population will be. However, this estimate accounts for spikes in population growth which is plausible due to the region's temperate climate that can serve as a desired location for climate refugees that choose to leave their current residence which may occur with more frequency over the next 50 years. Population increase is also dependent on available employment opportunities in the region. As displayed in **Table 3.0-1**, there are numerous regional projects underway which have the potential to draw people to the region and support an increase in population.

3.24.2.2 Households and Dwelling Units within the Study Area

According to the U.S. Census data as of 2020, the following number of housing units exist within the study area: 400 in Manila, 91 in Samoa, and 79 in Fairhaven (U.S. Census 2024). Housing is anticipated to increase to accommodate population increase, and it is likely that infill development will be prioritized over construction of housing in natural areas throughout the communities in the study area.

3.24.3 Regulatory Framework

3.24.3.1 Federal

There are no federal regulations which apply to population and housing in the Project's study area.

3.24.3.2 State

Numerous State policies for housing exist, however the Project does not propose the construction of, or services to unplanned development. Rather the Project includes the maintenance of access to infrastructure, and ensuring adequate burial depths of existing infrastructure. Therefore, State regulations regarding housing are not included in this section of the EIR.

3.24.3.3 Regional and Local

The study area is located within Humboldt County's jurisdiction, and specifically within the appeal jurisdiction of the Coastal Zone which is regulated by the Humboldt Bay Area Plan (HBAP) Local Coastal Program (LCP). The Humboldt County General Plan was not certified in the Coastal Zone and therefore General Plan goals and policies are not binding in the Coastal Zone.

3.24.3.3.1 Humboldt Bay Area Plan – Local Coastal Program

No policies in the Humboldt Bay Area Plan regulate population and housing with a nexus to maintenance of access to public water supply infrastructure.

3.24.4 Evaluation Criteria and Significance Thresholds

Evaluation Criteria	Significance Thresholds	Sources
Would the Project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	Creation of growth other than what is described in the Humboldt Bay Area Plan and Humboldt County General Plan.	CEQA Guidelines Appendix G, Checklist Item XIV (a)
Would the Project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	Construction of replacement housing for displaced people.	CEQA Guidelines Appendix G, Checklist Item XIV (b)

3.24.5 Methodology

Project activities are evaluated in terms of their potential significance to impact population and housing resources i.e., support of unplanned population growth. Where applicable, mitigation measures are then described for those impacts determined to be significant.

3.24.6 Impacts and Mitigation Measures

Impact P&H-a: Would the Project induce substantial unplanned population growth in an area, either directly (for example, by proposing homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? (No Impact)

The proposed Project does not include the construction of homes or businesses or other direct methods that would substantially induce population growth. The Project is long-term and involves a variety of activities within the District's existing right-of-way (ROW) to support maintenance and access to infrastructure, such as vegetation trimming and clearing, installation of supporting infrastructure (i.e. electrical conduit), and movement of sand to re-bury infrastructure. The conveyance of water would not change under the Project because no pipelines would be replaced or increased in diameter under the Project. The Project includes maintenance within the study area (ROW and access road) to ensure reliable access to District infrastructure throughout the life of the Project. No homes or businesses would be affected by the Project because no homes or businesses exist within the study area. Due to these reasons, no impact on population or housing would occur. Implementation of mitigation activities would have no impact on population or housing because they do not include direct or indirect activities that could induce population growth.

Mitigation Measures: No mitigation is necessary

Level of Significance: No impact

Impact P&H-b: Would the Project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? (No Impact)

Implementation of the Project would not displace any people or housing and therefore would not necessitate construction of any replacement housing. No impact would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: No impact

3.24.7 Cumulative Impacts

Impact P&H-C-1: Would the Project contribute to a cumulatively significant impact to Population and Housing? (No Impact)

Projects considered for cumulative impacts are identified in **Table 3.0-1**. Future employment opportunities (and thus future potential population and housing growth) associated with the Redwood Heavy Lift MarineTerminal project are speculative due to recent federal termination of funding for the project. However, should the project move forward in the future, associated population and housing growth would be analyzed in the project's future CEQA documentation. Should these projects be implemented, the proposed Project would provide both potable and non-potable water to them, and other development listed in **Table 3.0-1** according to land use designations, and would not promote unplanned growth.

Other projects listed in **Table 3.0-1** include habitat restoration projects such as the ongoing invasive plant removal efforts by Friends of the Dunes and the BLM, and development projects such as cannabis operations and minor improvements to existing facilities. The only projects considered on **Table 3.0-1** that occur within the dune ecosystem are habitat improvement projects, which would have no impact on population and housing because the activities would not affect homes or population.

Given that the Project would not result in significant impacts to population and housing, and that the projects considered in **Table 3.0-1** would not induce unplanned population and housing growth in the study area or vice versa, no cumulative impacts to population and housing within the study area from implementation of the Project would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: No impact

3.24.8 References

GHD. 2021. Samoa Peninsula Land-based Aquaculture Project Draft Environmental Impact Report. Prepared for Humboldt County Planning Department. December.

Humboldt Community Services District (HCSD). 2023. Water and Wastewater Rate and Capacity Charge Study. Prepared by NBS. March.

Humboldt County Planning and Building Department (Humboldt County). 2017a. Humboldt County General Pan for the Areas Outside the Coastal Zone. October 23.

Humboldt County Planning and Building Department (Humboldt County). 2017b. Revised Draft Environmental Impact Report, SCH# 2007012089. Humboldt County General Plan Update. April 19.

U.S. Census. 2025. Population Data, utilizing 2020 Decennial Census.

3.25 Public Services

This section evaluates the potential impacts related to public services, i.e. fire protection, police protection and schools, during implementation of the Project and associated mitigation. To provide the basis for this evaluation, the Setting section describes the existing public services in the Project Area and Mitigation Areas, and the Regulatory Framework section describes the regulatory background that applies to the Project. The Impact Analysis section establishes the thresholds of significance, evaluates potential impacts to public services, and identifies the significance of impacts. Where appropriate, mitigation measures are presented to reduce impacts to less than significant levels.

3.25.1 Study Area

The study area for public services includes the Project Area and the Mitigation Areas (see **Appendix A, Figures 2-2 through 2-5, and 2-7 through 2-7.4**).

3.25.2 Setting

The study area is located within two fire districts: the Arcata Fire District, and the Samoa Peninsula Fire District, both within the Humboldt Bay Area planning unit (Humboldt County 2018). The Arcata Fire District provides services to fire related incidents in the northern portion of the study area south to the Highway 255 bridge. The Samoa Peninsula Fire District provides fire protection services south of the Highway 255 bridge. The Humboldt County Sheriff's Department provides police services within the study area. In responding to emergencies, local fire departments work closely with law enforcement, public utilities, the County Office of Emergency Services, and ambulance companies. The Redwood Coast Montessori School is located adjacent to the study area in Manila, California.

3.25.3 Regulatory Framework

3.25.3.1 Federal

There are no federal regulations that apply to the proposed Project related to public services.

3.25.3.2 State

3.25.3.2.1 California Code of Regulations Title 8 (Cal/OSHA)

Title 8 Sections 1270 "Fire Prevention" and 6773 "Fire Protection and Fire Equipment" establish minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hose sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance, and use of all firefighting and emergency medical equipment.

3.25.3.2.2 California Code of Regulations Title 14 (Natural Resources)

Division 1.5 (Department of Forestry and Fire Protection) establishes various wildfire preparedness, prevention, and response regulations.

3.25.3.2.3 California Code of Regulations Title 19 (Public Safety)

Title 19 of the California Code of Regulations (CCR) establishes regulations related to fire prevention and engineering measures for new construction.

3.25.3.2.4 California Code of Regulations Title 24 (California Building Standards Code) Part 9 (California Fire Code)

The 2022 California Fire Code, which consists of the 2021 International Fire Code, is Title 24 Part 9 of theCCR. The 2022 California Fire Code was adopted by Arcata Fire Protection District on November 8, 2022 (Ordinance 22-21). The California Fire Code contains regulations for safeguarding life and property from fire and explosion, dangerous conditions arising from the storage, handling, and use of hazardous materials and devices, hazardous conditions in the use or occupancy of buildings or premises, fire protection systems such as alarm and sprinkler systems, fire safety during construction and demolition, standards for building inspections, as well as provisions to assist emergency response personnel. Fire-safety-related building standards are cross-referenced in other parts of Title 24. Part 7 includes information related to building materials, systems and/or assemblies to be used in the exterior design and construction of new buildings located within a wildland urban interface area.

3.25.3.2.5 California Health and Safety Code Division 12 (Fires and Fire Protection)

Additional state fire regulations are set forth in California Health and Safety Code Section 13000 et seq. These include regulations for building standards, fire protection and notification systems, fire protection devices such as extinguishers, smoke alarms, high-rise building standards, childcare facility standards, and fire suppression training. Building standards related to fire prevention and safety are also set forth in the California Building Code.

3.25.3.2.6 State of California Emergency Response Plan

California has developed the State of California Emergency Response Plan to coordinate emergency services provided by federal, state, and local government agencies. The plan is administered by the State Office of Emergency Services, which coordinates the responses of other agencies such as local fire and police agencies, emergency medical providers, California Highway Patrol, the California Department of Fish and Wildlife and Caltrans (CGOES 2017).

3.25.3.2.7 California Coastal Act

The entire Project Area and Mitigation Area are located within the “Appeal” jurisdiction of the Coastal Zone, which means activities in the Coastal Zone are under local jurisdiction (described below) but appealable to the California Coastal Commission which implements regulations in the Coastal Zone under the California Coastal Act. The California Coastal Act outlines, among other things, standards for development within the Coastal Zone.

Section 30214 Implementation of public access policies; legislative intent

a. *The public access policies of this article shall be implemented in a manner that takes into account the need to regulate the time, place, and manner of public access depending on the facts and circumstances in each case including, but not limited to, the following: (1) Topographic and geologic site characteristics. (2) The capacity of the site to sustain use and at what level of intensity. (3) The appropriateness of limiting public access to the right to pass and repass depending on such factors as the fragility of the natural resources in the area and the proximity of the access area to adjacent residential uses. (4) The need to provide for the management of access areas so as to protect the privacy of adjacent property owners and to protect the aesthetic values of the area by providing for the collection of litter.*

b. *It is the intent of the Legislature that the public access policies of this article be carried out in a reasonable manner that considers the equities and that balances the rights of the individual property owner with the public's constitutional right of access pursuant to Section 4 of Article X of the California Constitution. Nothing in this section or any amendment thereto shall be construed as a limitation on the rights guaranteed to the public under Section 4 of Article X of the California Constitution.*

c. *In carrying out the public access policies of this article, the commission and any other responsible public agency shall consider and encourage the utilization of innovative access management techniques, including, but not limited to, agreements with private organizations which would minimize management costs and encourage the use of volunteer programs.*

3.25.3.3 Regional and Local

The study area is located within Humboldt County’s jurisdiction, and specifically within the appeal jurisdiction of the Coastal Zone which is regulated by the Humboldt Bay Area Plan Local Coastal Program (HBAP LCP). The Humboldt County General Plan was not certified in the Coastal Zone and therefore General Plan goals and policies are not binding, and are not included in this section.

3.25.3.3.1 Humboldt Bay Area Plan – Local Coastal Program

No policies related to public services occur in the HBAP which regulates the maintenance of water utility infrastructure.

3.25.4 Evaluation Criteria and Significance Thresholds

Evaluation Criteria	Significance Thresholds	Sources
Would implementation of the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:		
Fire protection?	Inability to provide acceptable response times due to Project activities.	CEQA Guidelines Appendix G, Checklist Item XV (a)
Police protection?	Inability to provide acceptable response times due to Project activities.	CEQA Guidelines Appendix G, Checklist Item XV (a)
Schools?	Inability to provide acceptable services due to Project activities.	CEQA Guidelines Appendix G, Checklist Item XV (a)
Parks?	Inability to provide acceptable services due to Project activities.	CEQA Guidelines Appendix G, Checklist Item XV (a)
Other facilities?	Inability to provide acceptable services due to Project activities.	CEQA Guidelines Appendix G, Checklist Item XV (a)

3.25.5 Methodology

Impact assessment considered geospatial data, publicly available police response data, and the environmental and topographical characteristics of the built and natural environment within the study area. The study area is within Humboldt County jurisdiction for providing police protection services, and in both the Arcata Fire Department (north of the Highway 255 bridge) and the Samoa Peninsula Fire Protection District (south of the Highway 255 bridge).

3.25.6 Impacts and Mitigation Measures

Impact PS-a: **Would implementation of the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services: Fire protection? Police protection? Schools? Parks? Other public facilities? (Less than Significant Impact)**

Implementation of the Project would not result in a new or modified governmental facility, and therefore, would not require construction of a governmental facility which could affect public services. Implementation of the Project would not result in delayed response by police or fire protection services, or access to schools, because traffic would not be

completely halted under this Project. It is possible that one lane may be closed during implementation of the Project, however full emergency access would be retained under this scenario.

If an emergency happened along the shoreline and emergency vehicles were required, the vehicle would access the shoreline either by helicopter (via the U.S. Coast Guard), or via truck. Currently the access pathways to the shoreline that intersect with the Project Area are foot trails and not intended for vehicular traffic. It is assumed that vehicular access to the shoreline would occur from the “power poles” parking lot at the Samoa Booster Station, which would retain access for recreationists and public services throughout Project implementation.

An approach to carrying out mitigation includes prescribed burning of European beachgrass, which would be implemented in accordance with an approved Burn Plan coordinated with CAL FIRE or the BLM and approved by the North Coast Unified Air Quality Management District (NCUAQMD). The local fire departments would be notified of the prescribed burning activities in accordance with the Burn Plan. For these reasons, potential impacts to public services from implementation of the Project are considered less than significant.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than significant

3.25.7 Cumulative Impacts

Impact PS-C-1: Would implementation of the Project contribute to a cumulatively significant impact to public services? (Less than Significant Impact)

Cumulative effects analysis examines the current Project effects taken together with effects of past projects and known projects in the foreseeable future. Future projects considered for cumulative impacts are identified in **Table 3.0-1** and include industrial projects (Redwood Heavy Lift Marine Terminal), habitat restoration projects involving predominantly manual invasive plant removal with future potential use of prescribed fire, and improvements to the Town of Samoa and peninsula communities via infrastructure upgrades. The industrial and development projects occur within previously developed footprints and new structures in these areas would be accessible via existing roadways and therefore would not adversely affect public services. Disturbance within the peninsula dunes ecosystem from regional projects is predominantly from hand pulling of invasive species, which would have no effect on public services. The speculative use of fire on the South Spit, both under the proposed Project and the South Spit Resiliency Project, would be implemented in accordance with an approved Burn Plan coordinated with CAL FIRE or the BLM and approved by the North Coast Unified Air Quality Management District (NCUAQMD). The intention of the Burn Plans are to reduce the risk of uncontrolled wildfire to low. Therefore, proper implementation of prescribed burning would not cumulatively adversely affect the potential for wildfires to occur and an increased need for fire protection public services. The projects mentioned in **Table 3.0-1** would have no impact on schools or recreational facilities because implementation of them do not block access to said facilities.

Therefore, the Samoa Peninsula Right-of-Way Maintenance Project, taken together with past and foreseeable future projections, would not cause a cumulative adverse effect to public services. Given that the Project would not result in any significant impacts to public services and that the projects considered in **Table 3.0-1** would not permanently affect public services in the Project Area or Mitigation Areas or vice versa, the potential for cumulative impacts within the study area would not result.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than significant

3.25.8 References

Arcata Fire District. 2025. District Map. Available at: https://www.arcatafire.org/district-map

Humboldt County. 2018. Humboldt Bay Area Unit Map.

Humboldt County. 2022. Humboldt Bay Area Plan. Available at: https://humboldtgov.org/DocumentCenter/View/50844/Humboldt-Bay-Area-Local-Coastal-Plan

3.26 Recreation

This section evaluates the potential impacts related to recreation during implementation of the Project and associated mitigation. To provide the basis for this evaluation, the Setting section describes the existing recreation setting in the Project Area and Mitigation Areas, and the Regulatory Framework section describes the regulatory background that applies to the Project. The Impact Analysis section establishes the thresholds of significance, evaluates potential impacts to recreational resources, and identifies the significance of impacts. Where appropriate, mitigation measures are presented to reduce impacts to less than significant levels.

3.26.1 Study Area

The study area for recreational resources includes the Project Area, the Mitigation Areas (see **Appendix A, Figures 2-2 through 2-5, and 2-7 through 2-7.4**), and associated access routes which include North Ma-le'l Dunes Road, Young Lane, Lupin Avenue (and sandy portion of road west of Lupin Avenue), the Samoa beach parking lot locally known as "power poles," and the nameless roadway between New Navy Base Road and Vance Avenue located at the District's non-potable water storage tank. All of these areas have the potential to be utilized by recreationists during Project implementation.

3.26.2 Setting

The study area contains abundant recreational resources including the dunes and beach that are actively visited and utilized by pedestrians and equestrians. The District's ROW is parallel to the ocean and therefore the majority of recreationists who are visiting the beach need to cross the Project Area. Publicly accessible locations to the beach that could be affected by Project implementation include the following:

- Ma-le'l Dunes North (which is located outside of the Project Area, but accessible via North Ma-le'l Dunes Road which is one of the access routes for the Project)
- Ma-le'l Dunes Trailhead
- Friends of the Dunes
- Lupin Drive
- Pacific Avenue
- Redwood Coast Montessori
- Digawututklh (Mitigation Area – 2, formerly known as Samoa Dunes and Wetlands Conservation Area, see **Appendix A, Figure 2-7.2**)
- "Power Poles" parking lot (located in northern Samoa along New Navy Base Road near the Samoa Booster Station, which is a HBMWD pump station)

According to Google Earth imagery, each location has approximately two main trails that cross the District's ROW (with the exception of Pacific Avenue which appears to have one main trail that crosses the ROW). However, there are less-traveled spur trails resulting in numerous locations where recreationists cross the District's ROW. In total, there are approximately 13 distinct trail crossings associated with the list of public access points above. In addition, the access road is utilized as a trail by recreationists due to its wide clearing and linear nature. Additionally, the Redwood Gun Club, located at the northern extent of the Project Area, is available to club members for firearm shooting which can be considered recreation.

The Digawututklh (formerly Samoa Dunes and Wetlands Conservation Area) was acquired by Friends of the Dunes in 2020 and is now under Wiyot Tribe ownership. This area is anticipated to increase in recreational appeal as the area

undergoes restoration and trail maintenance. Potential mitigation associated with this Project is proposed at the Digawututklh and would consist of forest habitat and/or wetlands habitat improvements via invasive species removal.

In the southern portion of the Project Area, south of the Samoa bridges, the Power Poles parking lot provides parking and two trails to the ocean. South of Power Poles parking lot the terrain is dominated by invasive European beachgrass with limited areas of forested conditions and development; dynamic dune habitat is not present. Less recreation occurs south of Power Poles parking lot compared to the areas to the north.

3.26.3 Regulatory Framework

3.26.3.1 Federal

There are no federal regulations that apply to the proposed Project related to recreation.

3.26.3.2 State

3.26.3.2.1 California Coastal Act

The entire study area (comprised of the Project Area, Mitigation Area and access routes) is within the Coastal Zone, specifically within the Appeal Jurisdiction which is regulated by the Humboldt County Local Coastal Program through the Humboldt Bay Area Plan (HBAP) Local Coastal Program (LCP) (HBAP 2022). The HBAP was amended and fully adopted by the Coastal Commission in 1983. Given the Project is appealable to the Coastal Commission, the following Coastal Act policies relevant to recreation include the following (see HBAP policies below). It should be noted that the Project is not considered new development, rather is maintenance,; therefore Coastal Act policies regarding “new development” are not included.

Section 30210 Access; recreational opportunities; posting

In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.

Section 30211 Development not to interfere with access

Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.

Section 30214 Implementation of public access policies; legislative intent

d. The public access policies of this article shall be implemented in a manner that takes into account the need to regulate the time, place, and manner of public access depending on the facts and circumstances in each case including, but not limited to, the following: (1) Topographic and geologic site characteristics. (2) The capacity of the site to sustain use and at what level of intensity. (3) The appropriateness of limiting public access to the right to pass and repass depending on such factors as the fragility of the natural resources in the area and the proximity of the access area to adjacent residential uses. (4) The need to provide for the management of access areas so as to protect the privacy of adjacent property owners and to protect the aesthetic values of the area by providing for the collection of litter.

e. It is the intent of the Legislature that the public access policies of this article be carried out in a reasonable manner that considers the equities and that balances the rights of the individual property owner with the public's constitutional right of access pursuant to Section 4 of Article X of the California Constitution. Nothing in this section or any amendment thereto shall be construed as a limitation on the rights guaranteed to the public under Section 4 of Article X of the California Constitution.

f. In carrying out the public access policies of this article, the commission and any other responsible public agency shall consider and encourage the utilization of innovative access management techniques, including, but not limited to, agreements with private organizations which would minimize management costs and encourage the use of volunteer programs.

Section 30220 Protection of certain water-oriented activities

Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.

Section 30221 Oceanfront land; protection for recreational use and development

Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.

Section 30223 Upland areas

Upland areas necessary to support coastal recreational uses shall be reserved for such uses, where feasible.

Section 30233 Diking, filling or dredging continued movement of sediment and nutrients

a. 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 less 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:

(5) Incidental public service purposes

Section 30240 Environmentally sensitive habitat areas; adjacent developments

a. Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

b. Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be compatible with the continuance of those habitat and recreation areas.

3.26.3.3 Regional and Local

The study area is located within Humboldt County's jurisdiction, and specifically within the appeal jurisdiction of the Coastal Zone which is regulated by the Humboldt Bay Area Plan Local Coastal Program (HBAP LCP). The 2017 Humboldt County General Plan was not certified in the Coastal Zone and therefore General Plan goals and policies are not binding and are not included in this section.

3.26.3.3.1 Humboldt Bay Area Plan – Local Coastal Program

Applicable policies from the HBAP regarding recreation are cited below. As mentioned above, the Project is not considered new development and therefore policies regulating new development are not included.

**** 30210. In carrying out the requirement of Section 2 of Article XV of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.*

**** 30211. Development shall not interfere with the public's right of access to the sea where acquired through use, or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.*

**** 30233. Upland areas necessary to support coastal recreational uses shall be reserved for such uses, where feasible.*

**** 30240. (b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas.*

3.26.4 Evaluation Criteria and Significance Thresholds

Evaluation Criteria	Significance Thresholds	Sources
Would the Project increase use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	Substantial deterioration of an existing neighborhood or regional park	CEQA Guidelines Appendix G, Checklist Item XVI (a)
Would the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	Construction of recreational facilities which have an adverse physical effect on the environment, or block access to recreational facilities	CEQA Guidelines Appendix G, Checklist Item XVI (b) Section 30210 and 30211 of the HBAP

3.26.5 Methodology

The impact analysis in this section is based on geospatial data and conservative estimates of recreational use in the study area. The impact analysis evaluates the access limitations to recreationists that would occur within the study area resulting from implementation of the Project and associated mitigation.

3.26.6 Impacts and Mitigation Measures

Impact REC-a: Would the Project 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? (No Impact)

The study area offers abundant recreational resources, including dunes and a frequently visited shoreline west of the study area. An increase in use of recreational facilities is not expected due to implementation of this Project, because it does not bring additional users to existing facilities, propose new facilities, or permanently alter existing access to the shoreline. No new recreational access paths or facilities are planned, and the Project is not expected to increase recreational use in a way that would lead to substantial physical deterioration of existing facilities. Therefore, no impact would result.

Mitigation Measures: No mitigation is necessary.

Level of Significance: No impact.

Impact REC-b: Would the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? (Less than Significant Impact with Mitigation)

The Project would occur within the District's ROW which includes the access road and overlaps into existing trails and public access points which provide access to the shoreline, considered a recreational facility. Vegetation maintenance activities could occur throughout the Project Area; however, would be concentrated in woody areas, and would occur for up to three months per year during the first three years of Project implementation, followed by one month per year thereafter throughout the life of the Project. These activities would not occur throughout the entirety of the Project Area alignment simultaneously, rather occur in distinct locations. However, these Project activities may hinder recreationists

which could result in a significant impact. Implementation of Mitigation Measure REC-1 would be implemented to reduce this potential impact and minimize access interruptions of recreationists to the shoreline. Other Project components, such as moving sand from the sand borrow area or grading the access road would be short in duration and would not substantially alter access to recreational facilities. Implementation of prescribed fire and herbicide would predominantly occur in Mitigation Area-5 (located on the South Spit, see **Appendix A, Figure 2-7.4**) and would be completed under a CAL FIRE Burn Boss and accompanying Burn Plan which would close off the area to the public prior to burning. Herbicide application would be implemented under the supervision of a licensed operator and the area would not be open to the public during herbicide application.

3.26.6.1 Mitigation

The following mitigation measures would be implemented by the District to address proper protocols for managing access to the shoreline during Project activities.

Mitigation Measure REC-1: Implement Signage during Project Activities

- HBMWD shall install adequate signage at recreational trailheads or public access locations, to provide recreationists with information about the Project activities that are occurring on the trail associated with the trailhead or public access location.
- Signs shall be installed at least one week in advance of Project activities occurring, and shall be taken down after Project activities have been completed.
- Signs shall be installed at trailheads and public access locations where Project activities are occurring.
- Potential locations where signs may be displayed include the following locations: Redwood Gun Club, Ma-le'l Dunes Trailhead, Friends of the Dunes, Lupin Drive, Pacific Avenue, Redwood Coast Montessori, and Digawututklh. Signs shall be placed at a publicly visible place either at the trailhead or public roadway that is closest to the dunes.
- Signs shall alert recreationists of potential unsafe activities, and direct them to other trails that provide unimpeded access to the shoreline.

With the implementation of Mitigation Measure REC-1, potential impacts to accessing recreational resources during Project activities would be less than significant because signage would be installed at recreational trails that intersect Project activities. The signs would inform recreationists of unsafe conditions and of other trails to use to access the shoreline. This signage would result in unimpaired access to the shoreline.

Level of Significance: Less than significant after mitigation.

3.26.7 Cumulative Impacts

Impact REC-C-1: Would the Project contribute to a cumulatively significant impact to recreational resources?

Cumulative effects analysis examines the current Project effects taken together with effects of past projects and known projects in the foreseeable future. Future projects considered for cumulative impacts are identified in **Table 3.0-1** and include industrial projects (Redwood Heavy Lift Marine Terminal), habitat restoration projects involving predominantly manual invasive plant removal with future potential use of prescribed fire, and improvements to the Town of Samoa and peninsula communities via infrastructure upgrades. The industrial and development projects occur within previously developed areas that do not include formal recreational trails or parks and thus implementation of them would not adversely affect recreational resources. Disturbance within the dunes ecosystem from regional projects is predominantly from hand pulling of invasive species, which is unlikely to impact recreational resources because access to the shoreline would not be impaired. The speculative use of fire on the South Spit, both under the proposed Project and the South Spit Resiliency Project, would not cumulatively adversely affect recreational resources

because the standard communication would be implemented to close off the area to the public prior to use of fire, and would result in a temporary interruption of recreation within this area.

Therefore, the Samoa Peninsula Right-of-Way Maintenance Project, taken together with past and foreseeable future projections, would not cause a cumulative adverse effect to recreational resources. Given that the Project would not result in any significant impacts to recreational resources, and that the projects considered in **Table 3.0-1** would not permanently affect recreation resources in the Project Area or Mitigation Areas or vice versa, the potential for cumulative impacts within the study area would not result.

Mitigation Measures: No mitigation is necessary.

Level of Significance: Less than significant.

3.26.8 References

Humboldt County. 2022. Humboldt Bay Area Plan, of the Humboldt County Local Coastal Program. Available at: https://humboldtgov.org/DocumentCenter/View/50844/Humboldt-Bay-Area-Local-Coastal-Plan

3.27 Transportation

This section evaluates the potential impacts related to transportation during implementation of the Project and associated mitigation. To provide the basis for this evaluation, the Setting section describes the existing transportation setting in the study area, and the Regulatory Framework section describes the regulatory background that applies to the Project. The Impact Analysis section establishes the thresholds of significance, evaluates potential transportation-related impacts, and identifies the significance of impacts. Where appropriate, mitigation measures are presented to reduce impacts to less than significant levels.

3.27.1 Study Area

The transportation study area includes the Project Area, the Mitigation Area (see **Appendix A, Figures 2-2 through 2-5, and 2-7 through 2-7.4**), and associated access routes which include North Ma-le'l Dunes Road, Young Lane, Lupin Ave (and sandy portion of road west of Lupin Ave), the Samoa beach parking lot locally known as "power poles," and the nameless roadway between New Navy Base Road and Vance Avenue located at the District's non-potable water storage tank. The southern portion of the Project Area would be accessed via New Navy Base Road.

3.27.2 Setting

The majority of the Project Area does not include paved roadways, rather it contains an access pathway in the sand along the District's right-of-way (ROW) within the Samoa Peninsula. District vehicles intermittently utilize the existing access road located in and adjacent to their ROW during infrastructure maintenance visits, however this access road is not open to public use. The paved portion of the Project Area includes the section of New Navy Base Road located at the southern extent of the Project Area. Access pathways to be utilized under the Project include North Ma-le'l Dunes Road, Young Lane, Lupin Ave, a paved nameless roadway between New Navy Base Road and Vance Ave, Highway 255 and New Navy Base Road. All of these roads except for Lupin Ave are paved, and all roadways support vehicular traffic. North Ma-le'l Dunes Road is a private road that contains two locked gates. Lupin Ave is a public, graveled road that runs west from Highway 255 and terminates at the dunes. A sandy portion of Lupin Ave extends west into the dunes and eventually intersects with the Project Area. The existing parking lot at the northern end of New Navy Base Road (known as "power poles") would be utilized by the District to access the Project Area. Both Highway 255 and New Navy Base Road would be utilized for equipment transportation, however direct access to the Project Area from Highway 255 would not occur, and limited direct access from New Navy Base Road into the Project Area would occur throughout the southern extent of the Project Area. Traffic and congestion are not typically experienced while using the roadways listed above due to the rural character of the region and because Highway 255 is considered the alternate route between Eureka and Arcata, and Highway 101 the primary route.

3.27.3 Regulatory Framework

3.27.3.1 Federal

There are no federal transportation plans, policies or regulations pertaining to the Project. The transportation facilities associated with the Project are under State and County Jurisdiction.

3.27.3.2 State

Transportation analysis in California is guided by policies and standards set at the state level by Caltrans for highway facilities under State jurisdiction, as well as by local jurisdictions. Roadways within the study area under State jurisdiction include Highway 255, all other roadways in the study area are under County jurisdiction. Any work or traffic control within the State right of way requires an encroachment permit issued by Caltrans. In addition, work that requires movement of oversized or excessive load vehicles on highway facilities requires a transportation permit by Caltrans. No work is proposed on or within state jurisdiction roadways and therefore an encroachment permit issued by Caltrans is not required.

3.27.3.2.1 Vehicle Miles Traveled

SB 743 creates a process to change the way that transportation impacts are analyzed under CEQA. Specifically, SB 743 required the Governor's Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide an alternative Maintenance of Effort (MOE) to control delay and associated Level of Service (LOS) for evaluating transportation impacts, which was done in early 2019. SB 743 requires that vehicle miles traveled (VMT) become the primary metric or MOE of transportation impact across California. As of July 1, 2020, all CEQA lead agencies must analyze a project's transportation impacts using VMT (OPR 2024). Humboldt County has not yet adopted VMT thresholds against which the Project would be compared; however, draft thresholds were introduced at the August 20, 2020 County of Humboldt Planning Commission Meeting. This Project does not include a centralized location which would increase ridership or travel, however VMT analysis was described and completed for this Project (**see Impact TR-b below**).

3.27.3.3 Local

The study area is located within Humboldt County's jurisdiction, and specifically within the appeal jurisdiction of the Coastal Zone which is regulated by the Humboldt Bay Area Plan Local Coastal Program (HBAP LCP). The Humboldt County General Plan was not certified in the Coastal Zone and therefore General Plan goals and policies are not binding, and are not included in this section.

3.27.3.3.1 Humboldt Bay Area Plan – Local Coastal Plan

The following policies in the HBAP are applicable to the transportation-related aspects of the Project.

> *Section 3.50 of the HBAP: Access*
>
> *30211. Development shall not interfere with the public's right of access to the sea where acquired through use, or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.*
>
> *30212. Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, (2) adequate access exists nearby, or (3) agriculture would be adversely affected. Dedicated accessway shall not be required to be opened to public use until a public agency or private association agrees to accept responsibility for maintenance and liability of the accessway.*

This Project is not considered new development because it includes maintenance and upgrades to existing infrastructure. However, the intent of this policy is universal regardless of the type of development and is included in this EIR.

3.27.3.3.2 Humboldt County Department of Public Works

The management of Humboldt County roads is provided by the County Department of Public Works. This includes all maintenance, repairs and construction activities on these public roads, as well as permits and encroachments onto the roadway. Private driveways or access roads that connect onto a County road, including reconstruction or improvements to the private roadway within the public right of way, require an encroachment permit. Project work on New Navy Base Road in the southern extent of the Project Area would require an encroachment permit, however no other locations within the Project Area occur on County roads or private driveways.

3.27.4 Evaluation Criteria and Significance Thresholds

Evaluation Criteria	Significance Thresholds	Sources
Would the Project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	Conflict with Humboldt Bay Area Plan, Humboldt Regional Bicycle Plan, Humboldt County Regional Pedestrian Plan, or 2022 Regional Transportation Improvement Program	CEQA Guidelines Appendix G, Checklist Item XVII (a)
Would the Project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)- *Transportation Projects-VMT*	CEQA Guidelines Appendix G, Checklist Item XVII (b) OPR Technical Advisory
Would the Project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment	CEQA Guidelines Appendix G, Checklist Item XVII (c)
Would the Project result in inadequate emergency access?	Result in inadequate emergency access	CEQA Guidelines Appendix G, Checklist Item XVII (d)

3.27.5 Methodology

Transportation impact assessment evaluated the Project against applicable transportation plans and policies, and the Project's potential impact on emergency access during construction.

3.27.6 Impacts and Mitigation Measures

Impact TR-a: **Would the Project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? (Less than Significant Impact)**

No permanent or long-term access restrictions to the beach or to pedestrians within the dunes would occur from implementation of the Project. Therefore, there is no conflict with the HBAP. See Section 3.14 – Recreation for additional discussion about potential impacts to pedestrians for recreation resulting from implementation of the Project. Implementation of this Project does not conflict with the regional pedestrian, bicycle or transportation plans because access to the beach and shoreline would not be blocked due to implementation of the Project throughout the lifespan of the Project. For the reasons stated, a less than significant impact would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than significant impact

Impact TR-b: Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)? (Less than Significant Impact)

Section 15064.3 of the CEQA Guidelines describes specific considerations for evaluating a project's transportation impacts. Generally, Vehicle Miles Traveled (VMT) is the most appropriate measure for gaging transportation impacts, which can be defined as the amount and distance of automobile travel attributable to a project.

The Project would have no change on land use or transportation given the purpose of the Project is to maintain existing access to critical infrastructure for maintenance and repair activities, and therefore VMT associated with land use and transportation under the Project would not change.

Project activities involving maintaining access to HBMWD infrastructure, i.e. vegetation clearing, would occur on an increased schedule compared to existing conditions. However, this increase in activity along the ROW would not be significant. Vegetation clearing would occur in increments up to two miles per year, and after the entire Project Area is initially cleared of woody species, vegetation clearing would be revisited at least once ever five years to trim or remove re-establishing woody vegetation. Although there would be an increase in trips to the Project Area compared to existing conditions, this increase would be nominal and does not indicate a significant amount of traffic to and from the Project Area annually and therefore VMT associated with vegetation removal is considered less than significant. Other maintenance activities, i.e. sand movement to bury exposed or shallow pipe, protections to the overflow pipe area, would occur in coordination with the regular HBMWD maintenance schedule.

In general, the Project Area does not support high vehicular traffic and there would be only a minor increase in VMT associated with vegetation removal and other activities as compared to existing baseline conditions. For these reasons a less than significant impact would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than significant impact

Impact TR-c: Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? (No Impact)

No new geometric design features are proposed on roadways, as these roadways are providing access into the Project Area and would not be modified under the Project. As discussed, the majority of Project actions occur within the HBMWD's utility easement ROW and would be implemented to facilitate access to infrastructure for maintenance and repair. Therefore, the Project is upholding compatible uses designated by the utility easement ROW. The Project does not include modifications to transportation design, nor does it introduce incompatible uses. Consequently, the implementation of this Project would not increase hazards because no geometric design features would be changed, and land uses would remain consistent. No impact would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: No impact

Impact TR-d: Result in inadequate emergency access? (No Impact)

The implementation of this Project would primarily take place in sandy substrate within the District's right-of-way on the Samoa Peninsula, and on New Navy Base Road. Access pathways utilized for the Project include North Ma-le'l Dunes Road, Young Lane, Lupin Ave (including the sandy portion of the road west of Lupin Ave), the power poles parking lot, an unnamed paved road between New Navy Base Road and Vance Ave, and New Navy Base Road. Implementation of the Project would not block these roadways and access for emergency vehicles and equipment would remain open and passable and therefore no impact would occur. Project work along the sandy portions of the Project Area involving vegetation removal, maintenance of the overflow pipe area, grading to bury shallow or exposed pipe would not completely block emergency access within the ROW, and therefore no impact would occur. For these reasons no impact would occur.

Mitigation Measures: **No mitigation is necessary**

Level of Significance: No impact

3.27.7 Cumulative Impacts

Impact TR-C-1: **Would the Project contribute to a cumulatively significant impact to Transportation?**

Cumulative effects analysis examines the current Project effects taken together with effects of past projects and known projects in the foreseeable future. Future projects considered for cumulative impacts are identified in **Table 3.0-1** and include industrial projects (Redwood Heavy Lift Marine Terminal), habitat restoration projects involving predominantly manual invasive plant removal with future potential use of prescribed fire, and improvements to the Town of Samoa and peninsula communities via infrastructure upgrades. The industrial and development projects occur within previously developed areas that contain adequate roadways and infrastructure for parking and transportation. Disturbance within the dunes ecosystem from regional projects is predominantly from hand pulling of invasive species and would have no impact on transportation because this work occurs off of roadways and it is assumed that workers participating in dune restoration activities are parking in parking lots or other designated parking areas. The speculative use of fire on the South Spit, both under the proposed Project and the South Spit Resiliency Project, would not cumulatively adversely affect transportation because all prescribed fire would occur under the guidance of CAL FIRE or a BLM Burn Boss which would require that roadways remain open, and that prescribed fire would remain a safe distance from active roadways. The only active roadway in the Project Area is New Navy Base Road, and access points into the Project Area include North Ma-le'l Dunes Road (a public roadway which becomes private and terminates at the USFWS Humboldt Bay National Wildlife Refuge) and Lupin Ave and a spur road from power poles parking lot (both private roads). The access points for the Project are not heavily used roads and predominantly private roadways, and therefore public use of them would not be overwhelmed by the Project.

Therefore, the Project, taken together with past and foreseeable future projects, would not cause a cumulative adverse effect to transportation resources. Given that the Project would not result in any significant impacts to transportation resources, and that the projects considered in **Table 3.0-1** would not permanently affect transportation in the Project Area or Mitigation Areas or vice versa, cumulative impacts within the study area would not result.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than significant

3.27.8 References

Alta, Redwood Community Action Agency, and SHN. 2008. Humboldt County Regional Pedestrian Plan. Prepared for: Humboldt County Association of Governments. June.

California Department of Transportation (Caltrans). 2019. Statistical Information Derived from the Highway Performance Monitoring System. Available online at: https://dot.ca.gov/-/media/dot-media/programs/research-innovation-system-information/documents/california-public-road-data/prd-2019-a11y.pdf

Humbolt County. 2024. Public Works. Available online at https://humboldtgov.org/1392/Public-Works

Humboldt County. 2022. Humboldt Bay Area Plan of the Humboldt County Local Coastal Program. March.

Humboldt County Association of Governments (HCOAG). 2021. 2022 Regional Transportation Improvement Program. Adopted November 18, 2021.

Humboldt County Association of Governments (HCOAG). 2018. Humboldt Regional Bicycle Plan. July.

Office of Planning and Research (OPR). 2024. CEQA SB 743: Questions and Answers. Available online at: https://opr.ca.gov/ceqa/sb-743/faq.html#lead-agencies-begin

3.28 Tribal Cultural Resources

This section evaluates potential impacts to tribal cultural resources during implementation of the Project and associated mitigation. To provide the basis for this evaluation, the Setting section describes the tribal cultural resource setting. The Regulatory Framework section describes the regulatory background that applies to the Project. The Impact Analysis section establishes the thresholds of significance, evaluates potential impacts to tribal cultural resources, and identifies the significance of impacts. Where appropriate, mitigation measures are presented to reduce impacts to less than significant levels.

3.28.1 Study Area

Consistent with Section 3.4 – Cultural Resources, the study area for the Project, also referred to as the Area of Potential Effects (APE), includes the Project Area and Mitigation Areas (see **Appendix A, Figures 2-2 through 2-5, and Figures 2-7 through 2-7.4).** The vertical APE varies by Project activity and ranges from surface level to four feet deep. The electrical conduit line installation would result in the deepest disturbance (three to four feet), and excavation of sand in the sand borrow area would occur at depths of approximately six inches to two feet. Placement of sand would occur on top of existing sand predominantly in the two identified areas where pipe infrastructure becomes unearthed, located in the sand borrow area, and on Friends of the Dunes property. However, sand placement could occur within any portion of the study area (Project Area and Mitigation Areas), although it's expected to predominantly occur in the northern section of the Project Area. The vertical APE within the Mitigation Areas is approximately six feet deep which is associated with excavation and burial of European beachgrass.

3.28.2 Setting

Tribal cultural resources include resources that are of specific concern to California Native American tribes, with knowledge of such resources limited to tribal people. Refer to Section 3.4 – Cultural Resources, for a discussion of prehistoric or historic archaeological sites, structures, or objects in the APE and vicinity.

3.28.3 Regulatory Framework

3.28.3.1 Federal

There are no federal regulations which apply to tribal cultural resources.

3.28.3.2 State

3.28.3.2.1 California Public Resources Code

Section 21074

California PRC Section 21074 details what can be considered a tribal cultural resource.

A) Tribal cultural resources are either of the following:

1) Sites, features, places, cultural landscapes, sacred places and objects with cultural value to a California Native American tribe that are either of the following:

a) Included or determined to be eligible for inclusion in the California Register of Historical Resources (CRHR).

b) Included in a local register of historical resources as defined in subdivision (k) of PRC Section 5020.1.

2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

B) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

C) A historical resource described in PRC Section 21084.1, a unique archaeological resource as defined in subdivision (g) of PRC Section 21083.2, or a "nonunique archeological resource" as defined in subdivision (h) of PRC Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

3.28.3.2.2 Assembly Bill 52

Assembly Bill 52 (AB 52), the Native American Historic Resource Protection Act, sets forth a proactive approach intended to reduce the potential for delay and conflicts between Native American and development interests. Projects subject to AB 52 are those that file a notice of preparation for an Environmental Impact Report or notice of intent to adopt a negative or mitigated negative declaration on or after July 1, 2016. AB 52 adds tribal cultural resources to the specific cultural resources protected under CEQA. Under AB 52, a tribal cultural resource is defined as a site, feature, place, cultural landscape (must be geographically defined in terms of size and scope), sacred place, or object with cultural value to a California Native American tribe that is either included or eligible for inclusion in the California Register of Historical Resources (CRHR) or included in a local register of historical resources. A Native American Tribe or the lead agency, supported by substantial evidence, may choose at its discretion to treat a resource as a tribal cultural resource. AB 52 also mandates lead agencies to consult with tribes, if requested by the tribe, and sets the principles for conducting and concluding consultation.

3.28.3.2.3 California Environmental Quality Act

CEQA requires lead agencies to determine if a project would have a significant effect on tribal cultural resources. The CEQA Guidelines define a tribal cultural resource according to California PRC Section 21074.

While some tribal cultural resources include physical archaeological resources, described above, cultural resources are not limited to physical resources that have scientific significance. Tribal cultural resources also include cultural landscapes and non-unique archaeological resources. Non-unique resources are resources that are deemed culturally significant to a tribe, but do not contain information needed for scientific purposes, and may not be the best specimen in terms of quality, uniqueness, or age.

3.28.3.3 Local

The study area is located within Humboldt County's jurisdiction, and specifically within the appeal jurisdiction of the Coastal Zone which is regulated by the Humboldt Bay Area Plan Local Coastal Program (HBAP LCP). The Humboldt County General Plan was not certified in the Coastal Zone and therefore General Plan goals and policies are not binding, and are not included in this section.

3.28.3.3.1 Humboldt Bay Area Plan – Local Coastal Plan

There are no policies within the Humboldt Bay Area Plan that regulate tribal cultural resources.

3.28.4 Evaluation Criteria and Significance Thresholds

Evaluation Criteria	Significance Thresholds	Sources
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	Major alteration of a tribal cultural resource defined in PRC 21074	CEQA Guidelines Appendix G, Checklist Item XII (a)

Under criteria based on Appendix G of the CEQA Guidelines, the Project would be considered to have a significant impact on a tribal cultural resource if it would cause a substantial adverse change in the significance of a tribal cultural resource, (as defined in PRC Section 21074), that is:

– A resource listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC Section 5020.1(k); or
– A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1.

3.28.5 Methodology

On November 13, 2023, formal AB 52 letters were sent to area tribal governments by the District, to provide notification of the decision to undertake this Project and consultation opportunities. The letters were distributed to the Tribal Historic Preservation Officers (TPHOs) at the Blue Lake Rancheria, Wiyot Tribe, and Bear River Band of the Rohnerville Rancheria. The Wiyot Tribe THPO responded and requested consultation on November 28, 2023, and the other two tribes' THPOs declined additional formal consultation under AB 52. HBMWD and GHD met with the Wiyot Tribe Chairman/THPO and Natural Resources Director on December 18, 2023 to discuss the Project and potential impacts to tribal cultural resources and solutions to avoid those impacts.

Upon further Project refinement, follow up emails were sent to the three THPOs of the tribes listed above on September 30, and October 1, 2024 to describe Project locations that had been added into the APE/study area since the original AB 52 letter. The emails described the proposed mitigation and mitigation locations, and the sand borrow area, and requested THPOs reach out to the District for consultation as desired. The Bear River Band of Rohnerville Rancheria THPO responded requesting the geospatial shapefiles of the Project, which GHD provided on October 1, 2024. The District emailed the Wiyot Tribe and Bear River Band of Rohnerville Rancheria on December 30, 2024 to confirm that AB 52 consultation was closed, which did not yield a response from the two tribes.

During 2025 the Project was substantially refined and pared down to align with HBMWD's current needs. Emails were sent to the three tribes on November 6, 2025 describing the most up-to-date iteration of the Project (which is the subject of this EIR). The Wiyot Tribe responded to the District on November 13, 2025 to revisit previously discussed cultural monitoring in the northern portion of the Project Area (see Section 3.4 – Cultural Resources), and to formalize

agreements regarding avoidance of impacts to culturally significant plants which is further described below in Section 3.16.6. AB52 consultation is considered closed.

3.28.6 Impacts and Mitigation Measures

Impact TCR-a,b: Would the Project cause a substantial adverse change in the significance of a tribal cultural resource? (Less Than Significant Impact with Mitigation)

As a result of formal AB 52 consultation between the Wiyot Tribe and the District, the presence of and impacts to culturally significant plants are anticipated to occur under the Project primarily due to ground disturbance (excavation) and vegetation management. As compared to the original Notice of Preparation prepared for this Project, there is a substantial decrease in the amount of proposed excavation under the Project. The only excavation proposed would occur within the sand borrow area to source sand for reburial of HBMWD infrastructure, and in the southern portion of the Project Area to replace 2,400 feet of electrical wire and conduit. The initial AB 52 consultation occurred when there was a substantially greater amount of excavation proposed under the Project, such as 3.75 miles of pipeline replacement. Therefore, impacts to culturally significant plants would be far less severe under the current Project as compared to the former project, and would result from vegetation management and irregular excavation of sand from the sand borrow area.

The species discussed includes the beach strawberry (*Fragaria chiloensis*) which is an herbaceous perennial plant that spreads through rhizomes and seed dispersal in dune and meadow habitats. It is a ground cover plant and produces sweet berries in late spring/early summer that are traditionally gathered and used by the Wiyot people. It is assumed that this species could be adversely affected during vegetation management activities which would occur along the access road, and potentially from movement of sand from the sand borrow area. Beach strawberry was not observed within the sand borrow area during biological surveys, however the length of this Project is 50 years and beach strawberry may eventually occur within the sand borrow area. Due to the tribal cultural significance of this plant, impacts to this species would result in a significant impact. To avoid this potential significant impact, the District would coordinate planned Project activities with the Wiyot Tribe to enable subsequent conservation actions by the Wiyot Tribe as described in Mitigation Measure TCR-1.

3.28.6.1 Mitigation

Mitigation Measure TCR-1: Develop Pre-Maintenance Coordination Memorandum of Understanding with Wiyot Tribe

The HBMWD shall develop a memorandum of understanding (MOU) with the Wiyot Tribe which shall include the following:

- Communication plan for how and when the District will communicate with the Wiyot Tribe throughout the lifespan of this Project to let them know when ground disturbance or vegetation management activities will occur;
- The District shall provide at least three months' notice to the Wiyot Tribe prior to ground disturbance or vegetation management activities, to enable the Wiyot Tribe to collect culturally significant plants that may otherwise be impacted. When feasible, the District shall carry out ground disturbance and vegetation management activities after August 1st to avoid the fruiting season of the beach strawberry.

Additionally, per the findings of cultural resource investigations (see Section 3.4 – Cultural Resources), the District would develop a Cultural Resource Monitoring Plan (Plan) with the consulting tribes to ensure the protection of cultural resources located outside of, but in the vicinity of, the APE which may be inadvertently discovered during Project implementation. The Plan is included as Mitigation Measure CR-2. The Cultural Resources section also includes mitigation measures to ensure the protection of inadvertently discovered archaeological materials or human remains throughout the Project Area and Mitigation Areas (Mitigation Measure CR-3 and CR-4), and stipulations to protect

cultural resources within Mitigation Areas-2 and -3 and within BLM-owned lands. Mitigation Measure CR-5 requires the completion of a cultural resources survey and report within Mitigation Areas-2 and -3 prior to ground disturbance occurring to determine whether cultural resources are present. If cultural resources are present, than they would be avoided in accordance with Mitigation Measure CR-5. Lastly, to avoid impacts to cultural resources on federally owned properties, ground disturbing work on BLM lands would be monitored by an archaeological monitor as stated in Mitigation Measure CR-6 and Mitigation Measure CR-7. Mitigatory actions are anticipated to include the restoration of native vegetation and improvements to wetlands and forest health through the removal of invasive plants, therefore these actions would benefit potential tribal cultural resources. However as mentioned, no further consultation was requested from THPOs following the emails that described proposed mitigation actions and locations of mitigation, and therefore it is assumed that tribal cultural resources do not occur within the mitigation areas.

In order to ensure potential impacts to tribal cultural resources present in the APE remain less than significant, Mitigation Measure TCR-1 would be implemented to include development and implementation of an MOU to manage stewardship of culturally significant plant species. Mitigation Measures CR-2 through CR-7 would also be implemented to ensure potential impacts to cultural resources that could be present within the APE remain less than significant. With the implementation of Mitigation Measure TCR-1, and CR-2 through CR-7 potential impacts to tribal cultural resources would be less than significant.

Level of Significance: Less than significant with mitigation

3.28.7 Cumulative Impacts

Impact TCR-C-1: Would the Project contribute to a cumulatively significant impact to Tribal Cultural Resources?

Cumulative effects analysis examines the current Project effects taken together with effects of past projects and known projects in the foreseeable future. Future projects considered for cumulative impacts are identified in **Table 3.0-1** and include industrial projects (Redwood Heavy Lift Marine Terminal), habitat restoration projects involving predominantly manual invasive plant removal with future potential use of prescribed fire, and improvements to the Town of Samoa and peninsula communities via infrastructure upgrades. The industrial and development projects occur within previously developed areas have mitigated for the potential loss or impact to historic resources, and have complied with Section 106 of the National Historic Preservation Act. Disturbance within the dunes ecosystem from regional projects is predominantly from hand pulling of invasive species, and the potential use of fire on the South Spit, both under the proposed Project and the South Spit Resiliency Project. The goal of these habitat restoration projects is to reestablish native vegetation and ecosystems, which tribes have stewarded and harvested from since time immemorial. Therefore, the temporary disturbance from habitat restoration projects would benefit tribal cultural resources. No cumulative impact would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: No impact

3.28.8 References

T. Hernandez and A. Canter. 2023. Personal Communication: AB 52 consultation meeting on December 18, 2023

3.29 Utilities and Service Systems

This section evaluates the potential impacts related to utilities and service systems during implementation of the Project and associated mitigation. To provide the basis for this evaluation, the Setting section describes the existing utilities and service systems in the Project Area and Mitigation Areas, and the Regulatory Framework section describes the regulatory background that applies to the Project. The Impact Analysis section establishes the

thresholds of significance, evaluates potential impacts to utilities and service systems, and identifies the significance of impacts. Where appropriate, mitigation measures are presented to reduce impacts to less than significant levels.

3.29.1 Study Area

The study area for utilities and service systems includes the Project Area and the Mitigation Areas (see **Appendix A, Figures 2-2 through 2-5, and 2-7 through 2-7.4**).

3.29.2 Setting

Existing utilities within the study area include non-potable and potable water pipelines within the District's ROW. These waterlines enter the ROW from the Districts Essex station in Blue Lake (northeast of the Project Area). The non-potable water line consists of two 42-inch diameter pipes up to "Vault 2," located approximately 1.47 miles south of the northern extent of the Project Area. At Vault 2, the two pipes consolidate into one 42-inch diameter pipe. The single cement mortar-lined and coated steel (CMLCS) 42-inch pipe continues 4.2 miles south to its terminus at Bay Street in Fairhaven. The non-potable water reservoir, which is connected to the non-potable water line and contains surplus non-potable water, exists approximately 0.45 miles north of the pipe terminus. The overflow pipe is located approximately 475 feet west of the non-potable water reservoir and is the location where overflow water from the non-potable water reservoir discharges if it is at capacity (see **Appendix A, Figure 2-4**).

The potable water line also enters the Project Area from the northeast and is made up of different segments, which are different diameters and made of either polyvinyl chloride (PVC) or CMLCS. The northern extent of the Project Area contains 27-inch diameter CMLCS pipe (from Vault 1 to Vault 2), and at Vault 2 the pipe becomes 15-inch CMLCS pipe and continues for 3.75 miles to the non-potable water reservoir (Vault 117) where it shifts to be 20-inch PVC pipe beneath New Navy Base Road (located outside of the Project Area). A 2,400-foot length of wire exists in the southern Project Area which would be replaced with new wire in PVC conduit. A power pole is proposed at the intersection of the Project Area and Bay Street to help improve District communications.

The Mitigation Areas that overlap the Project Area (Mitigation Areas-1 and -2) contain the water infrastructure described above. No other known utilities exist within the remaining mitigation areas.

In the vicinity of the Project, there is above-ground electrical infrastructure owned by Pacific Gas and Electric Company, particularly in the southern portion of the Project Area (south of the Highway 255 bridge) where electrical transmission lines are visible adjacent to the District's ROW. A broadband fiber optic internet cable owned by Vero Fiber Networks occurs below ground along Highway 255 between southern Samoa and Arcata, which serves the transpacific cable system that connects to Singapore.

Subsurface drinking water and wastewater piping exists in the communities of Manila, Samoa and Fairhaven, and garbage and recycling is collected curbside weekly by Humboldt Waste Management Authority in these communities. Stormwater runoff ditches exist in the communities of Manila, Samoa and Fairhaven. No stormwater ditches exist within the study area because stormwater rapidly infiltrates the sand and conveyance does not occur.

3.29.3 Regulatory Framework

3.29.3.1 Federal

There are no federal regulations governing utilities that apply to the Project.

3.29.3.2 State

3.29.3.2.1 California Integrated Waste Management Act

The California Integrated Waste Management Act (CIWMA), also known as Assembly Bill 939, required each jurisdiction in the state to divert 50 percent of its solid waste from landfill or transformation facilities by 2000, and established a statewide diversion of 75% by 2020 for all municipal solid waste. The CIWMA also required each County

to prepare a Countywide Integrated Waste Management Plan (CoIWMP), which is the main planning document for solid waste management in each County. Humboldt County's CoIWMP is the principal planning document for solid waste management in the County, addressing source reduction, household hazardous waste, and countywide landfill capacity needs.

3.29.3.2.2 Utility Notification Requirements

Title 8, Section 1541 of the California Code of Regulations requires excavations to determine the approximate locations of subsurface installations such as sewer, telephone, fuel, electric, and waterlines (or any other subsurface installations that may reasonably be encountered during excavation work) prior to opening an excavation. The California Government Code (Sections 4216 et seq.) requires owners and operators of underground utilities to become members of and participate in a regional notification center. According to Section 4216.1, operators of subsurface installations who are members of, participate in, and share in the costs of a regional notification center are in compliance with this section of the code. Underground Service Alert North (USA North) receives planned excavation reports from public and private excavators and transmits those reports to all participating members of USA North that may have underground facilities at the location of excavation. At this point, members of the regional notification center would mark or stake their facilities, provide information, or give clearance to dig.

3.29.3.2.3 California Public Utilities Commission

The California Public Utilities Commission (PUC) regulates privately owned electric, natural gas, communications, water, sewer utilities, railroads, and passenger transportation companies in the State. Regulations are established that ensure the public safety and reasonable rates. The PUC does not regulate personal private utility systems (such as individual water wells, solar panels, private roads, etc.), or independent water special districts such as the Humboldt Bay Municipal Water District.

3.29.3.3 Local

The study area is located within Humboldt County's jurisdiction, and specifically within the appeal jurisdiction of the Coastal Zone which is regulated by the Humboldt Bay Area Plan Local Coastal Program (HBAP LCP). The Humboldt County General Plan was not certified in the Coastal Zone and therefore General Plan goals and policies are not binding, and are not included in this section.

3.29.3.3.1 Humboldt Bay Area Plan – Local Coastal Program

The proposed Project is not considered "new" development, rather it is considered maintenance of existing development. There are no policies from the HBAP LCP regarding maintenance of existing water utility infrastructure.

3.29.4 Evaluation Criteria and Significance Thresholds

Evaluation Criteria	Significance Thresholds	Sources
Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects?	Project would require relocation or construction of public infrastructure which would have significant environmental effect	CEQA Guidelines Appendix G, Checklist Item XIX (a)
Would the Project have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years?	Inadequate water supply capacity to serve the needs of the Project	CEQA Guidelines Appendix G, Checklist Item XIX (b)

Evaluation Criteria	Significance Thresholds	Sources
Would the Project result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?	Inadequate sewer capacity to serve the Project	CEQA Guidelines Appendix G, Checklist Item XIX (c)
Would the Project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	Inadequate regional landfill capacity or waste management to serve the Project	CEQA Guidelines Appendix G, Checklist Item XIX (d)
Would the Project comply with federal, state and local management and reduction statutes and regulations related to solid waste?	Non-compliance with applicable solid waste diversion regulations	CEQA Guidelines Appendix G, Checklist Item XIX (e)

3.29.5 Methodology

Geospatial data, and proposed activities under the Project were analyzed to determine potential impacts to utilities and service systems. Given the Project is a right-of-way access maintenance Project, and the Project would not increase demand for new or expanded utilities or service systems, specific technical studies to evaluate utilities and service systems were not prepared.

3.29.6 Impacts and Mitigation Measures

Impact UTL-a: **Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? (Less than Significant Impact)**

The proposed Project includes activities to maintain existing water infrastructure such as vegetation trimming to enable improved access to pipeline vaults and other water infrastructure, and movement of sand to cover exposed portions of pipe. No new infrastructure is proposed except for the standard power utility pole to be located near the intersection of Bay Street and the District's ROW. The footprint of disturbance where the pole would be installed is an area of uplands with invasive species and no environmental impact would occur from installation. The pole would be used to enhance existing District communications. For these reasons, a less than significant impact would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than Significant Impact

Impact UTL-b: **Would the Project have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years? (No Impact)**

The Project does not propose to change the volume of water being conveyed throughout the District's system to a volume that is not planned for in existing planning documents (i.e. the Humboldt County General Plan and Humboldt Bay Area Plan; see **Section 3.10 – Land Use and Planning**), rather the Project would enable the District to operate and maintain their infrastructure. The District would convey the volume of water they have water rights to and would not convey a greater amount than what their water right allotment allows. No impact would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: No Impact

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

No wastewater services or modifications to services are proposed under the Project. Therefore, no impact would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: No Impact

Impact UTL-d: Would the Project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? (No Impact)

Minimal solid waste would be generated from implementation of the Project. As described in Chapter 2.0 – Project Description, trimmed vegetation would be scattered within the Project Area (and potentially chipped), and excavated sand would be used as backfill material in the electrical line replacement. There are no major sources of solid waste anticipated to be sourced from implementation of the Project and associated mitigation. No impact would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: No impact

Impact UTL-e: Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste? (No Impact)

As described above, minimal solid waste would be sourced from the Project. All waste would be disposed of properly through the Humboldt Waste Management Authority. No impact would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: No Impact

3.29.7 Cumulative Impacts

Impact UTL-C-1: Would the Project contribute to a cumulatively significant impact to Utilities and Service Systems? (Less than Significant Impact)

Cumulative effects analysis examines the current Project effects taken together with effects of past projects and known projects in the foreseeable future. Future projects considered for cumulative impacts are identified in **Table 3.0-1** and include an industrial project (Redwood Heavy Lift Marine Terminal), habitat restoration projects involving predominantly manual invasive plant removal with future potential use of prescribed fire, and improvements to the Town of Samoa and peninsula communities via infrastructure upgrades. The industrial and development projects occur within previously developed footprints and new structures in these areas would include their own utility and service systems and would connect to the available utility systems on the Samoa Peninsula. Disturbance within the peninsula dunes ecosystem from regional projects is predominantly from hand pulling of invasive species, which would have no effect on utility and service systems. No known utilities occur on the South Spit and implementation of prescribed burning in this location would not cumulatively adversely affect utility and service systems.

Therefore, the Samoa Peninsula Right-of-Way Maintenance Project, taken together with past and foreseeable future projections, would not cause a cumulative adverse effect to utility and service systems and the potential for cumulative impacts within the study area would not result.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than significant

3.29.8 References

Humboldt County. 2022*. Humboldt Bay Area Plan, of the Humboldt County Local Coastal Program.* Available at: https://humboldtgov.org/DocumentCenter/View/50844/Humboldt-Bay-Area-Local-Coastal-Plan

3.30 Wildfire

This section evaluates the potential impacts related to wildfire resulting from implementation of the Project and associated mitigation. To provide the basis for this evaluation, the Setting section describes the existing wildfire setting for the Project Area and Mitigation Areas, and the Regulatory Framework section describes the regulatory background that applies to the Project. The Impact Analysis section establishes the thresholds of significance, evaluates potential wildfire impacts, and identifies the significance of impacts. Where appropriate, mitigation measures are presented to reduce impacts to less than significant levels.

3.30.1 Study Area

The study area for wildfire includes the Project Area and the Mitigation Areas (see **Appendix A, Figures 2-2 through 2-5, and 2-7 through 2-7.4**).

3.30.2 Regional Setting

A wildfire is a non-structural fire that occurs in vegetated areas, often involving vegetative fuels, excluding prescribed fire. Wildfires have become common in California in recent years, largely due to overgrown forests, an absence of prescribed or cultural burning practices from the landscape until the last five to ten years, and increased prevalence of drought and higher temperatures from climate change. The number of wildland fires and acres burned per year across state, federal and local responsibility areas for the last ten years is included in **Table 3.30-1**, below.

Table 3.30-1 Number of Wildland Fires and Acres Burned in CA since 2015

Year	Number of Fires	Acres Burned
2015	8,283	880,899
2016	6,954	669,534
2017	9,270	1,548,429
2018	7,948	1,975,086
2019	7,148	277,285
2020	8,648	4,304,379
2021	7,396	2,569,386
2022	7,477	331,358

Year	Number of Fires	Acres Burned
2023	7,386	332,822
2024	8,024	1,050,012
2025 (year to date)	4,423	221,134

Source: CAL FIRE 2025

Vegetation acts as the main source of fuel for a potential wildfire. Areas with limited vegetation have a lower risk for wildfires to occur, therefore open, highly vegetated areas may be more likely to experience a wildfire. Climate conditions such as wind, temperature, and humidity are all factors generally used to predict fire behavior. Wind increases the flammability of fuels by removing moisture through evaporation and expands the fire's range due to wind transport of embers. Higher temperatures and low humidity are also indicative of higher fire risk, increasing flammability of vegetation. Topographic features such as slope as well as overall land formation affects fire behavior, specifically its intensity, direction, and rate of spread. Fires in flat or gently sloping areas tend to burn slower. Hydrology can also have an impact, as streams and rivers tend to channel winds, which can accelerate the fire's speed and direction. The presence of large hydrological features, like oceans, tends to increase humidity and can make it more resistant to the effects of fire (Humboldt County 2019).

3.30.2.1 Wildfire Setting of the Study Area

The Project Area is comprised of approximately 5.5 miles of sandy area with various vegetation types and concrete vault casings interspersed throughout, along the Samoa Peninsula. The northern extent of the Project is predominantly sand dune and contains undulations in topography, however the central and southern Project Area (south of Vault 2) is a relatively flat corridor which has been serving as an access pathway for HBMWD. The northern portion of the Project Area contains dynamic, rolling sand dunes with greater topographical relief. The northern extent, and middle sections of the Project Area contain woody vegetation (predominantly Hooker's willow and shore pine), and the southerly portion predominantly contains grassy ground cover located adjacent to developed areas. The Mitigation Areas include sparsely vegetated, open sandy environments (Mitigation Area-1), forested dune habitats (Mitigation Area-2), moderately vegetated, open rolling dunes (Mitigation Areas-3 and -4), and relatively flat areas infested with European beachgrass (Mitigation Area-5).

The study area is predominantly located in a local responsibility area (LRA) meaning that it is in an area where local governments have financial responsibility for wildland fire protection (CAL FIRE 2025). With the exception of federally owned lands including the BLM's Ma-le'l Dunes (Mitigation Area-1, and portions of the Project Area) and the BLM's Endangered Plant Protection Area (Mitigation Area-4) which are within the federal responsibility area (FRA) (CAL FIRE 2025). The study area contains areas classified as having both "high" and "moderate" fire hazard severity, which is the lowest category of fire hazard severity; the majority of the Project Area has no fire hazard ranking categorization (CAL FIRE 2007; Humboldt County 2019).

The study area is located within two fire districts: the Arcata Fire District, and the Samoa Peninsula Community Services District, both within the Humboldt Bay Area planning unit (Humboldt County 2018). In responding to emergencies, local fire departments work closely with law enforcement, public utilities, the County Office of Emergency Services, and ambulance companies. There have been very few major wildfire events in the Humboldt Bay Area planning unit within recent decades (Humboldt County 2019).

3.30.3 Regulatory Framework

3.30.3.1 Federal

The federal government is responsible for responding to wildfires that are on federal lands, such as the Ma-le'l Dunes located within and adjacent to the study area. The Department of the Interior (DOI) manages wildfire response for more than 400 million acres of national parks, wildlife refuges and preserves, other public lands and Indian

reservations. The U.S. Forest Service (USFS) carries out wildfire management and response across the 193 million acres of the National Forest System. The Ma-le'l Dunes is managed by the Bureau of Land Management (BLM) and is in the Federal Responsibility Area.

3.30.3.2 State

3.30.3.2.1 California Department of Forestry and Fire Protection

CAL FIRE protects the people of California from fires, responds to emergencies, and protects and enhances forest, range, and watershed values providing social, economic, and environmental benefits to rural and urban citizens. As shown above in **Table 3.30-1**, CAL FIRE responds to thousands of wildfire incidents annually and manages large acreage burning wildfires.

Pursuant to Public Resources Code (PRC) Sections 4201-4204 and Government Code Sections 51175-89, and as described above, CAL FIRE has created Fire Hazard Severity Zone maps for the State that identify areas that are within federal, state or local responsibility areas for preventing or suppressing fires. These maps identify areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. The Fire Hazard Severity Zones then define the application of various mitigation strategies to reduce risks associated with wildland fires. State Responsibility Areas (SRA) were originally mapped by CAL FIRE in 1985 and LRAs in 1996. Within SRAs, the Director of CAL FIRE has designated areas as moderate, high and very high fire hazard severity zones (PRC Section 4202.) Outside of SRAs but within LRAs the Director of CAL FIRE was charged with recommending the locations of very high fire hazard severity zones (Government Code Section 51178.) CAL FIRE has determined that Humboldt County does not contain any very high fire hazard severity zones in LRAs (CAL FIRE 2008).

3.30.3.2.2 State of California Emergency Response Plan

California has developed the State of California Emergency Response Plan to coordinate emergency services provided by federal, state, and local government agencies. The plan is administered by the State Office of Emergency Services, which coordinates the responses of other agencies such as local fire and police agencies, emergency medical providers, California Highway Patrol, California Department of Fish and Wildlife and Caltrans (CGOES 2017).

3.30.3.2.3 California Code of Regulations Title 14 (Natural Resources)

Division 1.5 (Department of Forestry and Fire Protection) establishes various wildfire preparedness, prevention, and response regulations.

3.30.3.2.4 California Public Resources Code

The California Public Resources Code sets forth fire safety regulations that include the following:

– Earthmoving and portable equipment with internal combustion engines must be equipped with a spark arrestor to reduce the potential for igniting a wildland fire (PRC Section 4442).
– Appropriate fire suppression equipment must be maintained during the highest fire danger period – from April 1 to December 1 (PRC Section 4428).
– On days when a burning permit is required, flammable materials must be removed to a distance of 10 feet from any equipment that could produce a spark, fire, or flame, and the construction contractor must maintain the appropriate fire suppression equipment (PRC Section 4427).
– On days when a burning permit is required, portable tools powered by gasoline-fueled internal combustion engines must not be used within 25 feet of any flammable materials (PRC Section 4431).

3.30.3.3 Local

The study area is located within Humboldt County's jurisdiction, and specifically within the appeal jurisdiction of the Coastal Zone which is regulated by the Humboldt Bay Area Plan Local Coastal Program (HBAP LCP). The Humboldt

County General Plan was not certified in the Coastal Zone and therefore General Plan goals and policies are not binding, and are not included in this section.

3.30.3.3.1 Humboldt Bay Area Plan – Local Coastal Program

No policies related to wildfire occur in the Humboldt Bay Area Plan which regulate the maintenance of water utility infrastructure.

3.30.3.3.2 Humboldt County Emergency Operation Plan

The Humboldt County Emergency Operation Plan (EOP) addresses the planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and national security emergencies in or affecting Humboldt County (Humboldt County 2015). The Federal Emergency Management Agency (FEMA) approved the Humboldt Operational Area Hazard Mitigation Plan on March 20, 2014. The Emergency Operation Plan addresses integration and coordination with other governmental levels when required and accomplishes the following:

– Establishes the emergency management organization required to mitigate any significant emergency or disaster affecting Humboldt County.
– Identifies the policies, responsibilities, and procedures required to protect the health and safety of Humboldt County communities, public and private property, and the environmental effects of natural and technological emergencies and disasters.
– Establishes the operational concepts and procedures associated with field response to emergencies, County Emergency Operations Center (EOC) activities, and the recovery process.

3.30.3.3.3 Humboldt County Community Wildfire Protection Plan

The Humboldt County Community Wildfire Protection Plan (CWPP) serves as the guiding document for the work of the Humboldt County Fire Safe Council. It is a planning tool to help secure funding for numerous projects that have helped residents and community groups prepare for the impacts of wildfire. The CWPP contains six goal areas:

9. Wildfire Ignition Prevention: Reduce human-caused wildfire ignitions;
10. Wildfire Preparedness: Increase community resilience and adaptation to wildfire;
11. Disaster Preparedness: Increase resident’s ability to effectively prepare for and survive wildfire;
12. Fire Protection: Support fire protection for people, property, communities, and natural resources;
13. Restoration of Beneficial Fire: Restore beneficial fire at the landscape level;
14. Integrated Planning: Maximize integration of planning efforts to improve community; and ecosystem resilience to wildfire.

The CWPP breaks Humboldt County down into 14 planning units to gain community feedback and create individual plans relevant to the community(ies) within the planning unit. The Humboldt Bay Area is one of the planning units and covers all areas within the greater Humboldt Bay Area, including the study area. The Humboldt Bay Area CWPP identifies: community assets and values at risk, the wildfire environment, fire protection capabilities, evacuation, community preparedness, wildfire prevention plans, community identified potential projects, and an action plan. The CWPP states that evacuation routes within the Humboldt Bay Area would depend on the location of the community at risk and law enforcement recommendations based on fire behavior, wind patterns, traffic, and ingress of emergency vehicles (Humboldt County 2019). Evacuation from within this unit would occur traveling either north or south along Highway 255.

A Fire Safe Council (FSC) is a public and private organization intended to minimize the potential for wildfire damage to communities and homeowners, while also protecting the health of natural resources. The Firewise Communities/USA Recognition Program teaches people living in the wildland urban interface how to adapt to living with wildfire by preparing for a fire before it occurs. This program empowers communities with tools and resources for reducing their wildfire risk and encourages neighbors to work together to take action to minimize losses from wildfire. In 2002, the Humboldt County Board of Supervisors formed the Humboldt County FSC, which produced the CWPP discussed

above (Humboldt County 2019). No local FSC or recognized firewise communities exist within the Humboldt Bay Area Planning Unit.

3.30.4 Evaluation Criteria and Significance Thresholds

Evaluation Criteria	Significance Thresholds	Sources
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones:		
Would the Project substantially impair an adopted emergency response plan or emergency evacuation plan?	Result in the inability to carry out the Humboldt County Emergency Operations Plan or the Humboldt County Community Wildfire Protection Plan.	CEQA Guidelines Appendix G, Checklist Item XX (a) Humboldt County Emergency Operations Plan
Would the Project due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	Placement of pollutant materials within an area vulnerable to prevailing winds, or upslope of Project occupants	CEQA Guidelines Appendix G, Checklist Item XX (b)
Would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	Installation or maintenance of infrastructure that could exacerbate fire risk	CEQA Guidelines Appendix G, Checklist Item XX (c)
Would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides as a result of runoff, post-fire slope instability, or drainage changes?	Substantial modifications to the drainage and downslope pathway existing the Project Area.	CEQA Guidelines Appendix G, Checklist Item XX (d)

3.30.5 Methodology

Impact assessment considered the CAL FIRE fire hazard severity and responsibility zones and the environmental and topographical characteristics of the built and natural environment within the study area. The study area is predominantly located within the LRA, and to a lesser degree within the FRA on BLM-owned lands. No portions of the study area are within the SRA.

3.30.6 Impacts and Mitigation Measures

Impact WDF-a: Would the Project substantially impair an adopted emergency response plan or emergency evacuation plan? (Less than Significant Impact)

As discussed in the local regulatory section, the Humboldt County Emergency Operations Plan does not designate specific evacuation routes or emergency shelter locations, rather it establishes the emergency management organization to handle an emergency situation (Humboldt County 2015). Implementation of the Project would predominantly involve the use of hand tools, mowers and trucks annually, with a masticator and grader operating most years for up to a month (see **Table 2.2-1**). The transportation of heavy equipment into the Project Area would not block emergency access because one lane on Highway 255/New Navy Base Road, and adequate shoulder area

along North Ma-le'l Dunes Road and Young Lane would remain open during this mobilization and demobilization. Emergency access within the dunes (including Lupin Drive) would not be blocked by Project activities because emergency vehicles could drive along the shoreline , or around Project activities, to access the emergency. It is likely that all terrain vehicles would be utilized if there was an emergency in the dunes or beach, which have the ability to handle and access off-road terrain. Throughout Project implementation fire protection water would remain available because there would be no disruption in non-potable or potable water supply and conveyance. For these reasons, a less than significant impact would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than significant

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

The study area borders the Pacific Ocean where coastal winds are common and includes moderate slopes in the northern extent and relatively flat ground in the center and southern extents of the Project Area. Undulating hills exist within all mitigation areas, and forested conditions exist in Mitigation Area-2 and the central portion of the Project Area. Fire ignition risk associated with construction activities and Project implementation is low due to the common occurrence of coastal fog which creates damp conditions and abundant areas of sparsely vegetated open sand. Prescribed fire is planned to be implemented predominantly in Mitigation Area-5 (located on the South Jetty, see **Appendix A, Figure 2-7.4**). Due to the anticipated large-scale nature of the burn (greater than 10 acres), it would be coordinated with CAL FIRE and is anticipated to require a Burn Plan. The Plan would close off the area to the public prior to burning. As described in Section 3.4, the Burn Plan would include a contingency plan to implement actions or trigger the need for additional resources if the prescribed burn is not meeting, exceeds or threatens to exceed the burn boundary within the burn area. Additionally, the Burn Plan would include provisions for use of adequate fire suppression equipment.

With inclusion of a Burn Plan, the Project would not otherwise increase exposure to wildfire above existing conditions. Due to the low risk of fire ignition, there would be a low likelihood of exposure to pollutant concentrations from a wildfire. The impact would be less than significant.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than significant

Impact WDF-c: **Would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? (Less than Significant Impact)**

The Project is an infrastructure maintenance project involving securing access (vegetation management, road grading), movement of sand to protect infrastructure, maintenance of the discharge overflow pipe area, and installation of underground electrical lines and a power utility pole. The only new infrastructure that is proposed is the 2,400 linear feet of subsurface electrical wire and conduit, and the standard utility pole to improve communications between the District's communication hubs. The power pole area would be kept free of vegetation. Due to the low fire risk in the study area the installation of the subsurface electrical wire and conduit, and utility pole would not exacerbate fire risk. Vegetation maintenance work would not exacerbate fire risk because the Project setting is in a foggy maritime climate, and dry, flammable vegetation is not present. For these reasons, a less than significant impact would occur.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than significant

Impact WDF-d: **Would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides as a result of runoff, post-fire slope instability, or drainage changes? (Less than Significant Impact)**

The implementation of the Project does not pose substantial risks to individuals or structures as a result of runoff, post-fire slope instability or drainage changes because there are no occupants or residential dwellings within the study area. Additionally, there are no rivers or creeks in the study area, rather the study area is comprised of sandy terrain which has high infiltration and runoff does not typically occur. The northern extent of the Project Area contains the greatest topographic relief due to the actively accreting dunes. This area is predominantly free of woody vegetation. If a fire were to burn this area, there would not be an immediate substantial change to the root system and structural integrity of the dunes because the wildfire would affect the surface-level vegetation. Dune morphology would shift over time in a burned area, which is anticipated to occur in the mitigation areas that potentially receive prescribed burning treatment as a mitigation option. For these reasons, this potential impact is considered less than significant.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than significant

3.30.7 Cumulative Impacts

Impact WDF-C-1: **Would the Project contribute to a cumulatively significant impact to wildfire? (Less than Significant Impact)**

Cumulative effects analysis examines the current Project effects taken together with effects of past projects and known projects in the foreseeable future. Future projects considered for cumulative impacts are identified in **Table 3.0-1** and include industrial projects (Redwood Heavy Lift Marine Terminal), habitat restoration projects involving predominantly manual invasive plant removal with future potential use of prescribed fire, and improvements to the Town of Samoa and peninsula communities via infrastructure upgrades. The industrial and development projects occur within previously developed footprints and new structures in these areas would include sprinkler systems consistent with state laws and therefore would not adversely affect wildfire resources. Disturbance within the peninsula dunes ecosystem from regional projects is predominantly from hand pulling of invasive species, which would have no effect on wildfire. The speculative use of fire on the South Spit, both under the proposed Project and the South Spit Resiliency Project, would be implemented in accordance with an approved Burn Plan coordinated with CAL FIRE or the BLM and approved by the North Coast Unified Air Quality Management District (NCUAQMD). The intention of the Burn Plans are to reduce the risk of uncontrolled wildfire to low. Therefore, proper implementation of prescribed burning would not cumulatively adversely affect the potential for wildfires to occur.

Therefore, the Samoa Peninsula Right-of-Way Maintenance Project, taken together with past and foreseeable future projections, would not cause a cumulative adverse effect to the potential for wildfire. Given that the Project would not result in any significant impacts to wildfire management resources and that the projects considered in **Table 3.0-1** would not permanently affect wildfire management resources in the Project Area or Mitigation Areas or vice versa, the potential for cumulative impacts within the study area would not result.

Mitigation Measures: No mitigation is necessary

Level of Significance: Less than significant

3.30.8 References

California Department of Forestry and Fire Protection (CAL FIRE). 2007. Fire Hazard Severity Zones in State and Local Responsibility Areas. http://frap.fire.ca.gov/webdata/maps/statewide/fhszs_map.pdf

California Department of Forestry and Fire Protection (CAL FIRE). 2008. Fire Hazard Severity Zone Maps: Humboldt County. https://osfm.fire.ca.gov/divisions/community-wildfire-preparedness-and-mitigation/wildfire-preparedness/fire-hazard-severity-zones/fire-hazard-severity-zone-maps/

California Department of Forestry and Fire Protection (CAL FIRE). 2025. Statistics. Available at: https://www.fire.ca.gov/our-impact/statistics

Humboldt County. 2015. Emergency Operations Plan – Humboldt Operational Area. https://humboldtgov.org/DocumentCenter/View/51861/Humboldt-County-Emergency-Operations-Plan-2015

Humboldt County. 2018. Humboldt Bay Area Unit Map.

Humboldt County. 2019. Humboldt County Communities Wildfire Protection Plan. via https://humboldtgov.org/2431/CWPP-2019

Humboldt County. 2022. Humboldt Bay Area Plan, of the Humboldt County Local Coastal Program. Available at: https://humboldtgov.org/DocumentCenter/View/50844/Humboldt-Bay-Area-Local-Coastal-Plan

4. Alternatives Description and Analysis

4.1 Introduction

This chapter presents the alternatives analysis for the Project. Section 15126.6(a) of the CEQA Guidelines require an EIR to "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives." An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that would foster informed decision making and public participation. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. In addition, an EIR must identify alternatives that were considered by the lead agency and were rejected as infeasible during the scoping process and should briefly explain the reasons underlying the lead agency's determination (CEQA Guidelines Section 15126 [(c]).

For ease of reference, the Project objectives identified in Chapter 2, the Project Description, are repeated below:

1. Restore and maintain access to and safeguard HBMWD infrastructure;
2. Maintain the ability for HBMWD to reliably deliver water to HBMWD customers; and
3. Secure regulatory permitting for long-term access to HBMWD infrastructure within the PMA.

One of the alternatives analyzed must be the "No Project" alternative. CEQA Guidelines Section 15126.6(e)(1) states that the purpose of describing and analyzing the no project alternative is "to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project." The no project analysis is required to "discuss the existing conditions at the time the Notice of Preparation is published…as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services" (Section 15126.6[e][2]).

4.2 Alternatives Considered but Rejected

In accordance with CEQA Guidelines Section 15126.6(a), an alternative must meet the following three criteria:

1. The alternative must attain most of a project's basic objectives;
2. The alternative must avoid or substantially reduce the significant environmental impacts of a proposed project; and
3. The alternative must be potentially feasible.

An EIR need not analyze an alternative for which impacts cannot be reasonably ascertained and/or implementation is remote and speculative. Furthermore, an EIR need not consider every conceivable alternative, but must consider a reasonable range of alternatives that would foster well-informed decision-making and public participation.

The following alternative was considered but rejected because it does not substantially reduce the significant environmental impacts of the proposed Project and is speculative.

4.2.1 Rejected Alternative A

Relocation of the potable water pipeline and infrastructure from the Project Area to the ROW of developed roadways, and maintenance of existing ROW for the non-potable water pipeline and infrastructure.

This alternative would involve the relocation of the potable water pipeline and infrastructure from the Project Area to within North Ma-le'l Dunes Road, Highway 255, and northern New Navy Base Road. The new potable water pipeline and infrastructure would occur for 3,500 feet along North Ma-le'l Dunes Road, 13,950 feet along Highway 255 and 10,500 feet along New Navy Base Road. The existing potable water pipeline and infrastructure would be abandoned

in place. A new arterial pipe would be installed between the new potable water pipeline and the Manila Community Service District to connect municipal water users to the new potable water pipeline, likely along Lupin Drive. The non-potable water pipeline and infrastructure would remain in their existing location. Vegetation maintenance (i.e. removal, trimming and mowing) would occur within the Project Area to create and maintain access to the non-potable water pipeline and infrastructure and to protect infrastructure from potential damage by tree roots. Reburial of exposed non-potable water pipelines would occur within the Project Area using sand from the sand borrow area under this alternative. Alternative A would result in disturbance outside of the Project Area boundary to accommodate the potable water pipeline and infrastructure installation along the aforementioned roadways, and disturbance to vegetation as described under the proposed Project to retain access to the non-potable water pipeline and infrastructure and to prevent tree root damage.

Alternative A was rejected from further consideration because it would not substantially reduce the environmental impacts of the proposed Project because vegetation maintenance (removal, cutting, trimming and mowing) would still occur to maintain access to the non-potable water pipeline and infrastructure and there would be new environmental impacts associated with construction of the new potable water pipeline and infrastructure.

4.3 Analysis of Alternatives

This section describes the Project alternatives that were selected and analyzed in accordance with CEQA Guidelines Section 15126.6(a). The two alternatives to the proposed Project evaluated further in this EIR include the No Project Alternative and the Reduced Vegetation Maintenance Frequency Alternative. As the proposed Project would result in no impact to Agricultural and Forestry Resources, Land Use and Planning, Mineral Resources, Population and Housing, Public Services, and Recreation, the No Project Alternative and Reduced Vegetation Maintenance Frequency Alternative are considered to be equivalent for those resource categories and are not discussed further.

4.3.1 Alternative 1: No Project Alternative

4.3.1.1 Description

Under the No Project Alternative, the following Project components would not occur: maintenance work involving vegetation removal or modification; burial of exposed sections of pipe; electrical conduit and wire replacement; and maintenance work on the water tank discharge overflow pipe.

Pipeline maintenance would decrease in frequency because access to the pipelines and infrastructure would become more difficult to implement as vegetation continues to mature. Pipelines and other infrastructure would become more vulnerable to compromise or damage from tree roots, due to continued growth of the trees. Under this alternative, repairs and maintenance to infrastructure would occur on a reactionary basis and potentially under emergency permits.

4.3.1.2 Analysis

4.3.1.2.1 Aesthetics

The No Project Alternative would not include the use of heavy equipment within the Project Area and would result in thicker and taller vegetation throughout the Project Area. Exposed pipelines may not be reburied, creating a potential aesthetic impact. Overall, the impact on aesthetics would be similar as under the proposed Project.

4.3.1.2.2 Air Quality

The No Project Alternative would not result in any increased emissions. The impact on Air Quality would be less under the No Project Alternative.

4.3.1.2.3 Biological Resources

The No Project Alternative would not result in any new disturbance to biological resources. The impact on Biological Resources would be less under the No Project Alternative.

4.3.1.2.4 Cultural Resources

The No Project Alternative would not modify or disturb any archaeological resources. The impact on Cultural Resources would be less under the No Project Alternative.

4.3.1.2.5 Energy

The No Project Alternative would not result in any new energy consumption. The impact to energy would be less under the No Project Alternative than under the proposed Project.

4.3.1.2.6 Geology and Soils

The No Project Alternative would not result in new disturbance to geologic or soil resources. The impact to Geology and Soils would be less under the No Project Alternative than under the proposed Project.

4.3.1.2.7 Greenhouse Gas Emissions

The No Project Alternative would not result in any new greenhouse gas emissions. The impact to Greenhouse Gas would be less under the No Project Alternative than under the proposed Project.

4.3.1.2.8 Hazards and Hazardous Materials

The No Project Alternative would not result in any hazards or hazardous materials impacts. No equipment would be onsite and associated potential fuel leaks or spills associated with equipment would not occur. The impact to Hazards and Hazardous Materials would be less under the No Project Alternative than under the proposed Project.

4.3.1.2.9 Hydrology and Water Quality

The No Project Alternative would not result in any new hydrology or water quality impacts. The impact to Hydrology and Water Quality would be less under the No Project Alternative than under the proposed Project.

4.3.1.2.10 Noise

The No Project Alternative would not result in any noise impacts. The existing ambient noise environment at the Project Area would generally remain. Noise-related impacts under a No Project Alternative would be less than the proposed Project.

4.3.1.2.11 Transportation

The No Project Alternative would not result in any transportation impacts. The impact to Transportation would be less under the No Project Alternative than under the proposed Project.

4.3.1.2.12 Tribal Cultural Resources

The No Project Alternative is less likely to encounter unknown tribal historic resources due to less ground disturbance and, therefore, the impact to Tribal Cultural Resources would be less than the proposed Project.

4.3.1.2.13 Utilities and Service Systems

Under the No Project alternative, the HBMWD would not have the ability to maintain the potable and non-potable water pipelines which would eventually result in failures to this infrastructure and a potentially significant environmental impact. Thus, the No Project Alternative would have a greater impact than the proposed Project.

4.3.1.2.14 Wildfire

The No Project Alternative would not result in any wildfire-related impacts. The impact to Wildfire would be similar as under the proposed Project.

4.3.2 Alternative 2: Reduced Vegetation Maintenance Frequency

4.3.2.1 Description

Alternative 2 would modify the Project to reduce the frequency of maintenance work while preserving the fundamental project purpose. Under Alternative 2, the Project would be implemented as proposed, except that the frequency of routine maintenance activities would be reduced from annually to once every three years. Maintenance activities would remain necessary to ensure continued project functionality and safety; however, they would occur less frequently than under the proposed Project.

As with the proposed Project, vegetation maintenance would include cutting, trimming, mowing, and, where necessary, removal of vegetation along the 12-foot-wide access road and within 8 feet of infrastructure, e.g., vaults, to maintain access for HBMWD trucks and other equipment. The types of vegetation subject to maintenance, including woody vegetation (trees and shrubs) and herbaceous grasses, as well as the equipment used (e.g., masticators and hand tools), would remain the same as described for the proposed Project.

Reducing the frequency of vegetation maintenance would lessen the number of maintenance events over time and would reduce the frequency of ground disturbance, equipment use, and related short-term environmental effects associated with vegetation maintenance activities. However, because vegetation grows continuously within the Project area, maintenance cannot be eliminated entirely. Less frequent maintenance could result in increased vegetation encroachment between maintenance cycles, which could limit access to pipelines and infrastructure which could delay emergency response in the event of pipeline and/or infrastructure failure..

Alternative 2 represents a feasible modification of the proposed Project that would reduce the frequency of maintenance-related impacts, but it would provide a lower level of infrastructure access and operational reliability compared to the proposed annual maintenance program.

4.3.2.2 Analysis

4.3.2.2.1 Aesthetics

Under Alternative 2, the same vegetation maintenance activities as the proposed Project would be implemented; however, vegetation maintenance would occur once every three years rather than annually. Maintenance activities would continue to include cutting, trimming, mowing, and occasional removal of vegetation along the 12-foot-wide access road and within 8 feet of infrastructure to maintain access.

Similar to the proposed Project, Alternative 2 would result in temporary visual changes associated with vegetation maintenance activities, including the presence of maintenance equipment and the trimming or removal of vegetation. Because the type and extent of vegetation maintenance would be similar when conducted, but would occur less frequently, aesthetic impacts under Alternative 2 would be reduced compared to the proposed Project. Overall, impacts to aesthetics under Alternative 2 would be less than significant and less than under the proposed Project.

4.3.2.2.2 Air Quality

Under Alternative 2, vegetation maintenance would involve the same equipment and methods as the proposed Project, including the use of heavy equipment and hand tools. However, maintenance activities would occur less frequently over time. As a result, emissions of criteria air pollutants and fugitive dust associated with maintenance activities would occur less often than under the proposed Project.

As with the proposed Project, implementation of applicable dust control measures and best management practices would be required during vegetation maintenance activities. With implementation of these measures, air quality impacts under Alternative 2 would be less than significant and would be less than the proposed Project.

4.3.2.2.3 Biological Resources

Impacts to biological resources associated with the proposed Project were determined to be less than significant with implementation of mitigation measures. Under Alternative 2, the same types of vegetation maintenance activities would occur, but at a reduced frequency. As a result, the frequency of disturbance to vegetation and wildlife habitat would be reduced compared to the proposed Project.

However, because vegetation maintenance would still occur and would involve similar equipment and disturbance when conducted, the potential to affect biological resources, including special status plants and other sensitive species, would remain. All mitigation measures identified for the proposed Project would remain applicable to Alternative 2. With implementation of these measures, impacts to biological resources under Alternative 2 would be less than significant and less than under the proposed Project due to less frequency of impacts.

4.3.2.2.4 Cultural Resources

Under the proposed Project, impacts to cultural resources were determined to be less than significant with implementation of mitigation. Alternative 2 would involve the same general areas of ground disturbance as the proposed Project, although maintenance would occur less frequently.

Because the location, methods, and depth of disturbance associated with vegetation maintenance would be the same, the potential to encounter previously undiscovered archaeological resources would remain similar to the proposed Project. The same mitigation measures applicable to the proposed Project would apply to Alternative 2. With implementation of mitigation, impacts to cultural resources under Alternative 2 would be less than significant and similar to those under the proposed Project.

4.3.2.2.5 Energy

Energy use associated with Alternative 2 would be similar to the proposed Project when maintenance activities occur, as the same equipment and methods would be used. However, because vegetation maintenance would occur less frequently, overall energy consumption over time would be slightly reduced compared to the proposed Project.

As with the proposed Project, Alternative 2 would not result in inefficient, wasteful, or unnecessary consumption of energy resources. Therefore, impacts related to energy under Alternative 2 would be less than significant and less than the proposed Project due to less frequency of the impacts.

4.3.2.2.6 Geology and Soils

Alternative 2 would involve the same types of vegetation maintenance activities as the proposed Project, including mowing, trimming, and occasional removal of vegetation. These activities would not involve deep excavation or substantial grading. Although maintenance would occur less frequently, the potential for soil disturbance, erosion, or exposure of paleontological resources would remain similar when maintenance activities occur.

The same best management practices and erosion control measures required for the proposed Project would apply to Alternative 2. With implementation of these measures, impacts related to geology and soils would be less than significant and similar to those under the proposed Project.

4.3.2.2.7 Greenhouse Gas Emissions

Similar to the proposed Project, Alternative 2 would result in temporary greenhouse gas (GHG) emissions associated with the operation of maintenance equipment and vehicles. Because vegetation maintenance would occur less frequently, total GHG emissions over time would be reduced compared to the proposed Project.

As with the proposed Project, Alternative 2 would not exceed applicable GHG thresholds, impede achievement of State GHG reduction goals, or conflict with applicable climate action plans. Therefore, impacts related to GHG emissions under Alternative 2 would be less than significant and less than the proposed Project due to lower frequency of activities that generate GHG emissions.

4.3.2.2.8 Hazards and Hazardous Materials

Under Alternative 2, vegetation maintenance activities would involve the same equipment and methods as the proposed Project, and the potential for accidental fuel spills or equipment-related hazards would remain. Although maintenance would occur less frequently, the risk associated with each maintenance event would be similar.

The same hazardous materials handling procedures and safety requirements applicable to the proposed Project would apply to Alternative 2. With implementation of these measures, impacts related to hazards and hazardous materials would be less than significant and less than under the proposed Project due to less frequency of maintenance activities.

4.3.2.2.9 Hydrology and Water Quality

Alternative 2 would involve similar vegetation maintenance activities as the proposed Project. Although maintenance would occur less frequently, the potential for erosion or sedimentation during maintenance activities would remain similar when activities occur.

The same stormwater and erosion control measures required for the proposed Project would apply to Alternative 2. With implementation of these measures, impacts to hydrology and water quality under Alternative 2 would be less than significant and similar to those under the proposed Project.

4.3.2.2.10 Noise

Similar to the proposed Project, Alternative 2 would generate temporary noise during vegetation maintenance activities associated with the use of heavy equipment and hand tools. Because maintenance would occur less frequently, noise impacts would occur less often over time.

However, when maintenance activities occur, noise levels would be similar to those under the proposed Project. Therefore, noise impacts under Alternative 2 would be less than significant and less than the proposed Project due to less frequency of noise impacts.

4.3.2.2.11 Transportation

Vegetation maintenance activities under Alternative 2 would involve similar vehicle trips and equipment access as the proposed Project when maintenance occurs. Although maintenance would occur less frequently, temporary traffic disruptions or access limitations would be similar during maintenance events.

With implementation of applicable traffic control measures, transportation impacts under Alternative 2 would be less than significant and less than those under the proposed Project due to reduced frequency of project activities.

4.3.2.2.12 Tribal Cultural Resources

Under the proposed Project, impacts to tribal cultural resources were determined to be less than significant with implementation of mitigation. Alternative 2 would involve the same areas and types of disturbance, although maintenance would occur less frequently.

The same mitigation measures applicable to the proposed Project would apply to Alternative 2, including measures related to tribal consultation, monitoring, and inadvertent discoveries. With implementation of mitigation, impacts to tribal cultural resources under Alternative 2 would be less than significant and similar to those under the proposed Project.

4.3.2.2.13 Utilities and Service Systems

Alternative 2 would not involve new utility connections or modifications to utility infrastructure. Vegetation maintenance would continue to support the protection and operation of existing HBMWD infrastructure.

Reduced frequency of maintenance could result in more failures of the potable and non-potable waterlines and therefore a greater potential environmental impact under Alternative 2 than the proposed Project.

4.3.2.2.14 Wildfire

Alternative 2 would be subject to the same wildfire risk conditions as the proposed Project. Reduced maintenance frequency could allow vegetation to accumulate between maintenance cycles, potentially increasing localized fuel loads compared to the proposed Project.

However, vegetation maintenance would still occur periodically to maintain access and manage vegetation. With implementation of standard safety practices, wildfire impacts under Alternative 2 would be less than significant but greater than those under the proposed Project due to increased buildup of fuels (vegetation) between maintenance cycles.

4.4 Environmentally Superior Alternative

The No Project Alternative and Alternative 2 would both involve reduced routine maintenance activities along the pipelines and infrastructure. This reduction in frequency of project activities directly relates to a reduction in some project impacts, such as greenhouse gas emissions and noise generation. However, reduced maintenance also increases the potential need for emergency actions that would not be subject to the same impact avoidance, minimization and mitigation actions as the proposed Project. Additionally, reduced maintenance of the pipelines and infrastructure would increase the risk of catastrophic failures that could have substantial environmental impacts (e.g., large volumes of water exiting a pipeline onto sensitive habitats) and impact water availability for large numbers of Humboldt County residents. In contrast, the proposed Project would allow for predictable and safe maintenance of the pipelines and infrastructure with less potential need for emergency actions. Because of the risk of unforeseeable and increased impacts associated with less frequent maintenance under the No Project Alternative and Alternative 2, the proposed Project is the environmentally superior alternative.

5. Other CEQA Required Sections

5.1 Environmental Issues Determined Not to Be Significant

CEQA Guidelines Section 15128 requires an Environmental Impact Report (EIR) to briefly describe any possible significant effects that were determined not to be significant and were, therefore, not discussed in detail in the Draft EIR. For the purposes of this Draft EIR, an evaluation of Agricultural and Forestry Resources and Mineral Resources were eliminated from further consideration during the scoping phase of the environmental analysis for the reasons presented below.

5.1.1 Agriculture and Forestry Resources

The Project Area does not include any Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or land covered by a Williamson Act contract. In addition, the Project is not zoned for agricultural, forest land, or timberland, nor are there any agricultural or forest lands within the Project Area. No impact to agriculture or forestry resources would occur.

5.1.2 Mineral Resources

The Project would not result in the loss of mineral resources because the nature of the Project (vegetation maintenance, grading, etc.) would not impact them if they are present. Additionally, the Project does not require a substantial amount of any mineral resource. The Project would not impact mineral resources.

5.2 Significant Irreversible Environmental Change

CEQA Guidelines Section 15126.2(c) requires an EIR to discuss any significant irreversible environmental changes that would result from implementation of the proposed Project. Significant irreversible changes may occur when environmental resources are consumed, committed, or altered in a manner that would limit the availability of those resources for future generations or preclude future options.

The Project is a long-term infrastructure maintenance and habitat management program within an existing utility right-of-way and associated mitigation areas. The Project does not involve urbanization, expansion of public water conveyance capacity, construction of new development, or conversion of agricultural, forestry, or mineral resource lands. The Project would not induce growth, permanently alter regional land use patterns, or irreversibly consume substantial natural resources.

Implementation of the Project would require the consumption of limited quantities of fuel, construction materials, equipment parts, herbicides, and other resources associated with vegetation management, access road maintenance, sand relocation activities, and habitat restoration activities. These resources would be incrementally consumed over the life of the Project and would not be recoverable once used. However, the quantities involved are relatively minor and consistent with ongoing operation and maintenance activities that currently occur within the District's right-of-way.

Project implementation would result in periodic disturbance of vegetation and soils associated with maintenance activities. Although vegetation removal would occur in portions of the Project Area, the Project includes habitat restoration and mitigation measures intended to improve ecological conditions within mitigation areas and sensitive habitats. Consequently, implementation of the Project would not result in irreversible loss of regionally important biological resources or habitat functions.

The Project would result in the long-term commitment of District funding, personnel, equipment, and management resources for operation, maintenance, monitoring, and implementation of mitigation measures. Once these resources are committed to Project implementation, they would not be available for alternative purposes. Such commitments are typical of public infrastructure maintenance programs and do not constitute a significant irreversible environmental change.

The Project would not result in any significant unavoidable environmental impacts, substantial depletion of nonrenewable resources, or environmental changes that would permanently foreclose future land use options. Therefore, while implementation of the Project would involve the incremental and irreversible consumption of limited materials, energy, labor, and financial resources, the Project would not result in significant irreversible environmental changes.

5.3 Growth Inducing Impacts

CEQA Guidelines Section 15126.2(d) requires an EIR to discuss the ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Growth-inducing impacts may occur when a project removes obstacles to growth, expands infrastructure capacity, extends public services into previously undeveloped areas, or facilitates development that would not otherwise occur.

The proposed Samoa Peninsula Waterline Right-of-Way Maintenance Project is a maintenance and resource management program intended to maintain access to existing District infrastructure, protect existing water conveyance facilities, improve communication reliability within the District's existing system, and implement habitat restoration and mitigation activities. The Project does not include the construction of new water supply facilities, expansion of treatment capacity, installation of new potable water distribution systems to previously unserved areas, or replacement of water pipelines that would increase conveyance capacity. The Project would not increase the District's ability to serve new development beyond that already contemplated under existing infrastructure and land use plans.

The Project would not directly induce population growth because it does not include residential, commercial, industrial, or other development that would create new housing, employment centers, or public services. Project activities consist

primarily of vegetation management, road grading and maintenance, movement of sand to maintain adequate burial depths of existing infrastructure, installation of limited supporting communication infrastructure, maintenance of existing facilities, and implementation of mitigation and habitat restoration measures. These activities are intended to maintain existing conditions and infrastructure functionality rather than provide new development opportunities.

The Project would not indirectly induce population growth through extension of infrastructure or services. Water conveyance capacity would remain unchanged because no pipelines would be enlarged or replaced to increase system capacity. Similarly, the Project would not require construction of new public utilities, roadways, wastewater facilities, schools, parks, or other public facilities that could facilitate future development. The Project would continue to support the District's existing service obligations and would not alter the type or level of service currently provided.

Implementation of habitat restoration and mitigation activities within the designated mitigation areas would not induce growth because these activities would preserve, restore, or enhance natural resources and open space values. Such activities would not create development opportunities, increase development capacity, or alter existing land use designations in a manner that would encourage population growth.

The Project may provide minor short-term economic benefits associated with maintenance activities, habitat restoration, monitoring, and implementation of mitigation measures. However, these activities would be temporary in nature and would not result in substantial employment opportunities, population increases, or construction of new housing. Any temporary economic activity associated with Project implementation would not be sufficient to induce growth or alter regional development patterns.

Accordingly, the Project would not directly or indirectly induce substantial population growth, remove obstacles to growth, facilitate development beyond that already anticipated under applicable land use plans, or result in the construction of additional housing or public infrastructure that could support future growth. Therefore, the Project would not result in growth-inducing impacts.

5.4 Mandatory Findings of Significance

Pursuant to CEQA Guidelines Section 15065 and Appendix G, the Lead Agency must evaluate whether the proposed Project would result in any of the mandatory findings of significance described below.

5.4.1 Potential to Degrade the Quality of the Environment

The Project has the potential to adversely affect biological resources, cultural resources, tribal cultural resources, paleontological resources, hazards and hazardous materials, land use and planning, and recreation. These impacts are identified and analyzed in Chapter 3 of this EIR. Mitigation measures have been incorporated into the Project to avoid, minimize, or compensate for these impacts. With implementation of the mitigation measures identified in this EIR, all identified impacts would be reduced to less than significant levels.

The Project would not substantially degrade environmental quality; substantially reduce fish or wildlife habitat; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; substantially reduce the number or restrict the range of a rare or endangered plant or animal; or eliminate important examples of California history or prehistory. Therefore, the Project would not result in a significant impact pursuant to CEQA Guidelines Section 15065(a)(1).

5.4.2 Cumulatively Considerable Impacts

The EIR evaluates cumulative impacts for each environmental resource area in Chapter 3. The cumulative analysis considers past, present, and reasonably foreseeable future projects identified in Table 3.0-1. The analysis concludes that the Project's contributions to cumulative impacts would either be less than significant or less than significant with mitigation.

Accordingly, the Project would not have impacts that are individually limited but cumulatively considerable. Therefore, the Project would not result in a cumulatively considerable contribution to a significant cumulative impact pursuant to CEQA Guidelines Section 15065(a)(3).

5.4.3 Substantial Adverse Effects on Human Beings

The EIR evaluates potential effects on human health and safety through its analyses of air quality, hazards and hazardous materials, hydrology and water quality, transportation, wildfire, utilities, and other resource topics. Potentially significant impacts were identified in certain resource areas; however, mitigation measures have been incorporated into the Project to reduce those impacts to less than significant levels.

With implementation of the mitigation measures identified in this EIR, the Project would not cause substantial adverse effects on human beings, either directly or indirectly. Therefore, the Project would not result in a significant impact pursuant to CEQA Guidelines Section 15065(a)(4)

6. List of Preparers

6.1 Lead Agency – Humboldt Bay Municipal Water District

Michiko Mares, General Manager

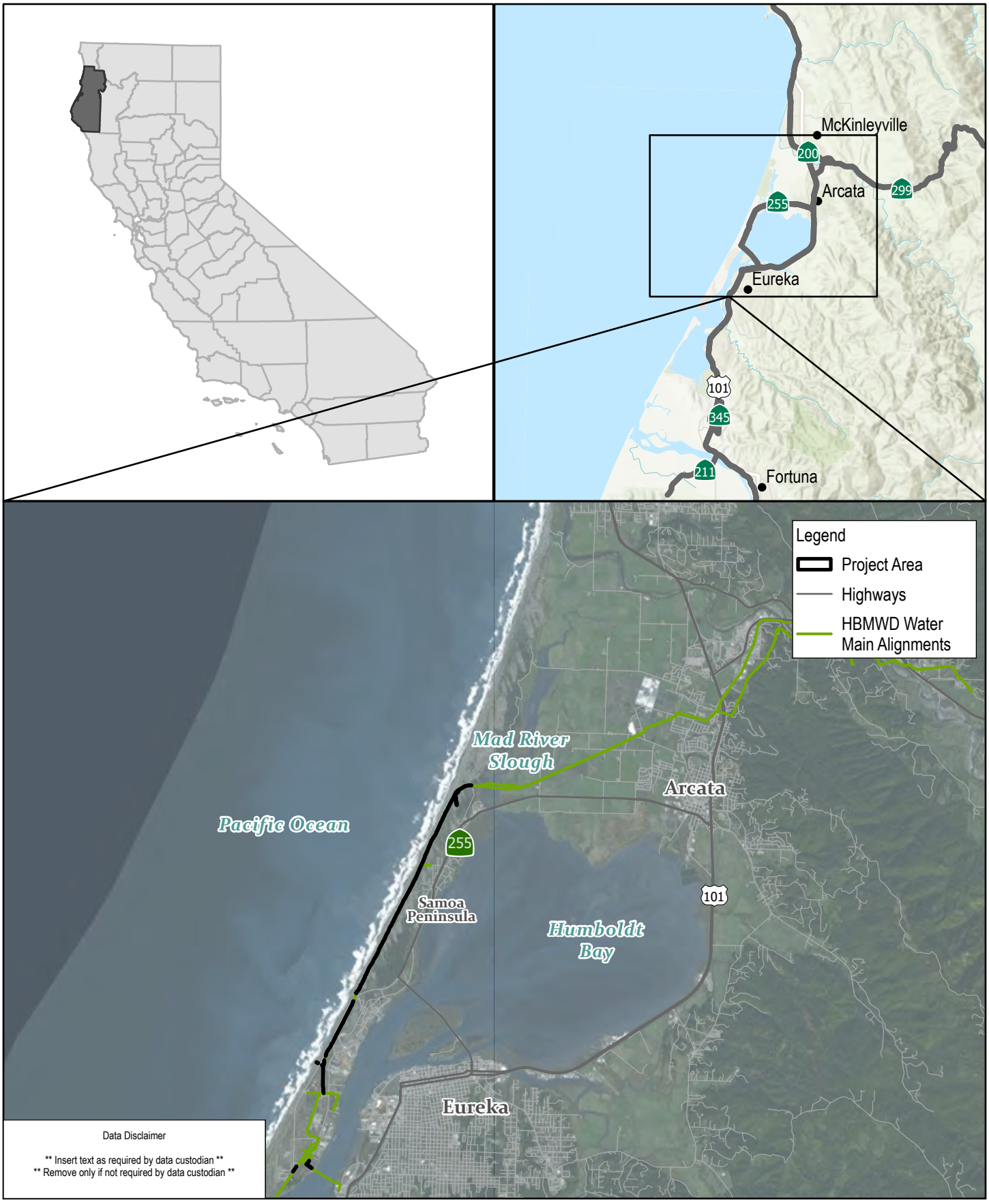
6.2 GHD

Kerry McNamee, Environmental Planner
Adam Wagschal, Environmental Planner
Christopher Wolf, Environmental Planner
Chryss Meier, Air Quality Planner
Clint Emerson, Biologist

6.3 Sub-consultants

Jaimie Roscoe, Roscoe and Associates

Appendix A
Figures



Paper Size ANSI A

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Miles

Map Projection: Mercator Auxiliary Sphere
Horizontal Datum: WGS 1984
Grid: WGS 1984 Web Mercator Auxiliary Sphere

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GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

Project Vicinity

FIGURE 2-1

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch2.aprx - 12603983_002_FIG2-1_Vicinity_RevG Print date: 22 Jul 2026 - 15:32

Data source: I_Pipeline: ; D_Pipeline: ; World Imagery (Clarity): This work is licensed under the Esri Master License Agreement.View Summary | View Terms of UseExport: This layer is not intended to be used to export tiles for offline. Data Collection and Editing: This layer may be used in various ArcGIS apps to support data collection and editing, with the results used internally or shared with others, as described for these use cases.; CA_Counties: ; USA Major Cities: Sources: Esri; U.S. Department of Commerce, Census Bureau; U.S. Department of Commerce (DOC), National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), National Geodetic Survey (NGS); Highways: ; World Topographic Map - No Labels: ; World Hillshade: Esri, USGS. Created by: vsummers



Paper Size ANSI A

0 1,000 2,000 3,000 4,000

Feet

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

N

GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Project No. **12603983**
Revision No. **J**
Date **Jul 2026**

Project Area Overview

FIGURE 2-2

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch2.aprx 12603983_001_Fig2-2_ProjectArea_RevJ
Print date: 22 Jul 2026 - 11:45

Data source: I_Pipeline:
D_Pipeline:

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Paper Size ANSI A

0 1,000

Feet

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

N

GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Project No. **12603983**
Revision No. **H**
Date **Aug 2026**

Project Area with Right-of-Way Boundaries (North)

FIGURE 2-3

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch2.aprx 12603983_005_Fig2-3_ProjectArea_RevG
Print date: 18 Aug 2026 - 15:08

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Paper Size ANSI A

0 500 1,000 1,500 2,000 2,500

Feet

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

N

GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Project Area with Right-of-Way Boundaries (South)

Project No. **12603983**
Revision No. **M**
Date **Aug 2026**

FIGURE 2-4

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch2.aprx 12603983_004_Fig2-4_ProjectArea_RevL
Print date: 18 Aug 2026 - 15:04

Data source: World Imagery (Clarity): This work is licensed under the Esri Master License Agreement.View Summary | View Terms of UseExport: This layer is not intended to be used to export tiles for offline. Data Collection and Editing: This layer may be used in various ArcGIS apps to support data collection and editing, with the results used internally or shared with others, as described for these use cases.. Created by: sshipman



Paper Size ANSI A

0 50 100 150 200

Feet

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

N

GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

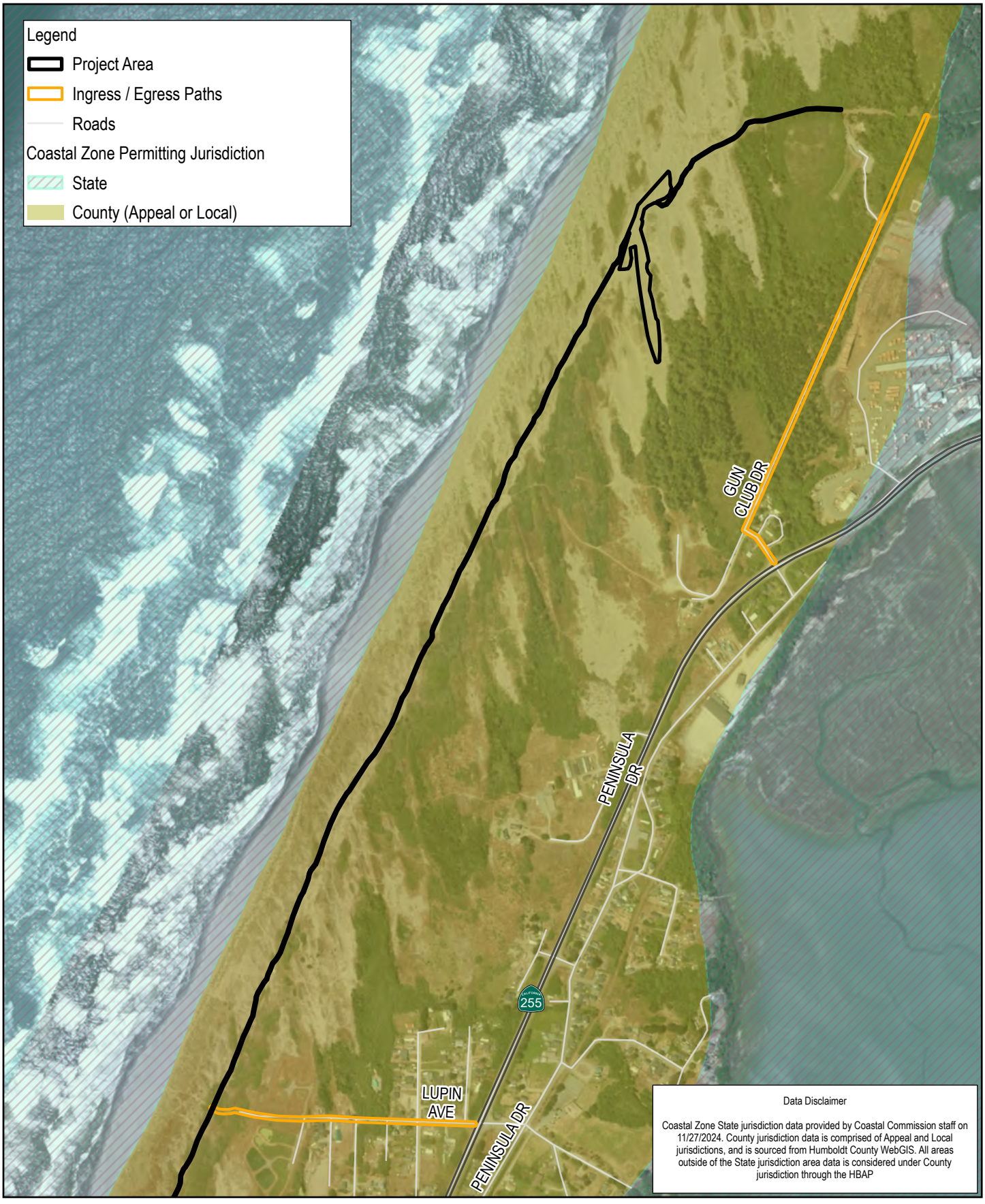
Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

Sand Borrow Area

FIGURE 2-5

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch2.aprx 12603983_008_Fig2-5_Sand_BorrowArea_RevF
Print date: 22 Jul 2026 - 14:57

Data source: HBMWD, Tiled service layer: © OpenStreetMap (and) contributors, CC-BY-SA. Created by: vsummers



Paper Size ANSI A

0 500 1,000

Feet

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

N

GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Project No. **12603983**
Revision No. **J**
Date **Aug 2026**

Coastal Zone Jurisdictions

FIGURE 2-6.1

N:\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch2.aprx 12603983_003_Fig2-6.1-2_CoastalZone_MapSeries_RevK
Print date: 07 Aug 2026 - 10:34

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Paper Size ANSI A

0 500 1,000 1,500 2,000 2,500

Feet

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

N

GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Project No. **12603983**
Revision No. **J**
Date **Aug 2026**

Coastal Zone Jurisdictions

FIGURE 2-6.2

N:\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch2.aprx 12603983_003_Fig2-6.1-2_CoastalZone_MapSeries_RevK
Print date: 07 Aug 2026 - 10:34

Data source: World Imagery (Clarity): This work is licensed under the Esri Master License Agreement.View Summary | View Terms of UseExport: This layer is not intended to be used to export tiles for offline. Data Collection and Editing: This layer may be used in various ArcGIS apps to support data collection and editing, with the results used internally or shared with others, as described for these use cases.. Created by: jlopez4



Paper Size ANSI A

0 500

Feet

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

N

GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

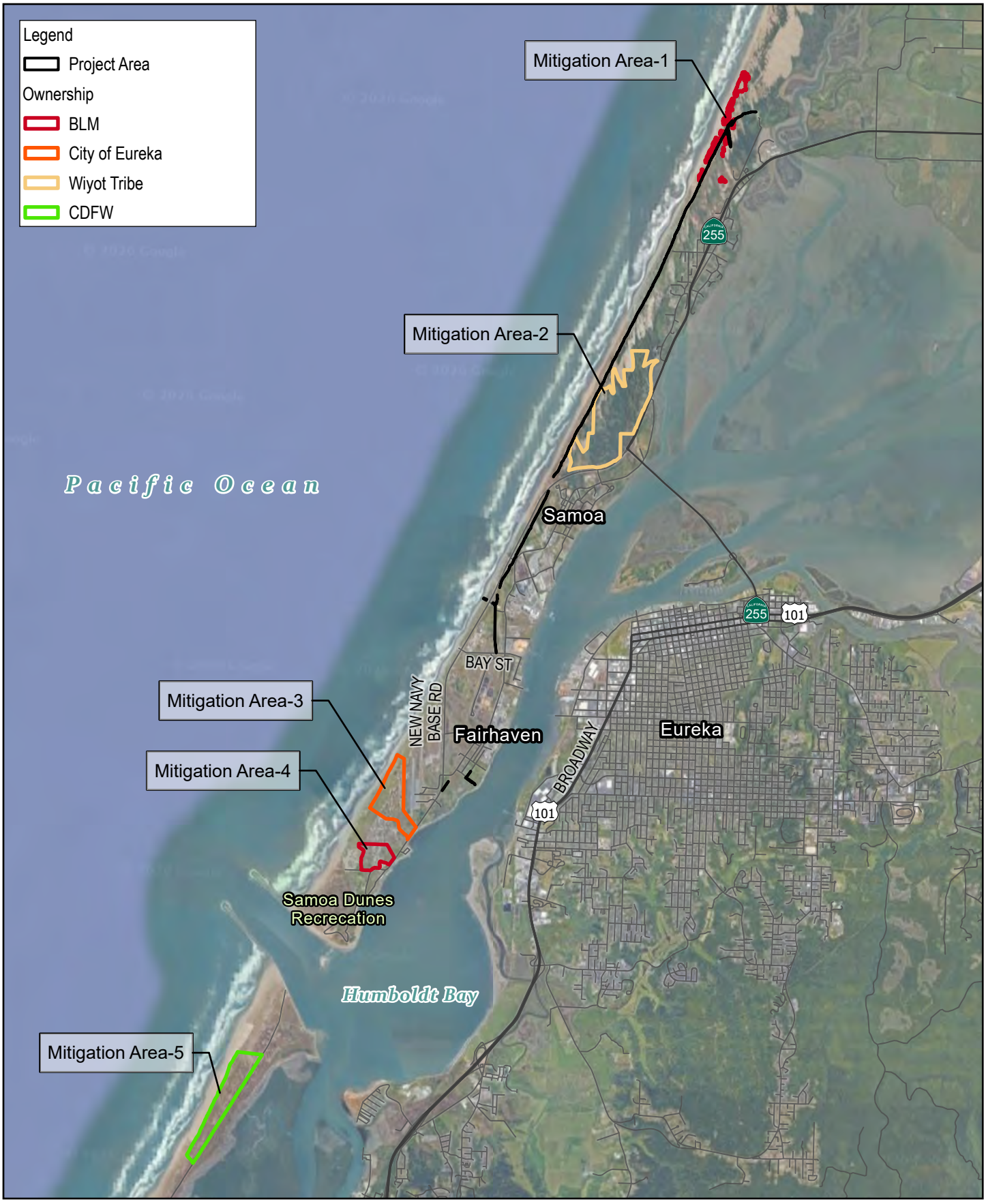
Project No. **12603983**
Revision No. **J**
Date **Aug 2026**

Coastal Zone Jurisdictions

FIGURE 2-6.3

N:\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch2.aprx 12603983_003_Fig2-6.1-2_CoastalZone_MapSeries_RevK
Print date: 07 Aug 2026 - 10:35

Data source: World Imagery (Clarity): This work is licensed under the Esri Master License Agreement.View Summary | View Terms of UseExport: This layer is not intended to be used to export tiles for offline. Data Collection and Editing: This layer may be used in various ArcGIS apps to support data collection and editing, with the results used internally or shared with others, as described for these use cases.. Created by: jlopez4



Paper Size ANSI A

0 0.25 0.5 0.75 1 1.25

Miles

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

N

GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

Mitigation Areas

FIGURE 2-7

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch2.aprx
Print date: 22 Jul 2026 - 13:18

Data source: Google: Google. Created by: vsummers



Paper Size ANSI A

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Feet

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

N

GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

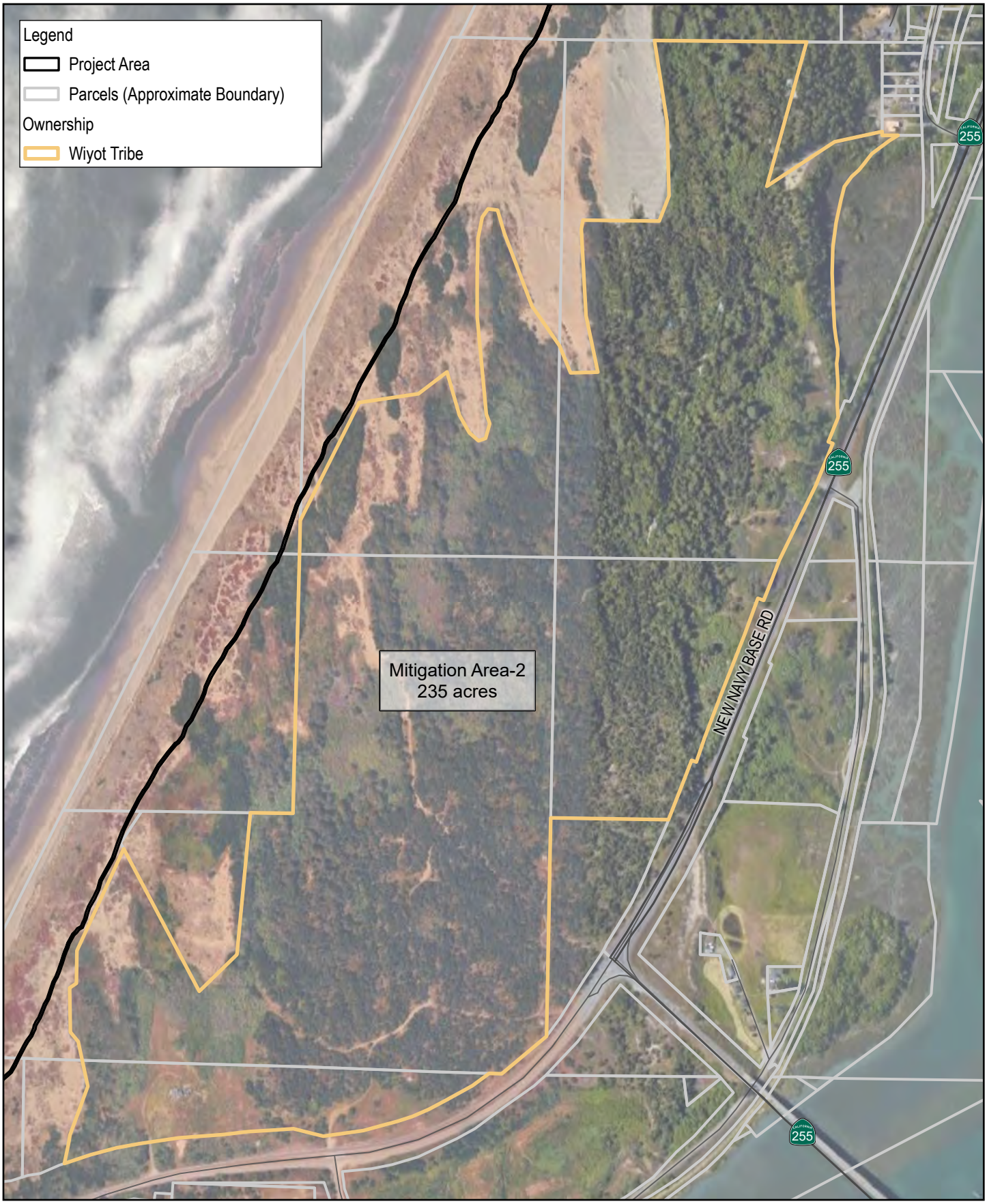
Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

Mitigation Areas

FIGURE 2-7.1

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch2.aprx
Print date: 22 Jul 2026 - 13:25

Data source: Humboldt County, HBMWD, Google: Google. Created by: vsummers



Paper Size ANSI A

0 200 400 600

Feet

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

N

GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

Mitigation Areas

FIGURE 2-7.2

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch2.aprx
Print date: 22 Jul 2026 - 13:25

Data source: Humboldt County, HBMWD, Google: Google. Created by: vsummers



Paper Size ANSI A

0 200 400 600

Feet

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

N

GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

Mitigation Areas

FIGURE 2-7.3

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch2.aprx
Print date: 22 Jul 2026 - 13:25

Data source: Humboldt County, HBMWD, Google: Google. Created by: vsummers



Paper Size ANSI A

0 200 400 600

Feet

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

N

GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

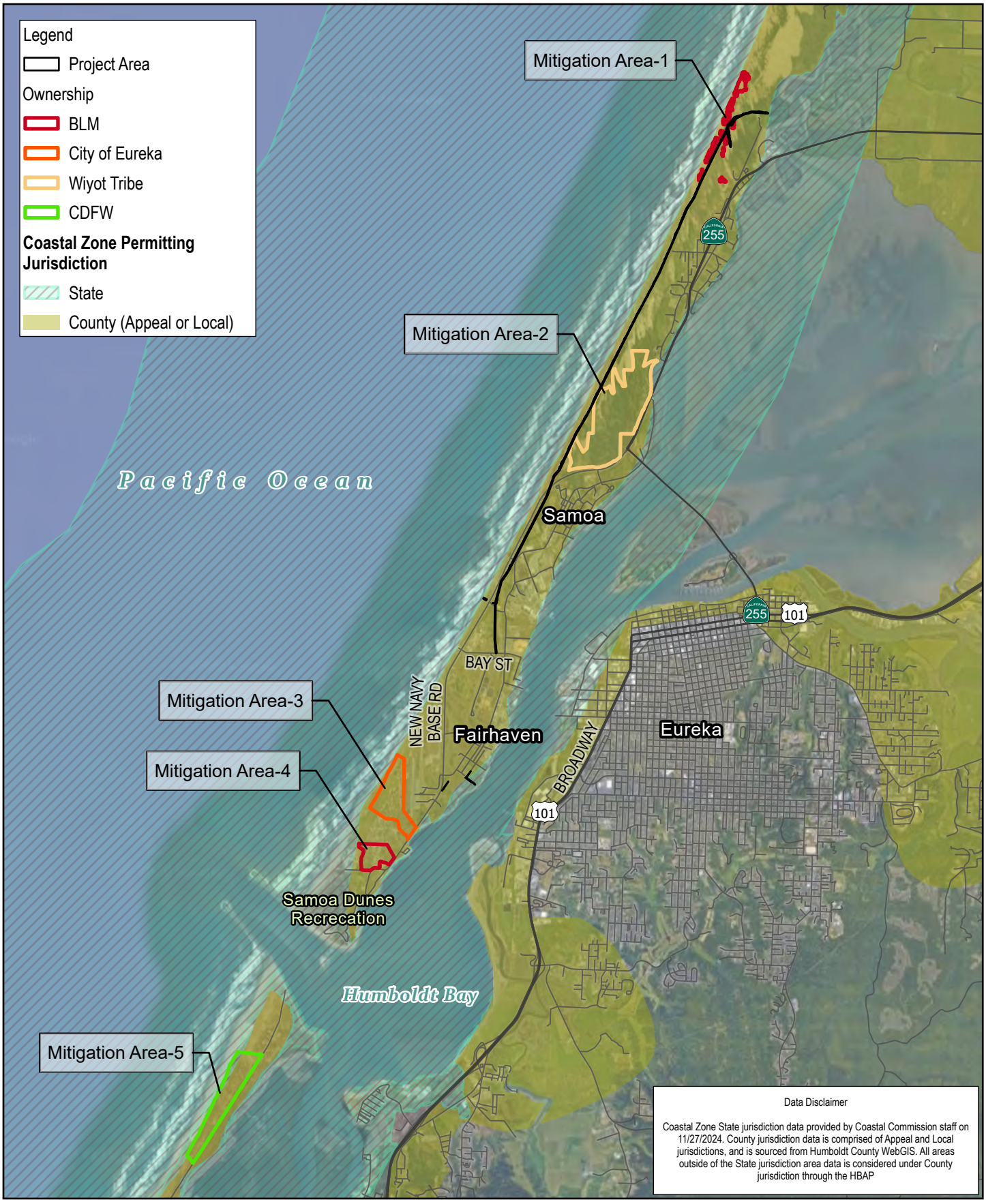
Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

Mitigation Areas

FIGURE 2-7.4

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch2.aprx
Print date: 22 Jul 2026 - 13:25

Data source: Humboldt County, HBMWD, Google: Google. Created by: vsummers



Paper Size ANSI A

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Miles

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

N

GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Mitigation Areas and Coastal Zone Jurisdiction

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 2-8

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch2.aprx
Print date: 22 Jul 2026 - 13:08

Data source: Humboldt County, CA Coastal Commission, HBMWD, Google: Google. Created by: vsummers



Paper Size ANSI A

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Feet

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

N

GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

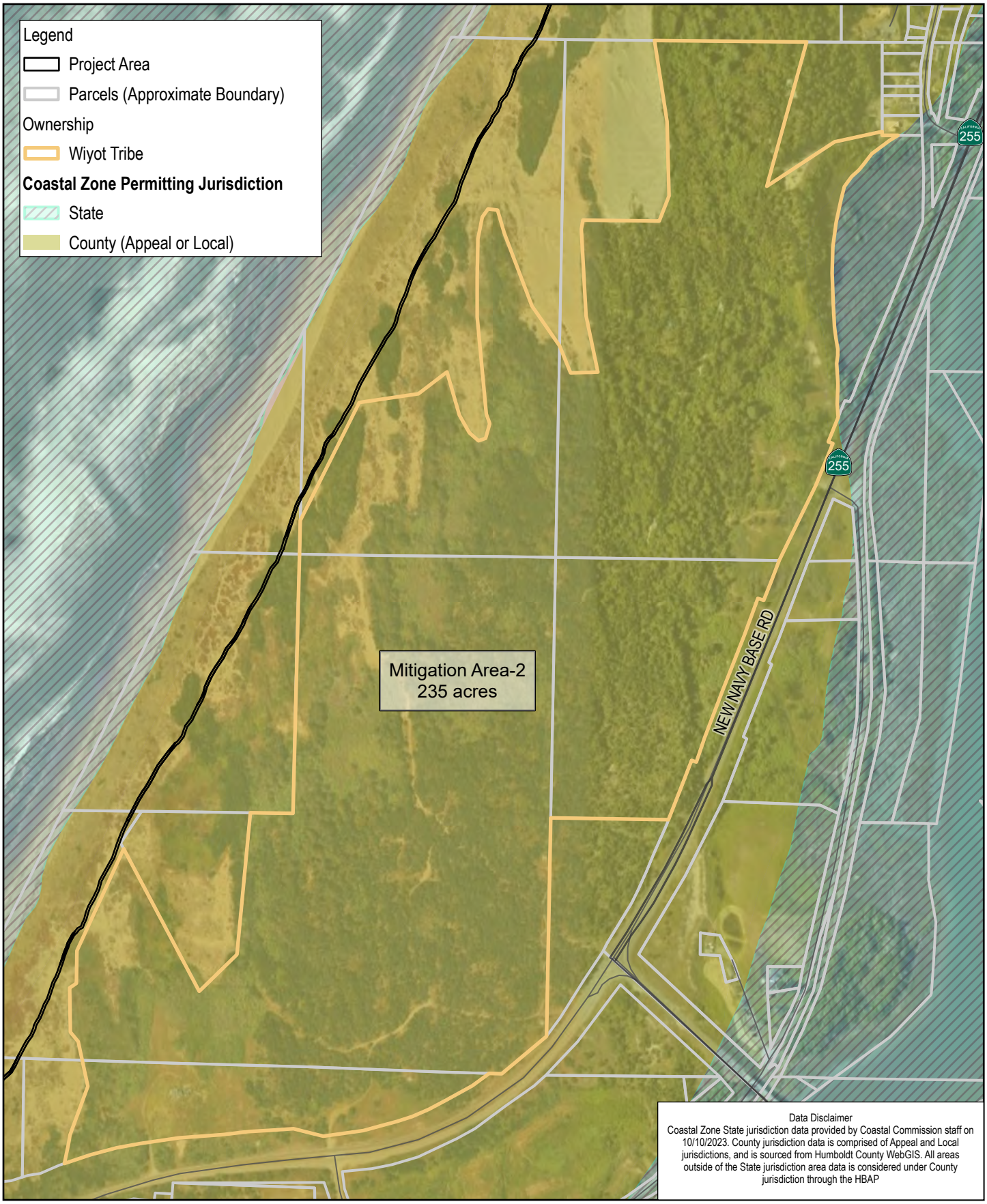
Mitigation Areas and Coastal Zone Jurisdiction

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 2-8.1

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch2.aprx
Print date: 22 Jul 2026 - 13:13

Data source: Humboldt County, CA Coastal Commission, HBMWD, Google: Google. Created by: vsummers



Paper Size ANSI A

0 200 400 600

Feet

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

N

GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

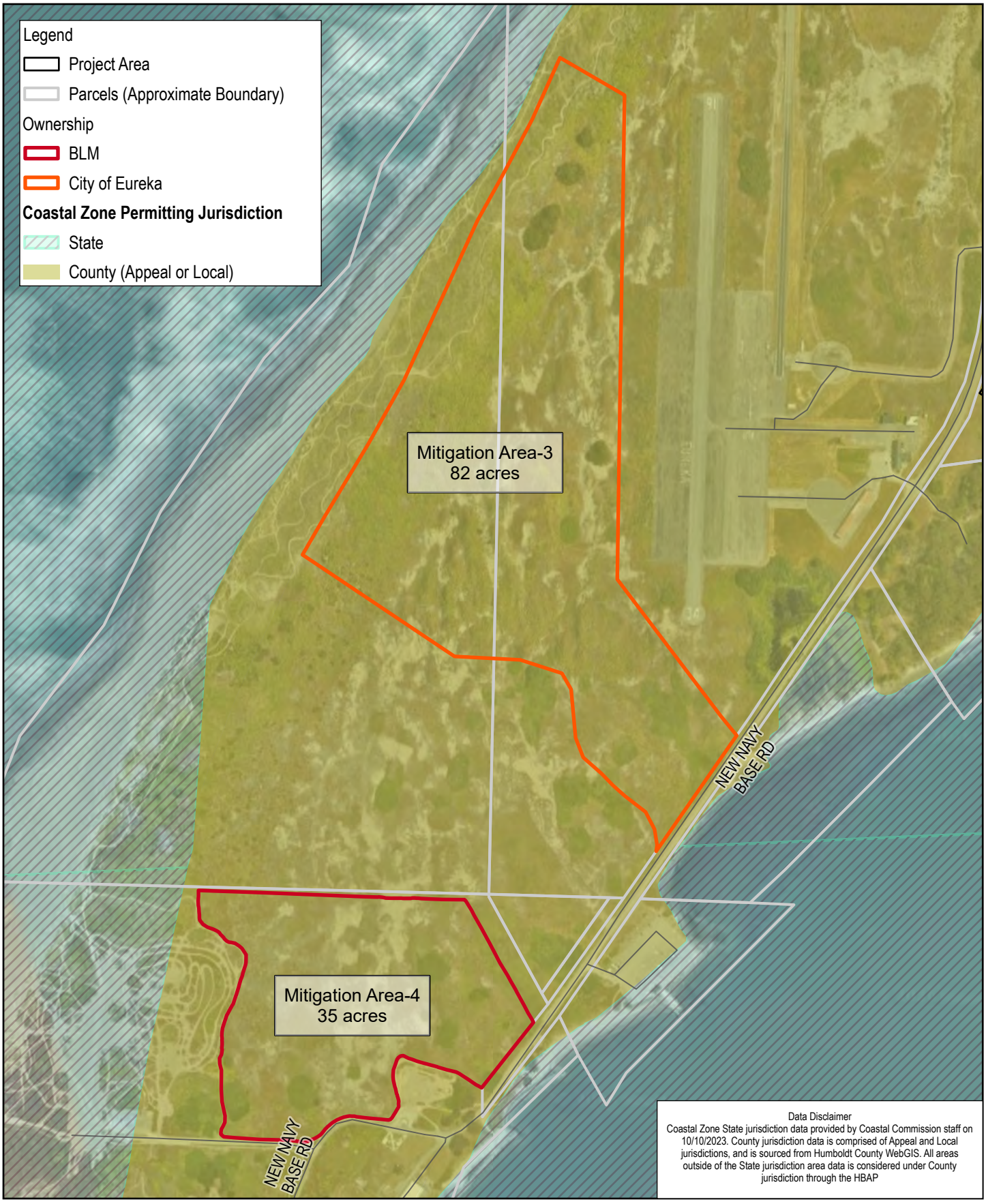
Mitigation Areas and Coastal Zone Jurisdiction

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 2-8.2

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch2.aprx
Print date: 22 Jul 2026 - 13:13

Data source: Humboldt County, CA Coastal Commission, HBMWD, Google: Google. Created by: vsummers



Paper Size ANSI A

0 200 400 600

Feet

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

N

GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

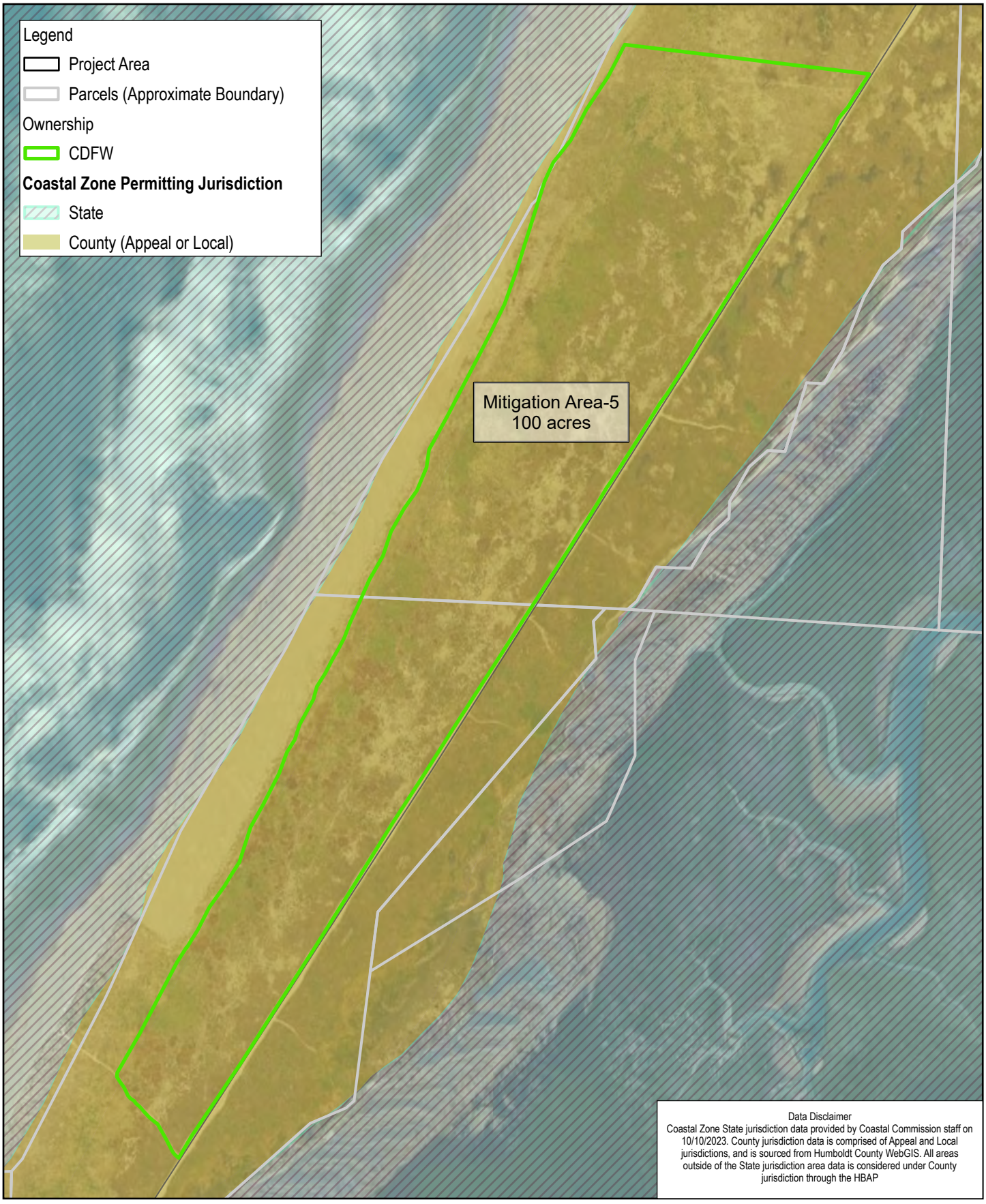
Mitigation Areas and Coastal Zone Jurisdiction

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 2-8.3

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch2.aprx
Print date: 22 Jul 2026 - 13:13

Data source: Humboldt County, CA Coastal Commission, HBMWD, Google: Google. Created by: vsummers



Paper Size ANSI A

0 200 400 600

Feet

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

N

GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

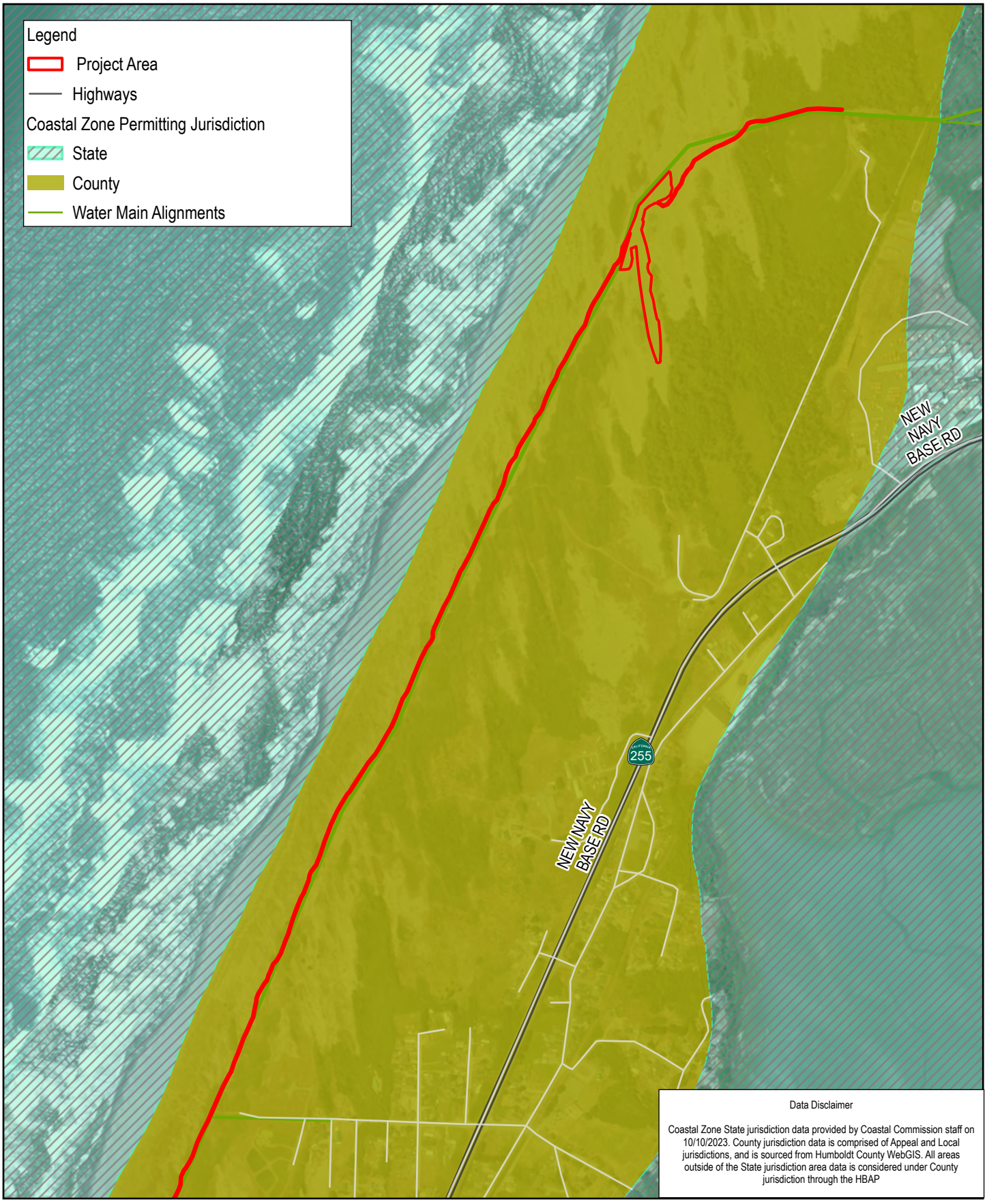
Mitigation Areas and Coastal Zone Jurisdiction

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 2-8.4

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch2.aprx
Print date: 22 Jul 2026 - 13:13

Data source: Humboldt County, CA Coastal Commission, HBMWD, Google: Google. Created by: vsummers



Paper Size ANSI A

0 500 1,000

Feet

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

N

GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Project No. **12603983**
Revision No. **-**
Date **Aug 2026**

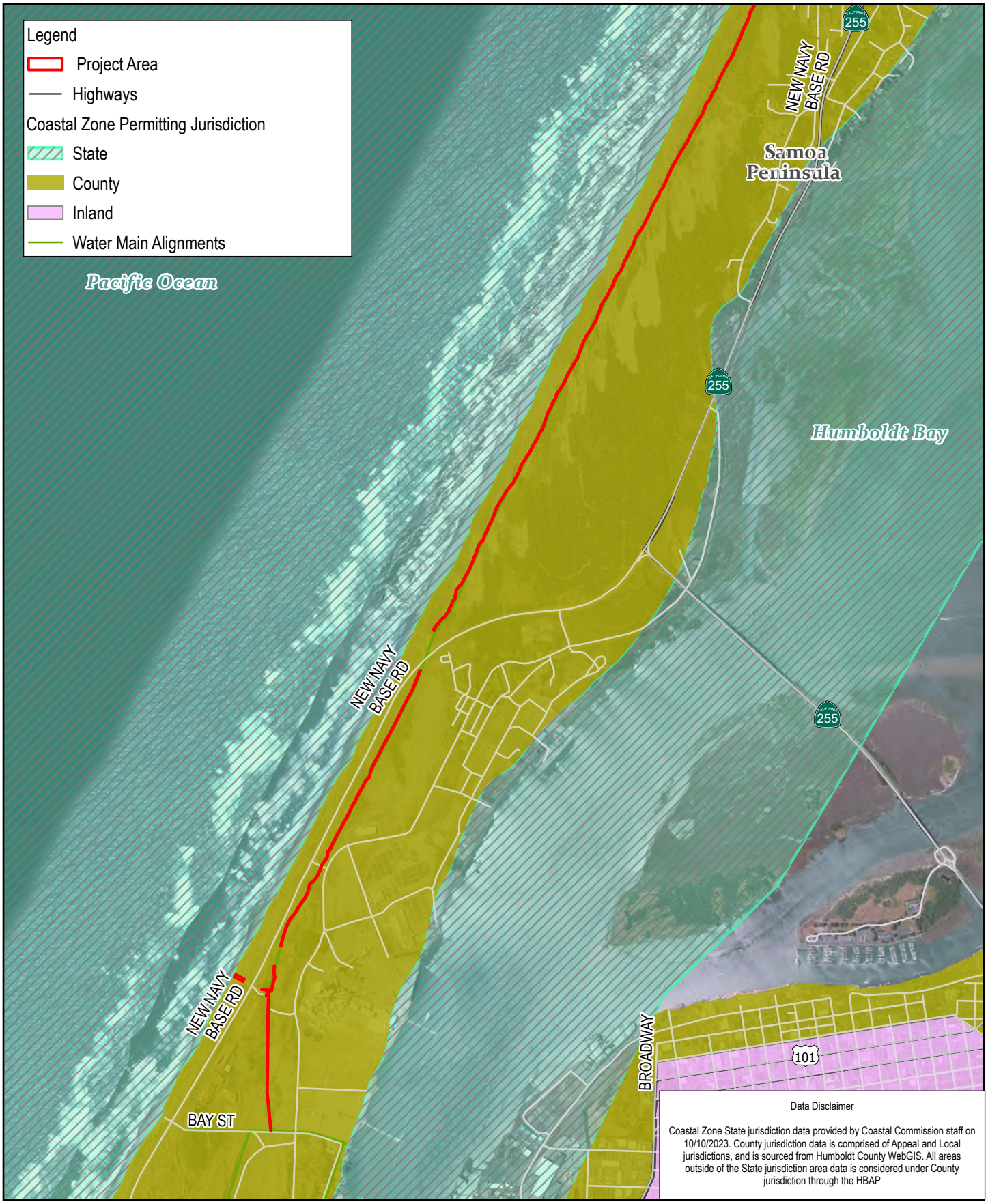
Coastal Zone Jurisdictions

FIGURE 3- 1

N:\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_BRR.aprx 12603983_003_Fig3_CoastalZone_MapSeries_RevJ
Print date: 07 Aug 2026 - 14:35

Data source: I_Pipeline:
D_Pipeline:

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Paper Size ANSI A

0 1,250 2,500

Feet

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

N

GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Project No. **12603983**
Revision No. **-**
Date **Aug 2026**

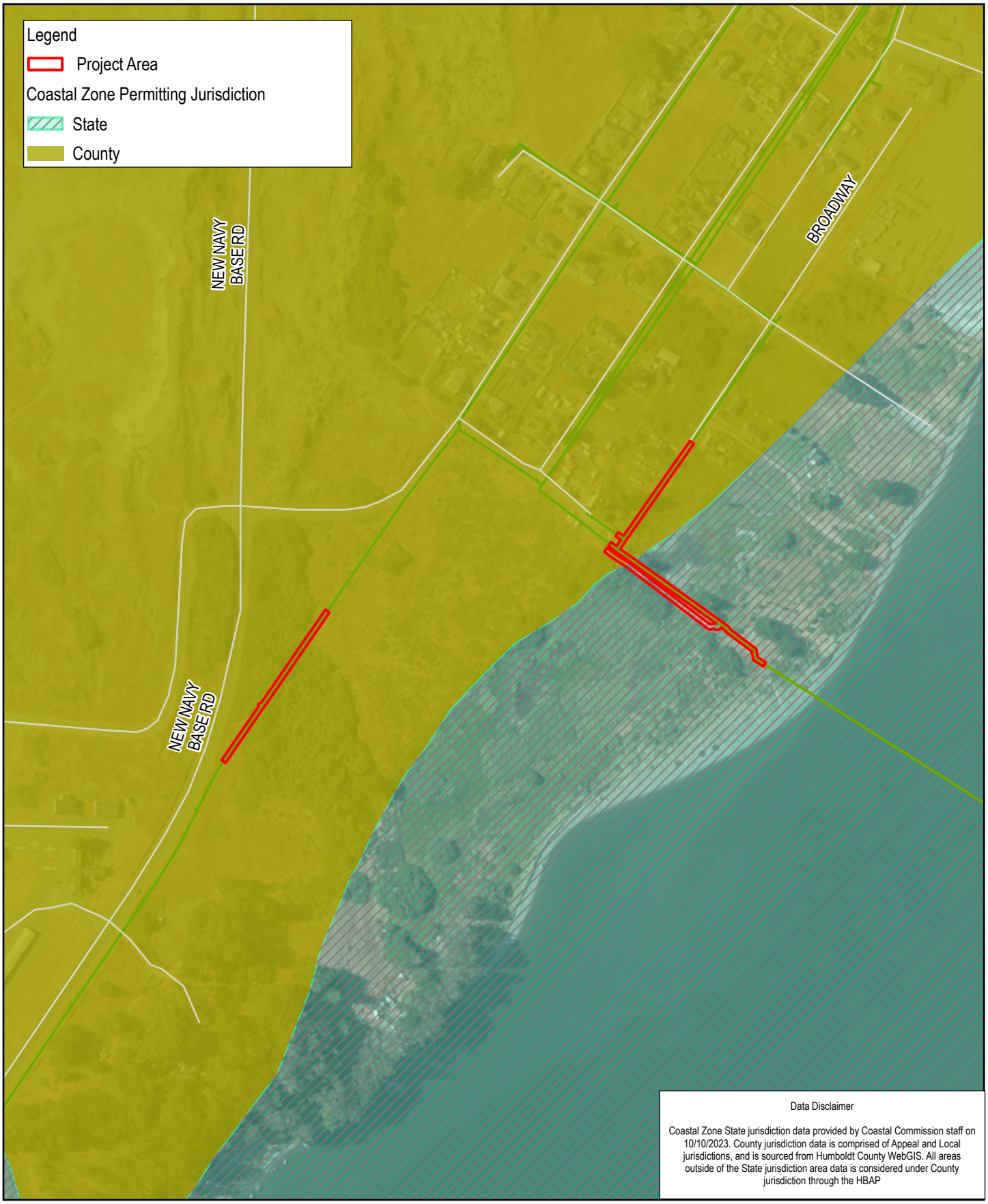
Coastal Zone Jurisdictions

FIGURE 3- 2

N:\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_BRR.aprx 12603983_003_Fig3_CoastalZone_MapSeries_RevJ
Print date: 07 Aug 2026 - 14:35

Data source: I_Pipeline:
D_Pipeline:

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Paper Size ANSI A

0 225 450

Feet

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

N

GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Project No. **12603983**
Revision No. **-**
Date **Aug 2026**

Coastal Zone Jurisdictions

FIGURE 3- 3

N:\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_BRR.aprx 12603983_003_Fig3_CoastalZone_MapSeries_RevJ
Print date: 07 Aug 2026 - 14:35

Data source: D_Pipeline:
World Imagery (Clarity): This work is licensed under the Esri Master License Agreement.View Summary | View Terms of UseExport: This layer is not intended to be used to export tiles for offline. Data Collection and Editing: This layer may be used in various ArcGIS apps to support data collection and editing, with the results used internally or shared with others, as described for these use cases.. Created by: jlopez4



Paper Size ANSI A

0 1,000 2,000 3,000 4,000

Feet

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

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GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Project Study Boundaries and Biological Study Area

Project No. **12603983**
Revision No. **G**
Date **Jul 2026**

FIGURE 3.3-1

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_0015_Fig3.3-1_ProjectArea_BSA_RevH
Print date: 23 Jul 2026 - 15:55

Data source: I_Pipeline:
D_Pipeline:

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Paper Size ANSI A

0 1,000 2,000 3,000 4,000

Feet

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

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GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Upland SNCs/ESHA and Wetlands Overview

Project No. **12603983**
Revision No. **F**
Date **Jul 2026**

FIGURE 3.3-2

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_011_Fig3.3-2_SNC_RarePlant_Overview2024_RevF
Print date: 22 Jul 2026 - 12:20

Data source: World Imagery (Clarity): This work is licensed under the Esri Master License Agreement.View Summary | View Terms of UseExport: This layer is not intended to be used to export tiles for offline. Data Collection and Editing: This layer may be used in various ArcGIS apps to support data collection and editing, with the results used internally or shared with others, as described for these use cases.. Created by: jlopez4



Paper Size ANSI A

0 50 100

Feet

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

N

GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.1

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
Print date: 23 Jul 2026 - 16:42

Data source: Humboldt County, City of Eureka, 2023_mosaic: . Created by: jlopez4



Paper Size ANSI A

0 50 100

Feet

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

N

GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

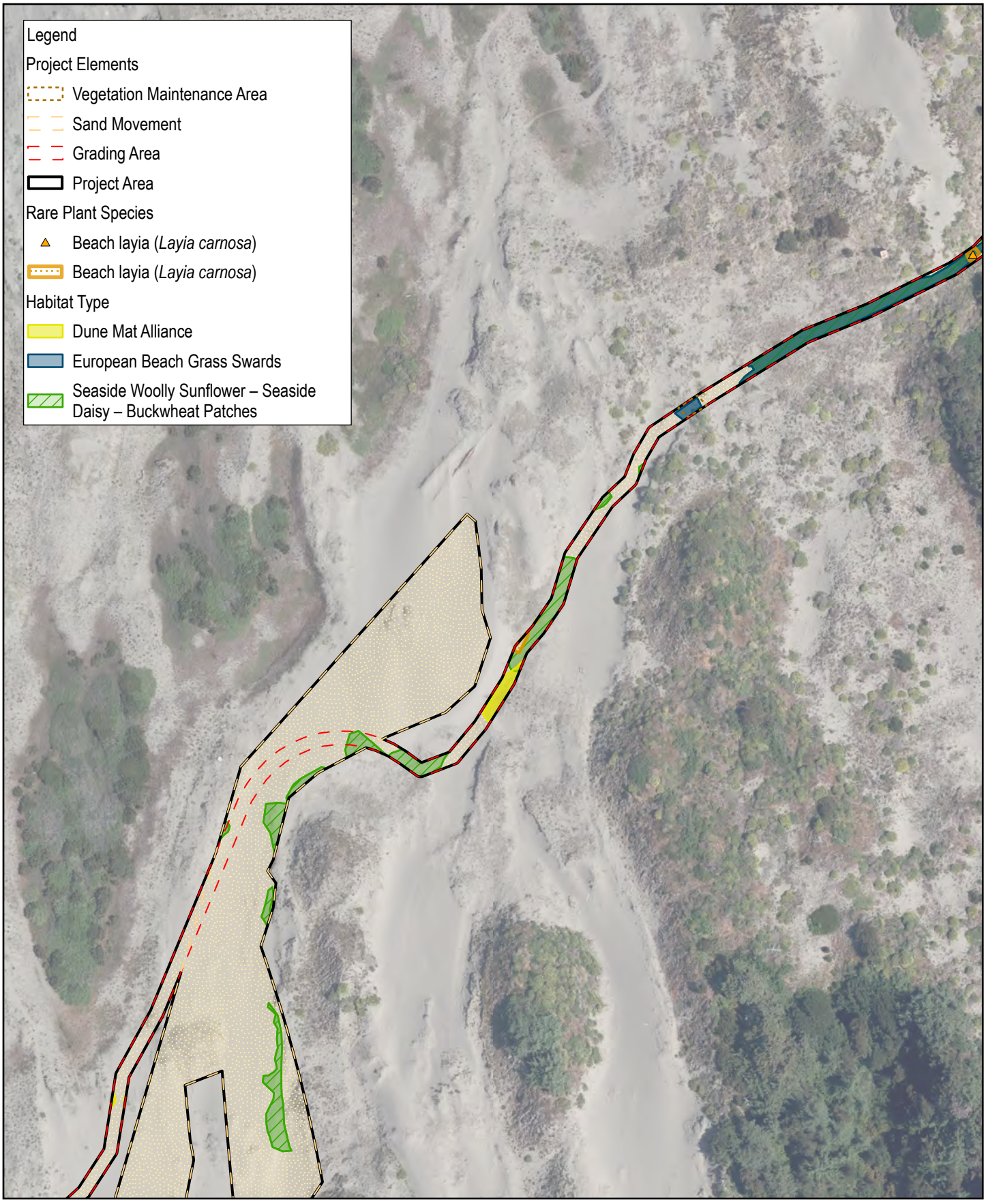
Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.2

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
Print date: 23 Jul 2026 - 16:43

Data source: Humboldt County, City of Eureka, 2023_mosaic: . Created by: jlopez4



Paper Size ANSI A

0 50 100

Feet

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

N

GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

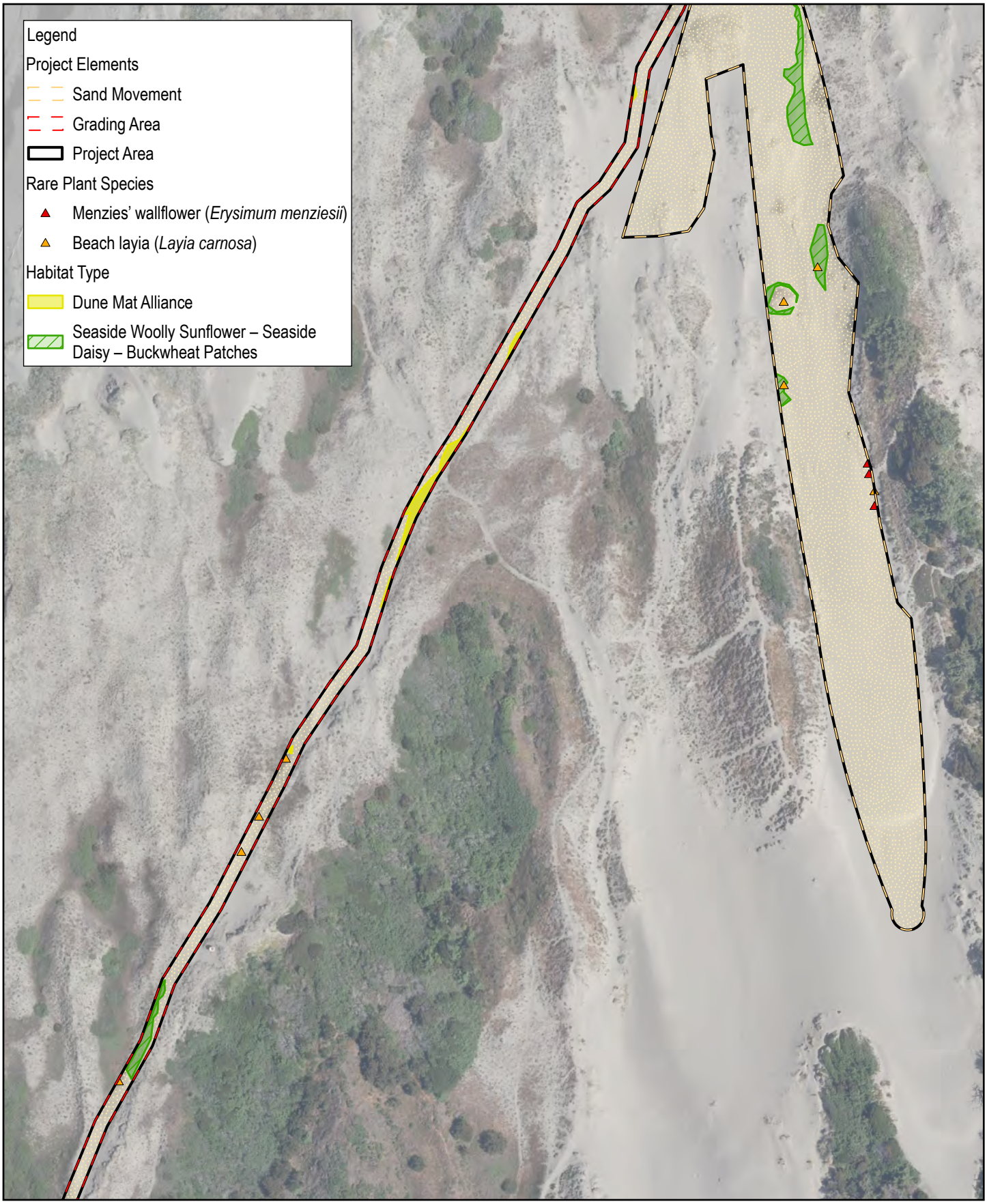
Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.3

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
Print date: 23 Jul 2026 - 16:43

Data source: Humboldt County, City of Eureka, 2023_mosaic: . Created by: jlopez4



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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

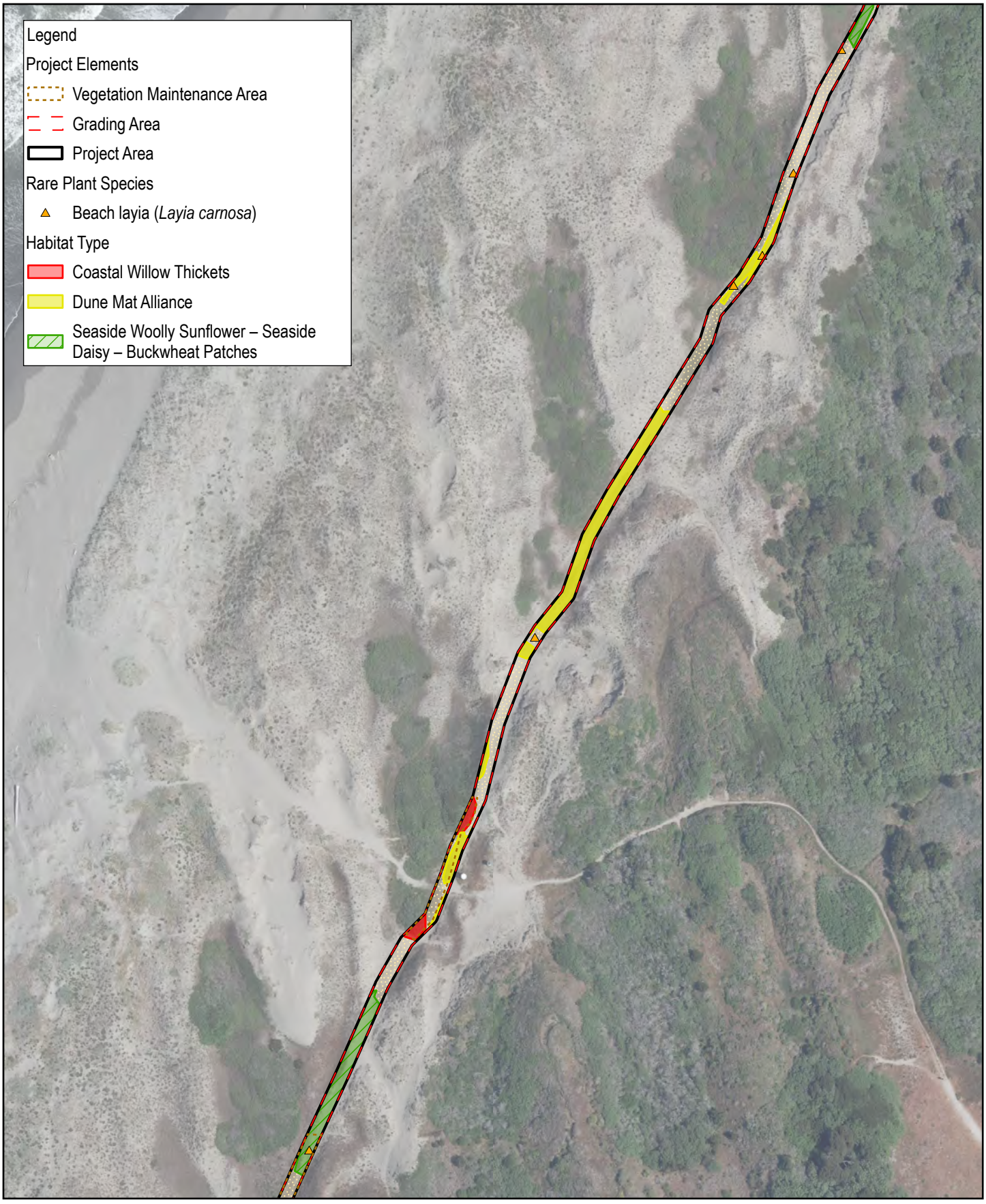
Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.4

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
Print date: 23 Jul 2026 - 16:43

Data source: Humboldt County, City of Eureka, 2023_mosaic: . Created by: jlopez4



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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

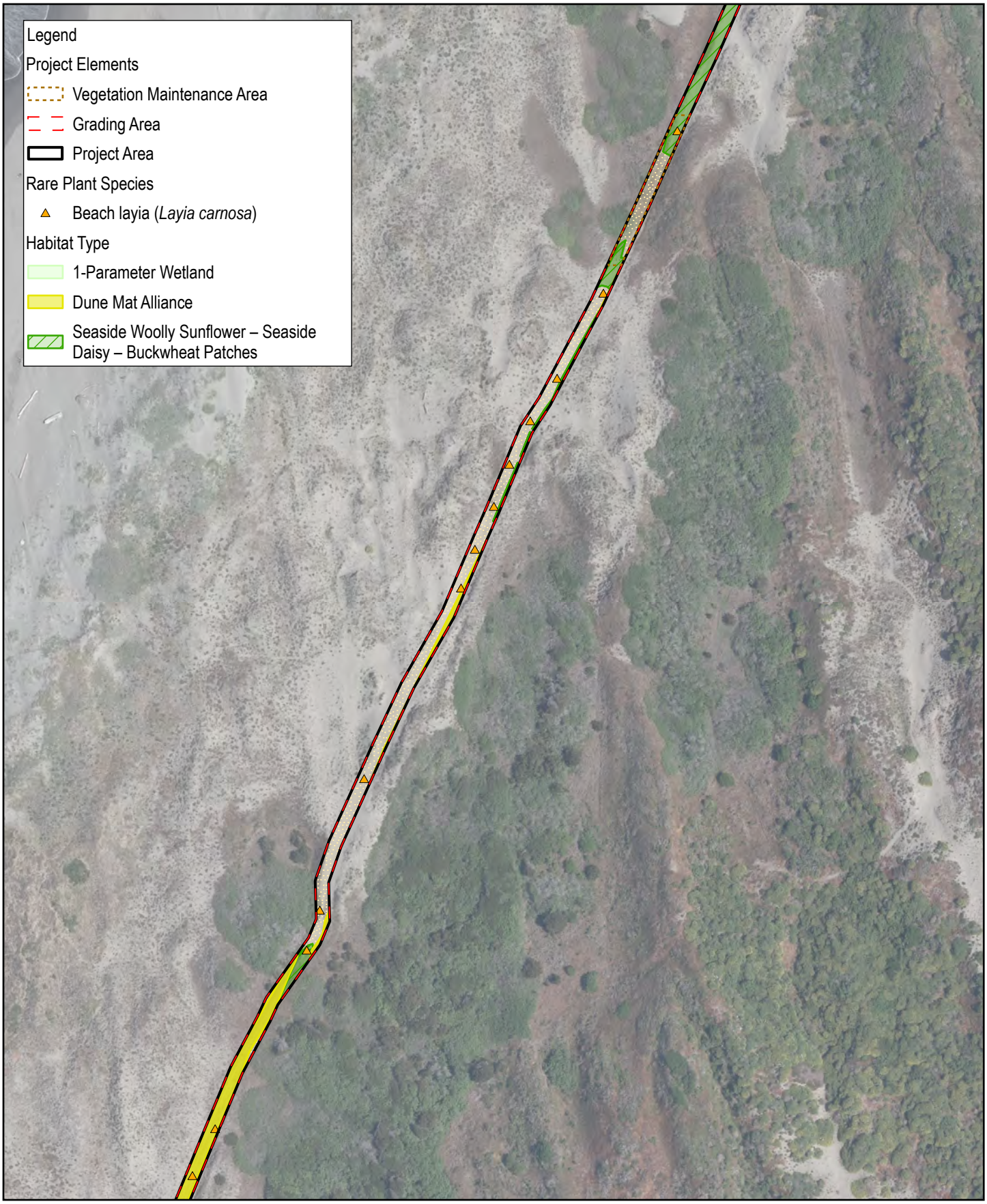
Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.5

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
Print date: 23 Jul 2026 - 16:44

Data source: Humboldt County, City of Eureka, 2023_mosaic: . Created by: jlopez4



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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.6

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
Print date: 23 Jul 2026 - 16:44

Data source: Humboldt County, City of Eureka, 2023_mosaic: . Created by: jlopez4



Paper Size ANSI A

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Feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

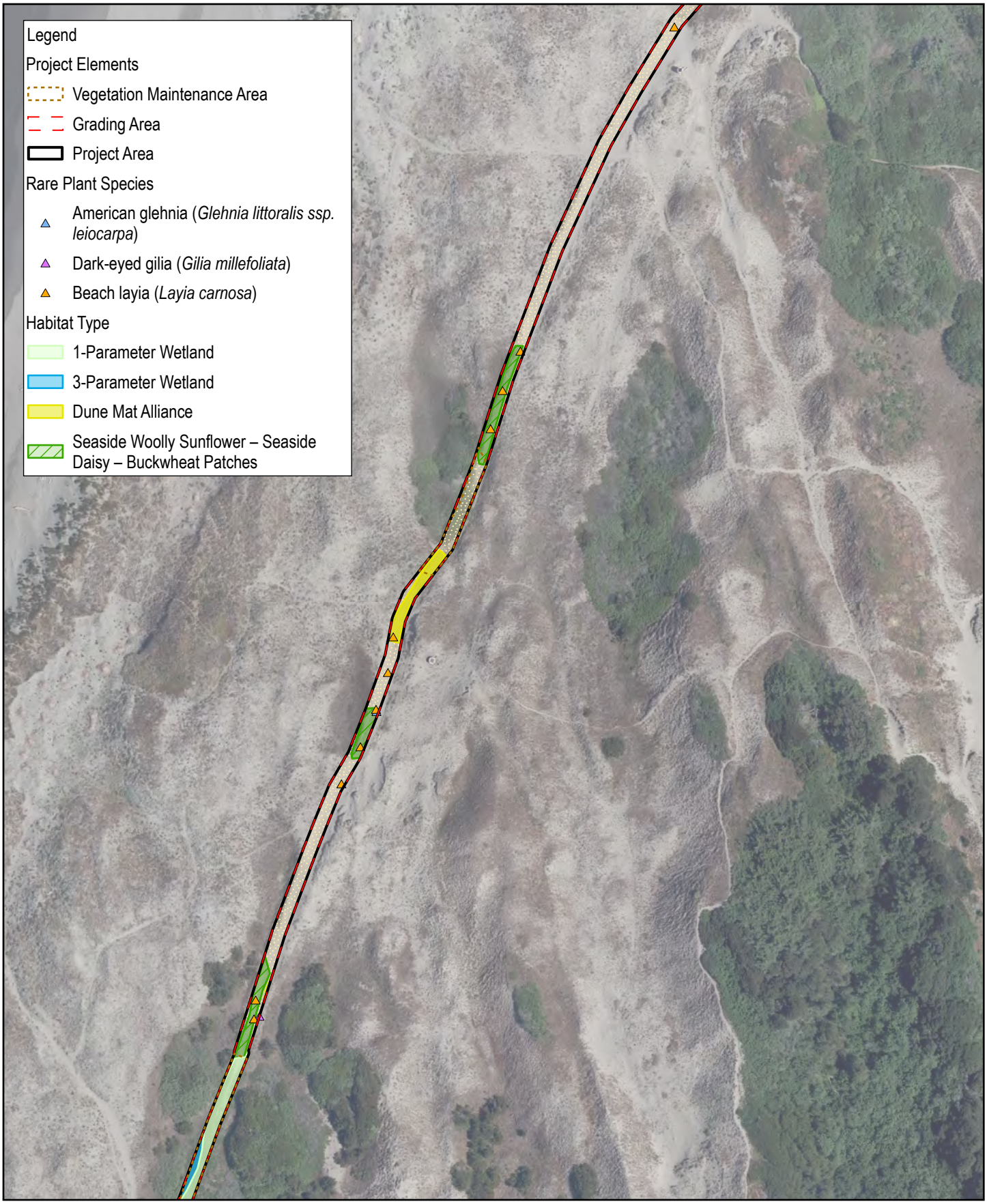
Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.7

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
Print date: 23 Jul 2026 - 16:44

Data source: Humboldt County, City of Eureka, 2023_mosaic: . Created by: jlopez4



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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

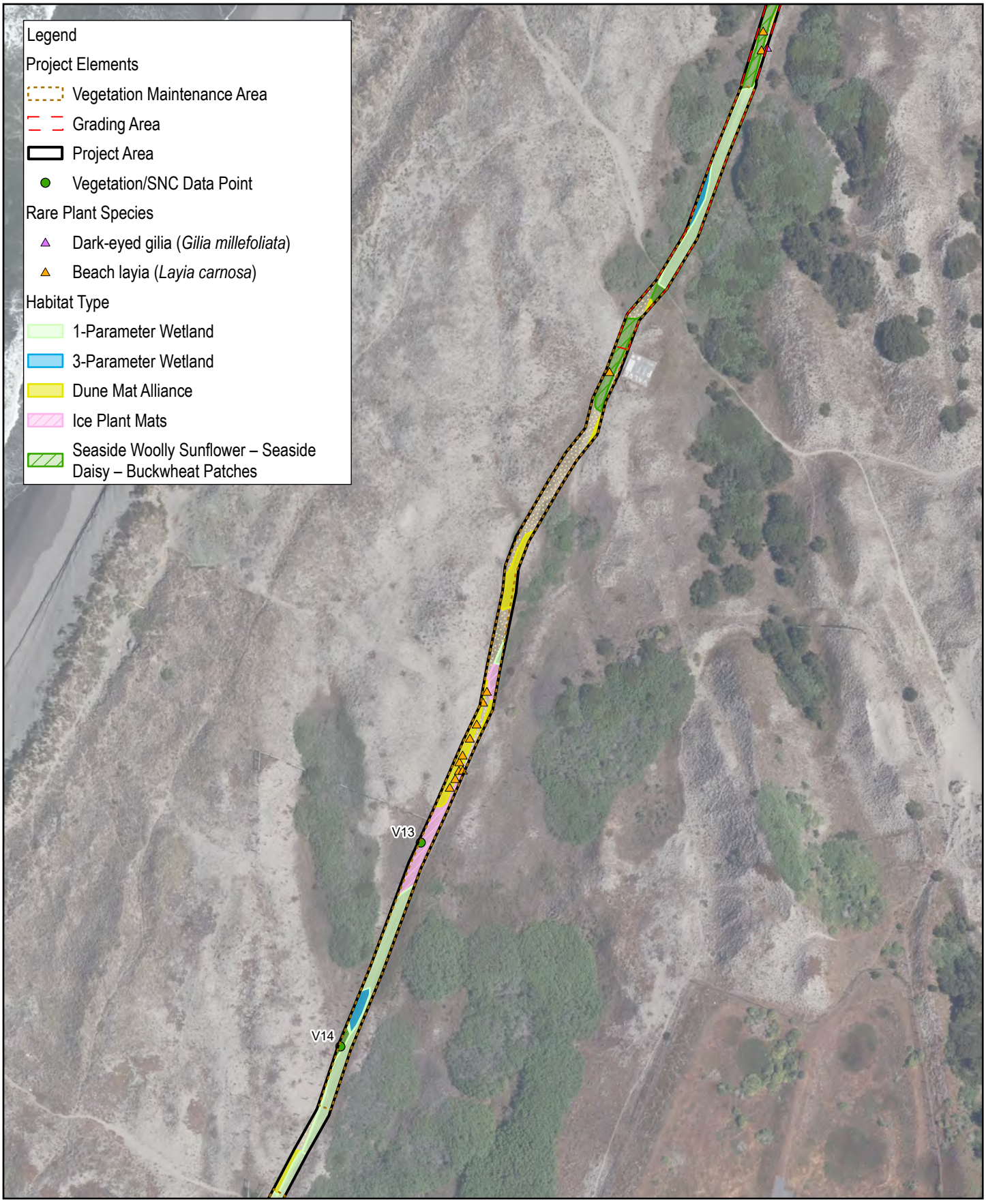
Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.8

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
Print date: 23 Jul 2026 - 16:45

Data source: Humboldt County, City of Eureka, 2023_mosaic: . Created by: jlopez4



Paper Size ANSI A

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Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

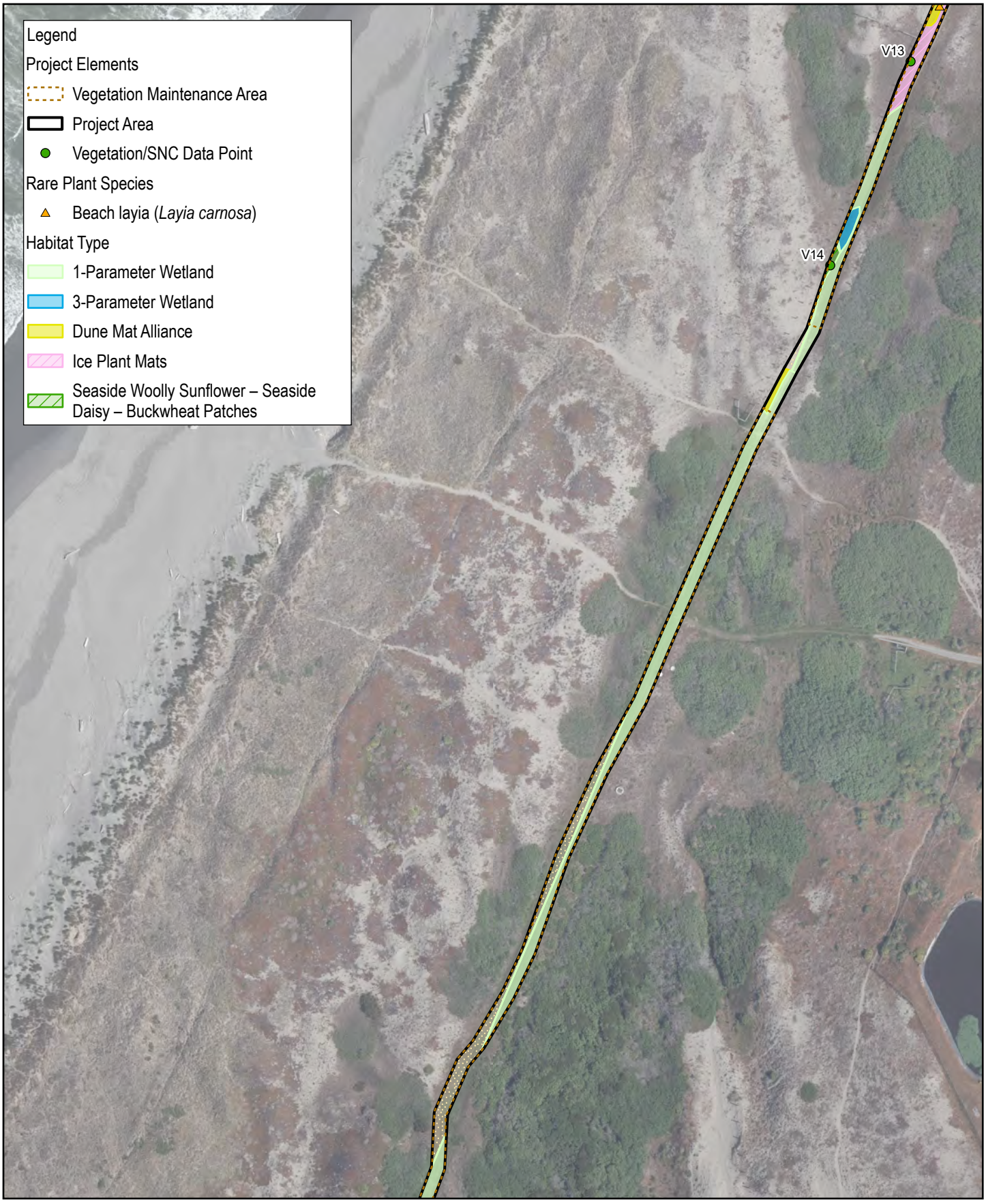
Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.9

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
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Data source: Humboldt County, City of Eureka, 2023_mosaic: . Created by: jlopez4



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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

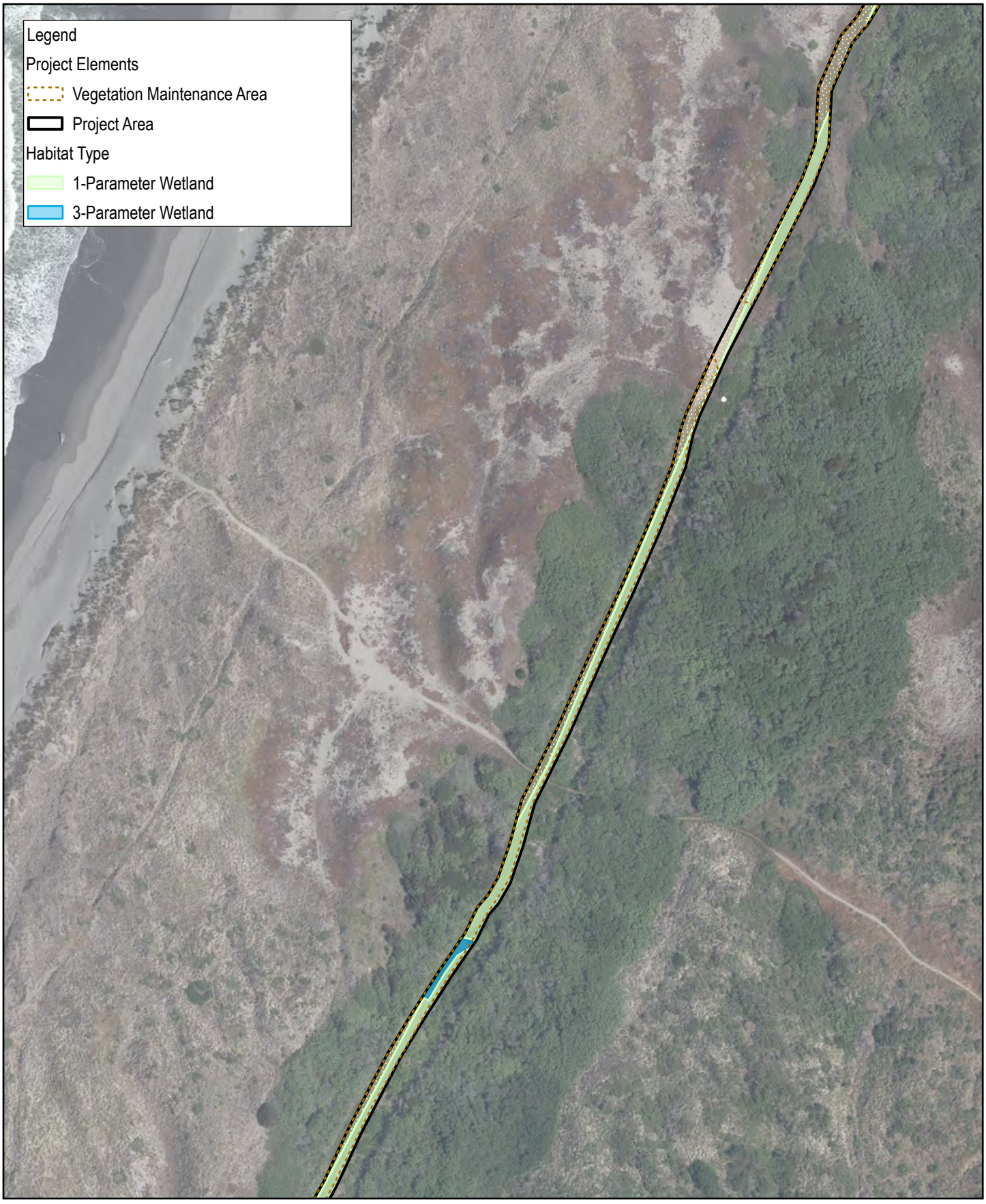
Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.10

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
Print date: 23 Jul 2026 - 16:45

Data source: Humboldt County, City of Eureka, 2023_mosaic: . Created by: jlopez4



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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

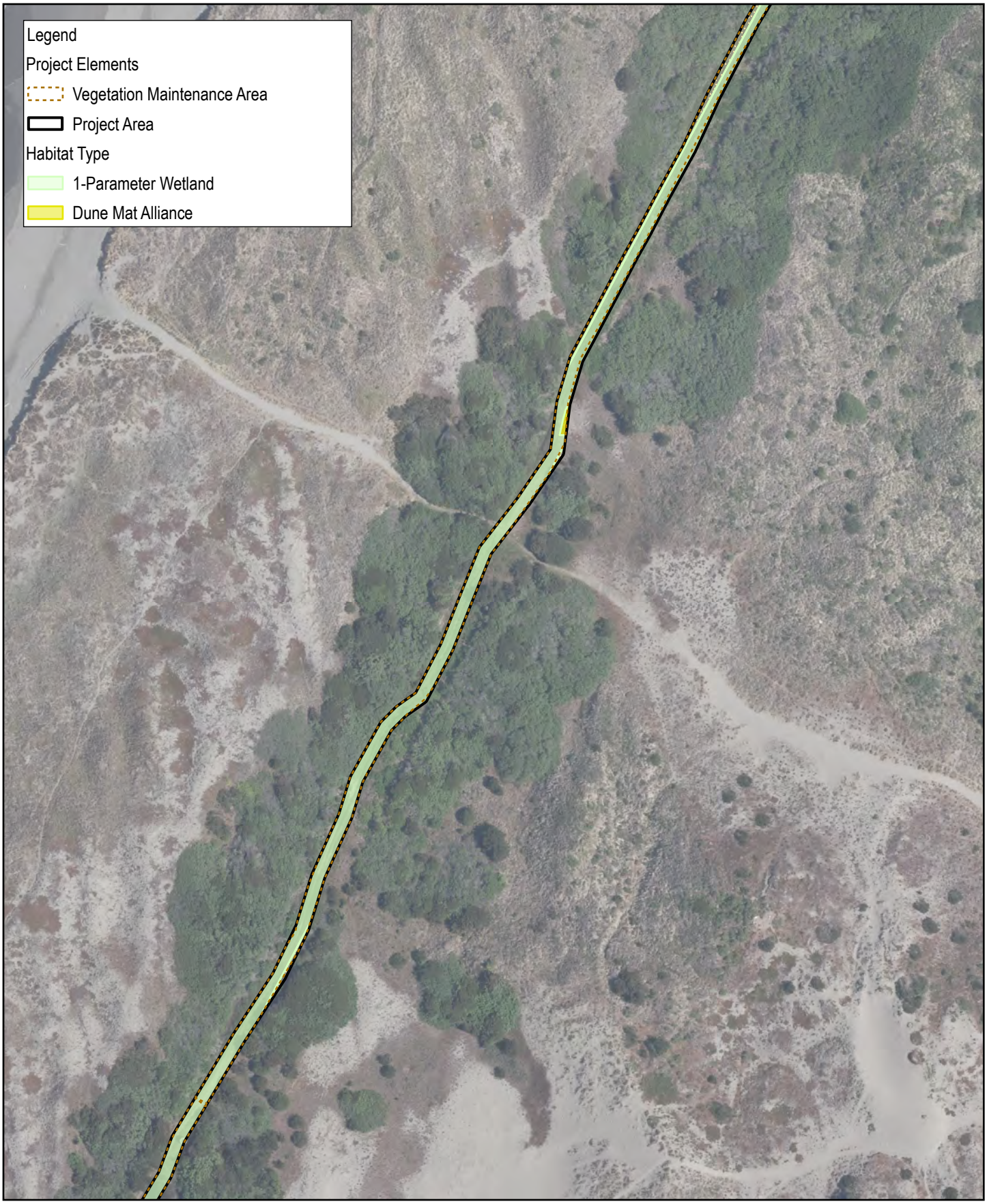
Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.11

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
Print date: 23 Jul 2026 - 16:45

Data source: Humboldt County, City of Eureka, 2023_mosaic: . Created by: jlopez4



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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.12

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
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Data source: Humboldt County, City of Eureka, 2023_mosaic: . Created by: jlopez4



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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.13

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
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Data source: Humboldt County, City of Eureka, 2023_mosaic: . Created by: jlopez4



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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

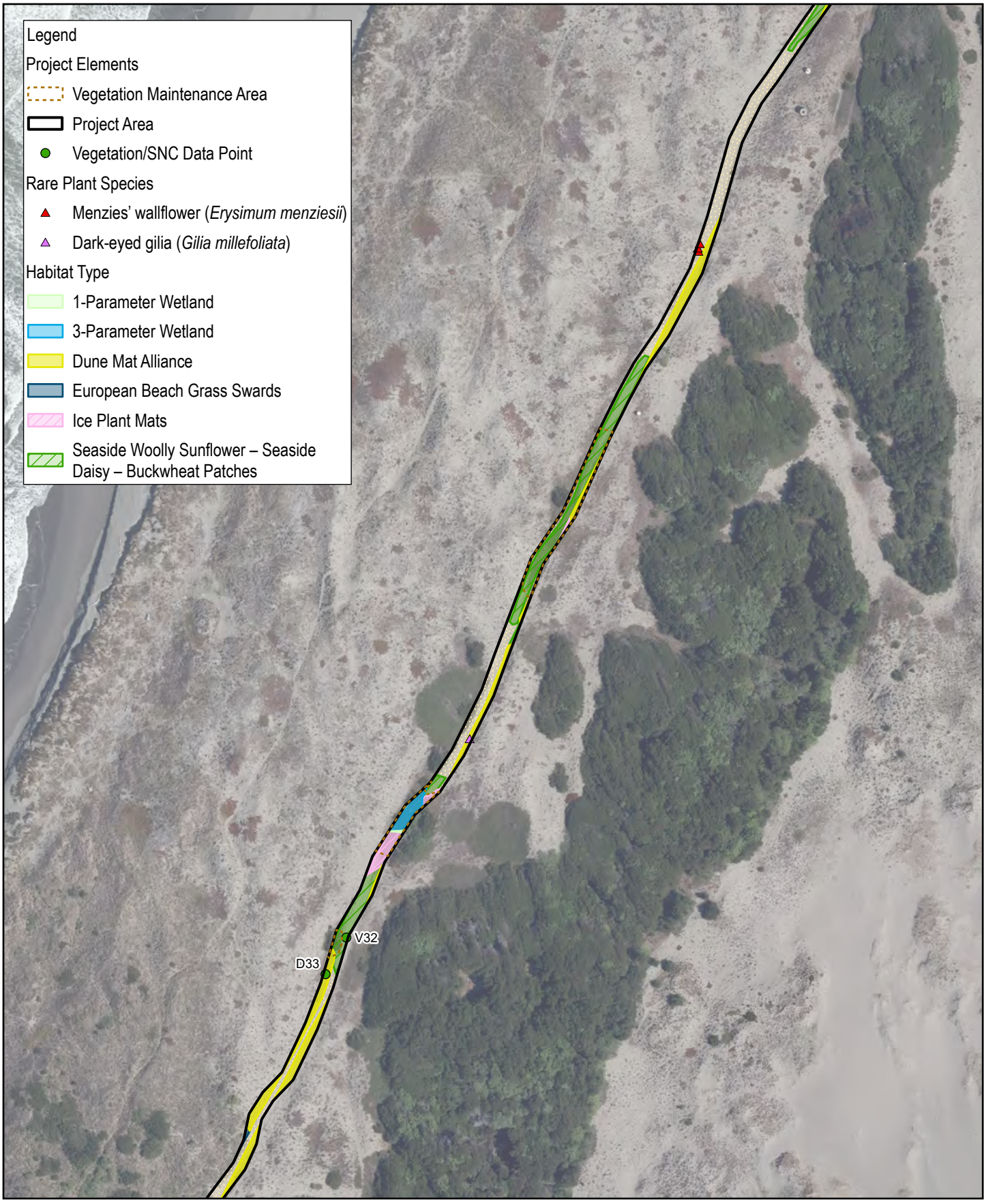
Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.14

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
Print date: 23 Jul 2026 - 16:46

Data source: Humboldt County, City of Eureka, 2023_mosaic: . Created by: jlopez4



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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

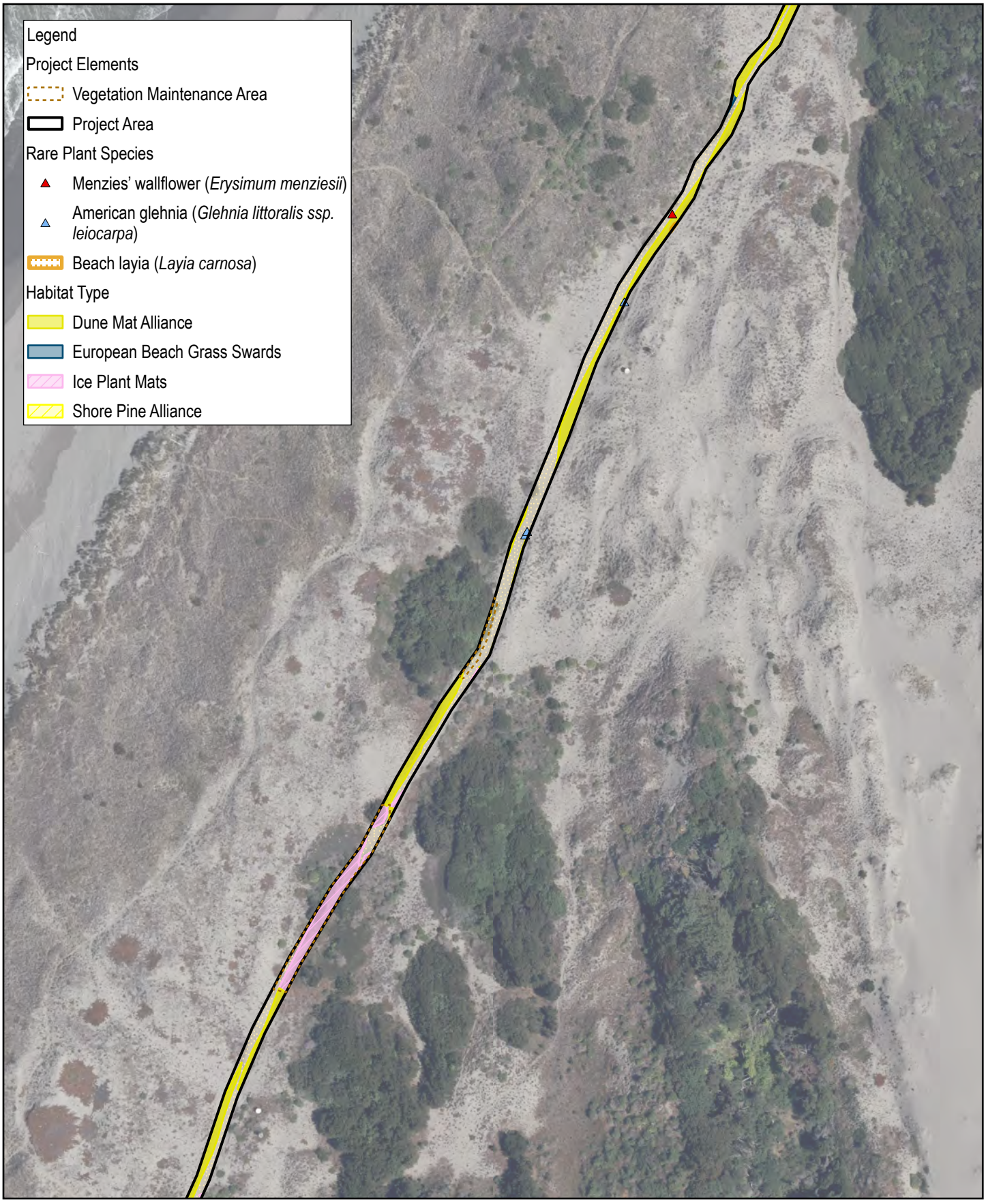
Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.15

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
Print date: 23 Jul 2026 - 16:46

Data source: Humboldt County, City of Eureka, 2023_mosaic: . Created by: jlopez4



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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

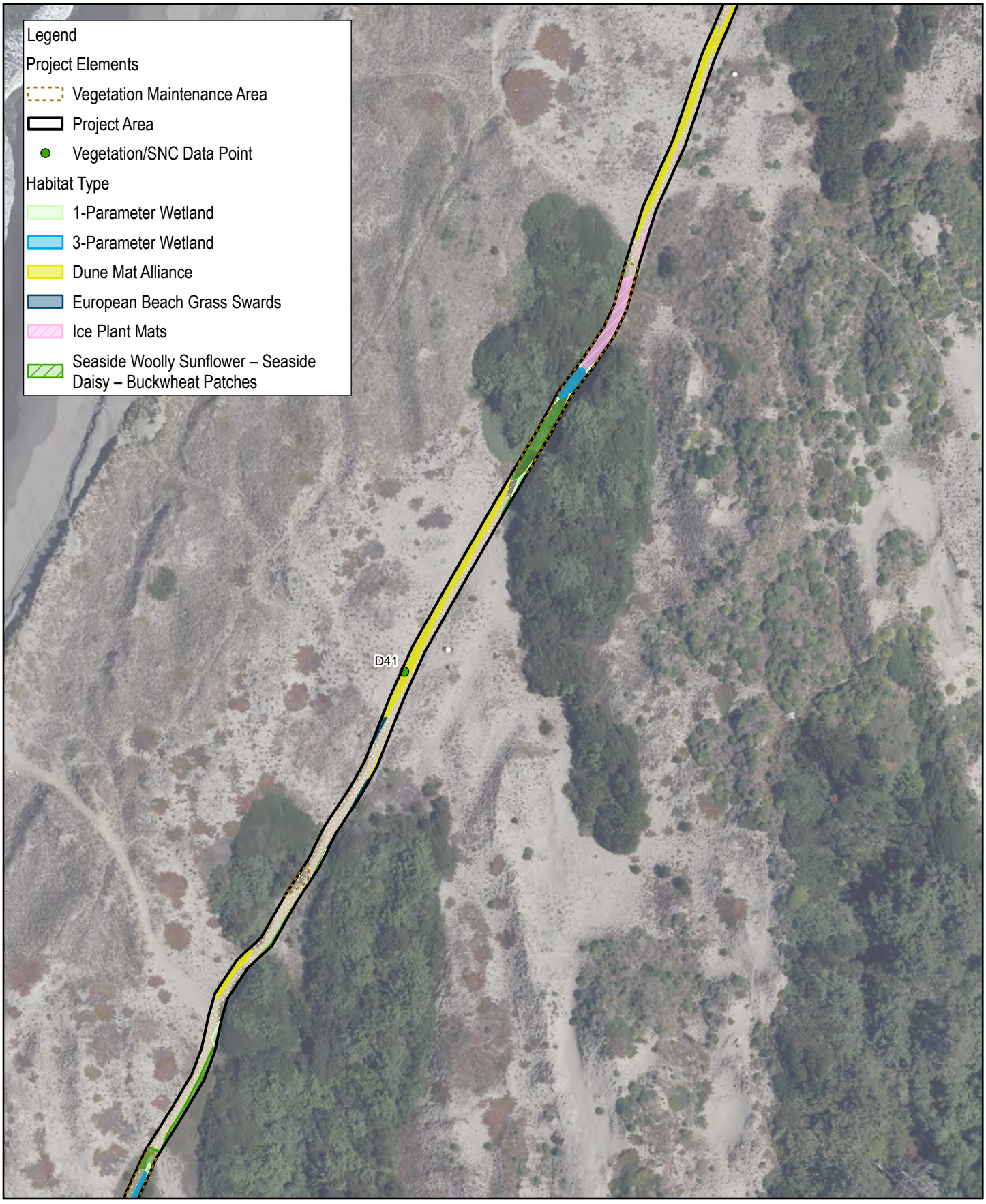
Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.16

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
Print date: 23 Jul 2026 - 16:46

Data source: Humboldt County, City of Eureka, 2023_mosaic: . Created by: jlopez4



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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

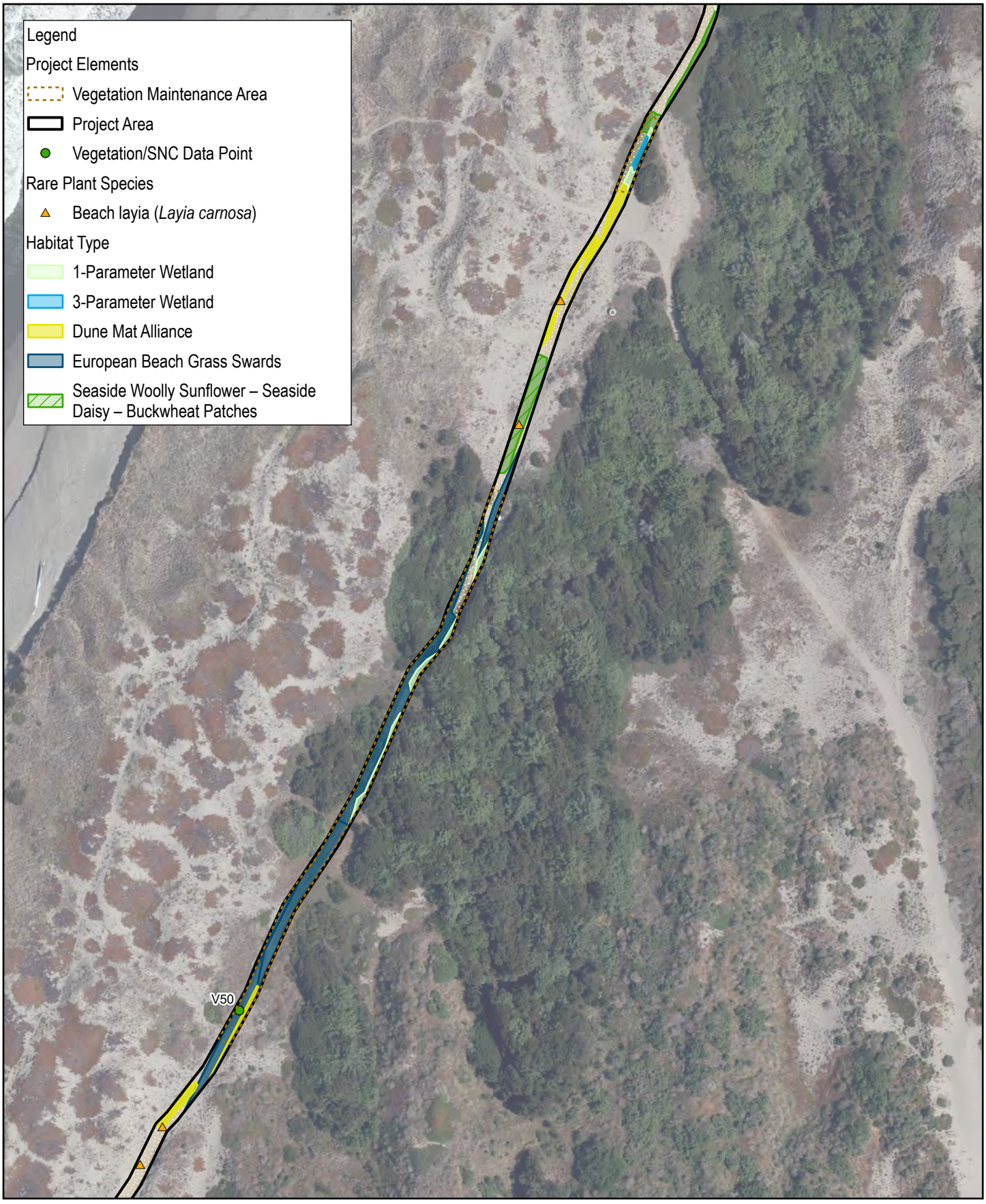
Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.17

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
Print date: 23 Jul 2026 - 16:47

Data source: Humboldt County, City of Eureka, 2023_mosaic: . Created by: jlopez4



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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

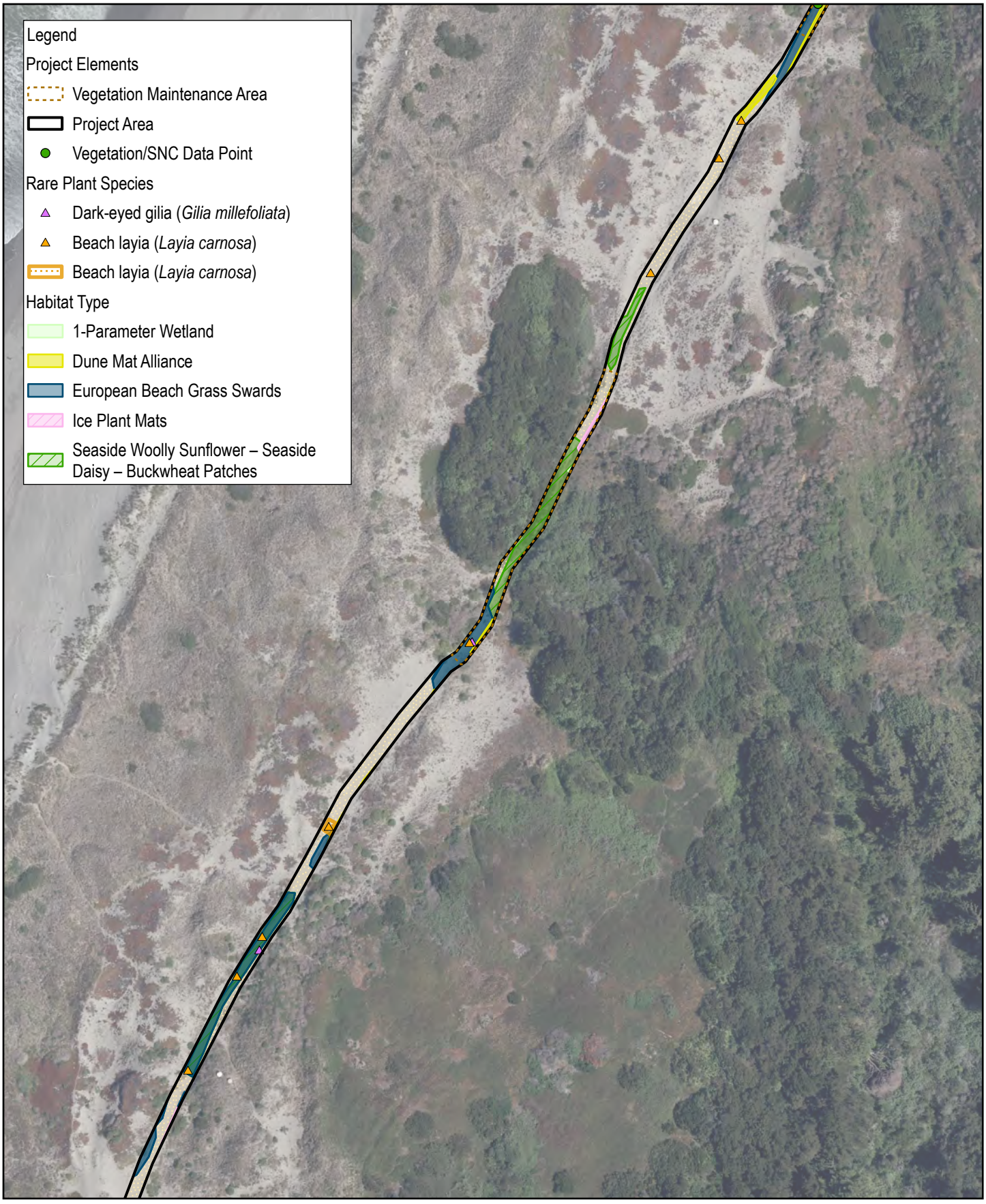
Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.18

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
Print date: 23 Jul 2026 - 16:47

Data source: Humboldt County, City of Eureka, 2023_mosaic: . Created by: jlopez4



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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

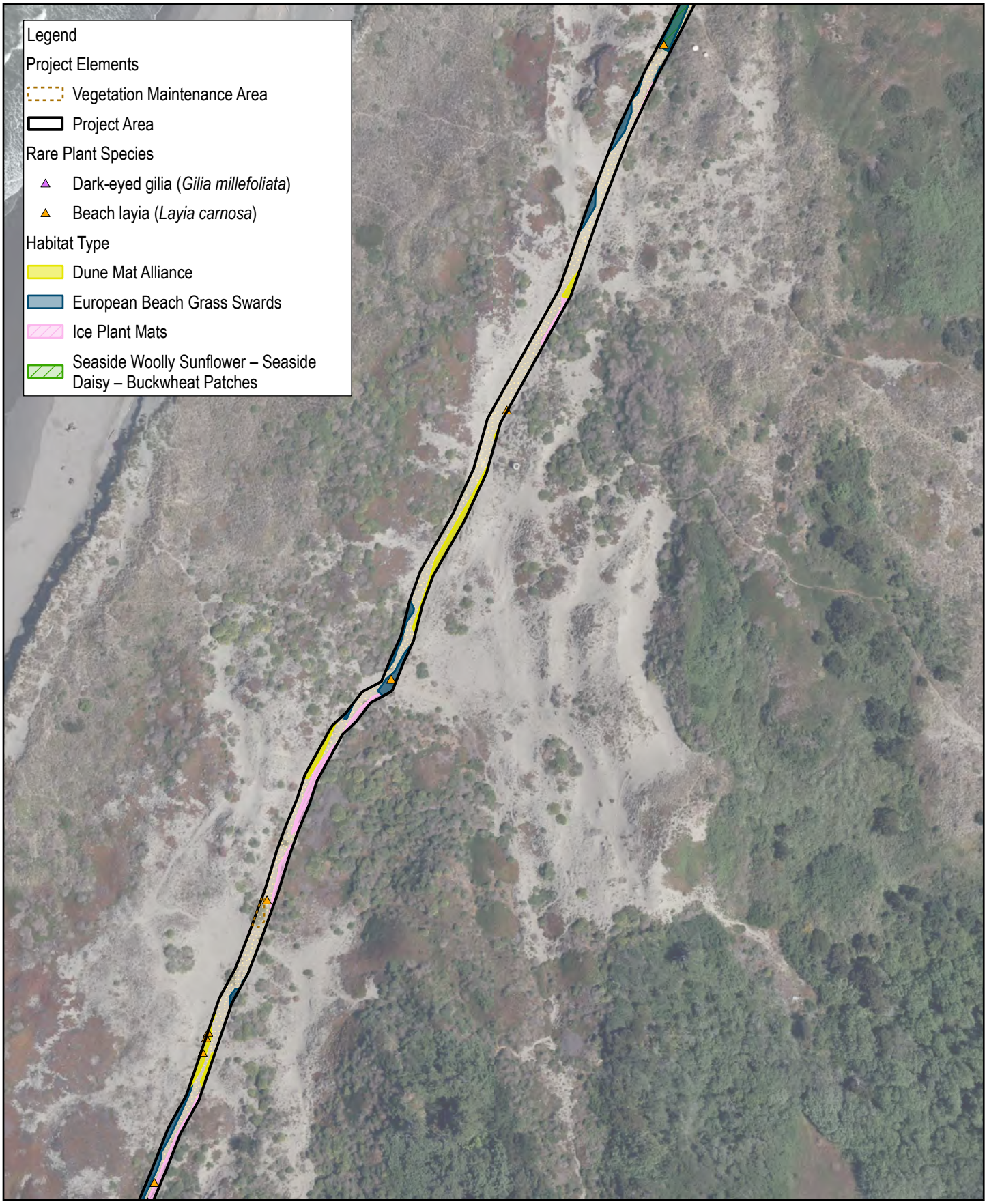
Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.19

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
Print date: 23 Jul 2026 - 16:47

Data source: Humboldt County, City of Eureka, 2023_mosaic: . Created by: jlopez4



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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

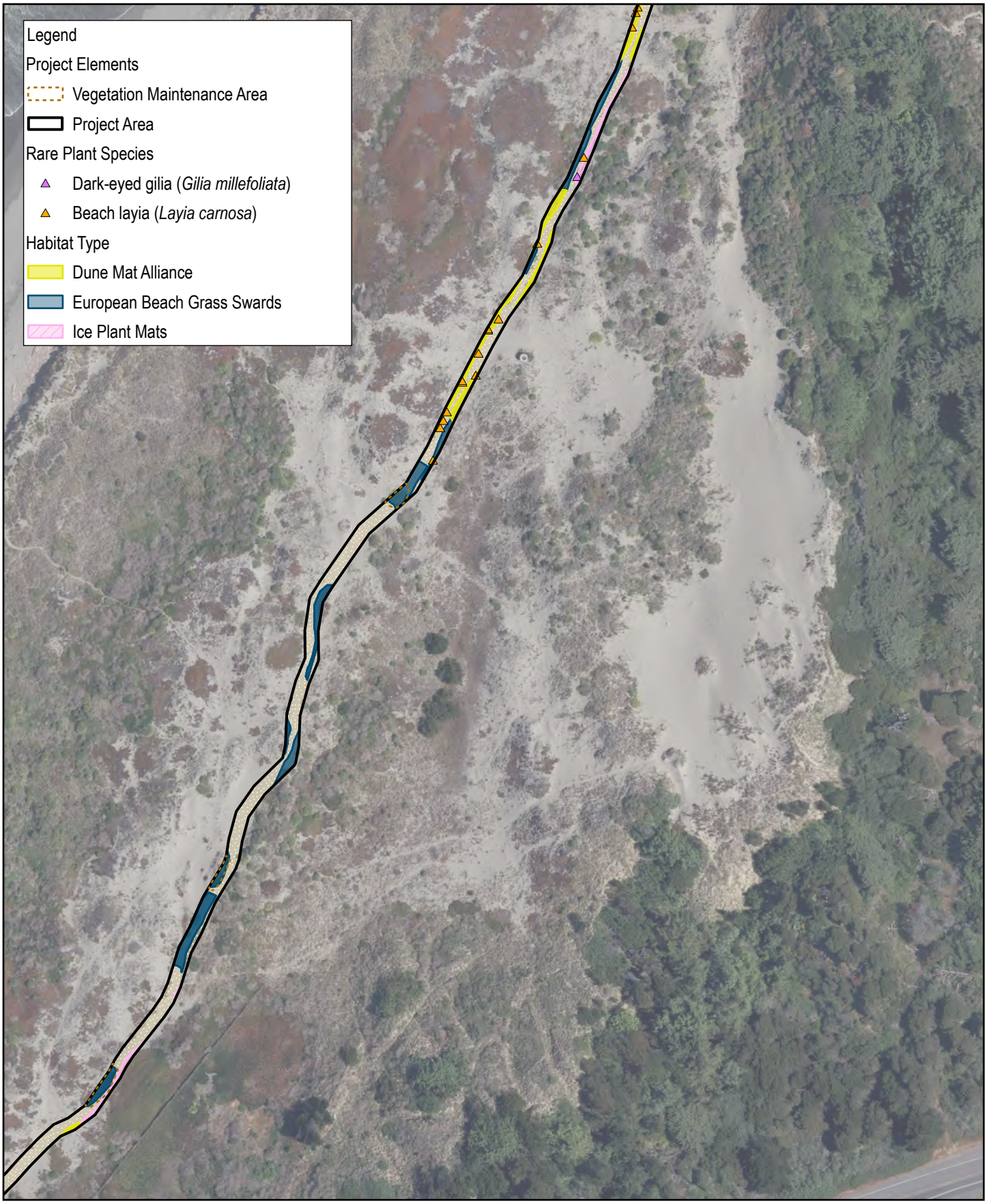
Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.20

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
Print date: 23 Jul 2026 - 16:47

Data source: Humboldt County, City of Eureka, 2023_mosaic: . Created by: jlopez4



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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.21

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
Print date: 23 Jul 2026 - 16:47

Data source: Humboldt County, City of Eureka, 2023_mosaic: . Created by: jlopez4



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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.22

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
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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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.23

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
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Data source: Humboldt County, City of Eureka, 2023_mosaic: . Created by: jlopez4



Paper Size ANSI A

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Feet

Map Projection: Lambert Conformal Conic
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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

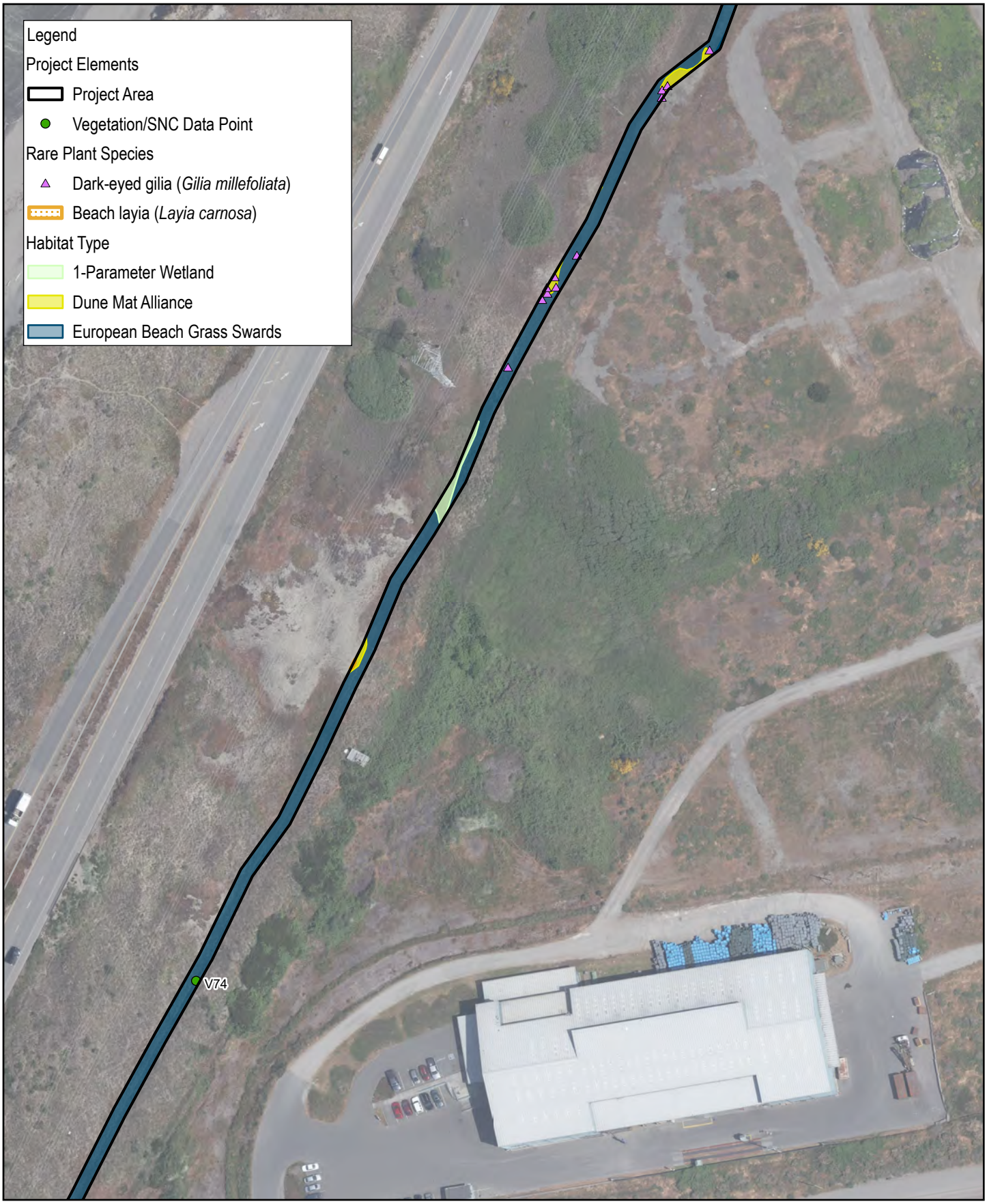
Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.24

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
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Data source: Humboldt County, City of Eureka, 2023_mosaic: . Created by: jlopez4



Paper Size ANSI A

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Feet

Map Projection: Lambert Conformal Conic
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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

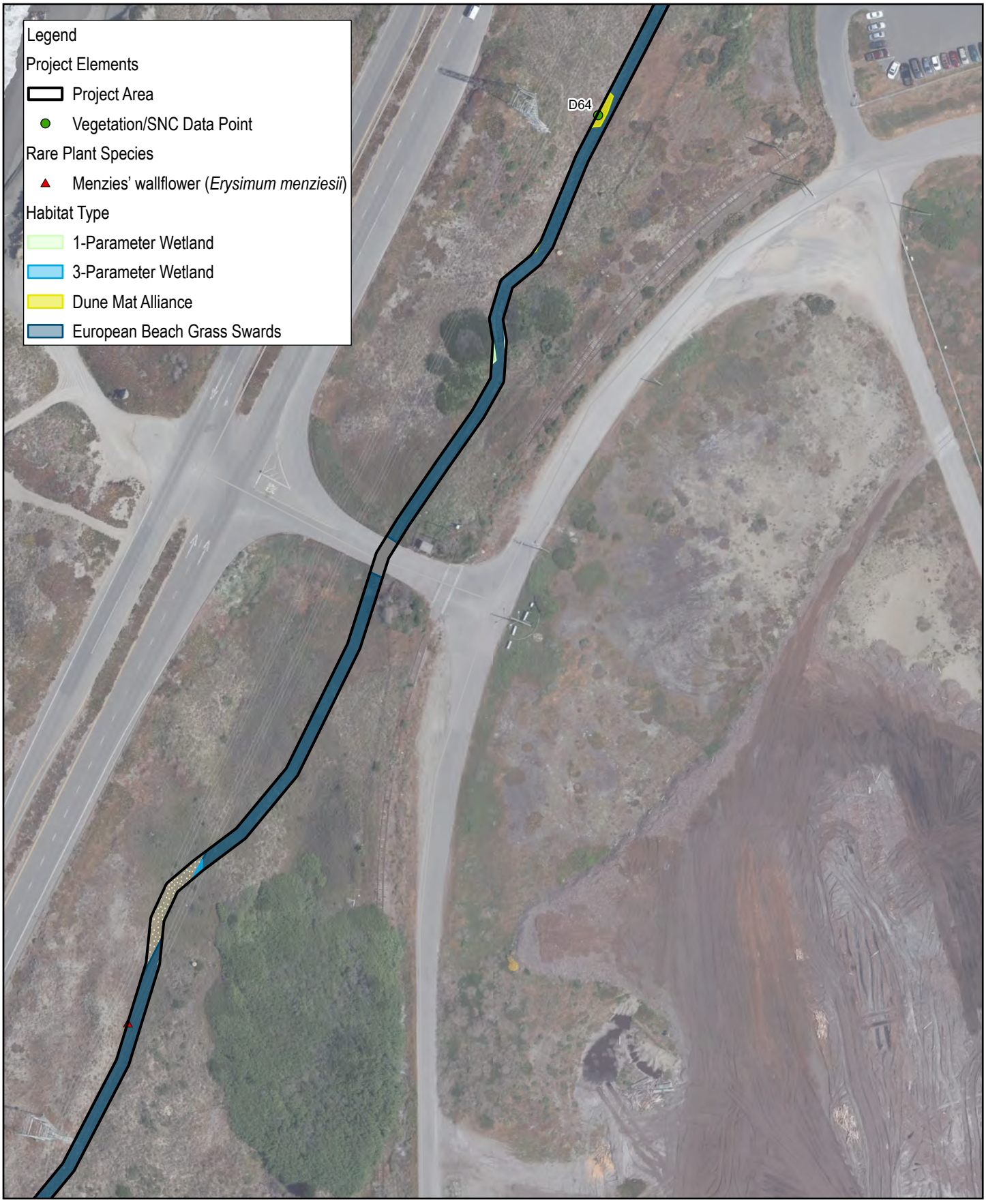
Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.25

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
Print date: 23 Jul 2026 - 16:49

Data source: Humboldt County, City of Eureka, 2023_mosaic: . Created by: jlopez4



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

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GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.26

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
Print date: 23 Jul 2026 - 16:50

Data source: Humboldt County, City of Eureka, 2023_mosaic: . Created by: jlopez4



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

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GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

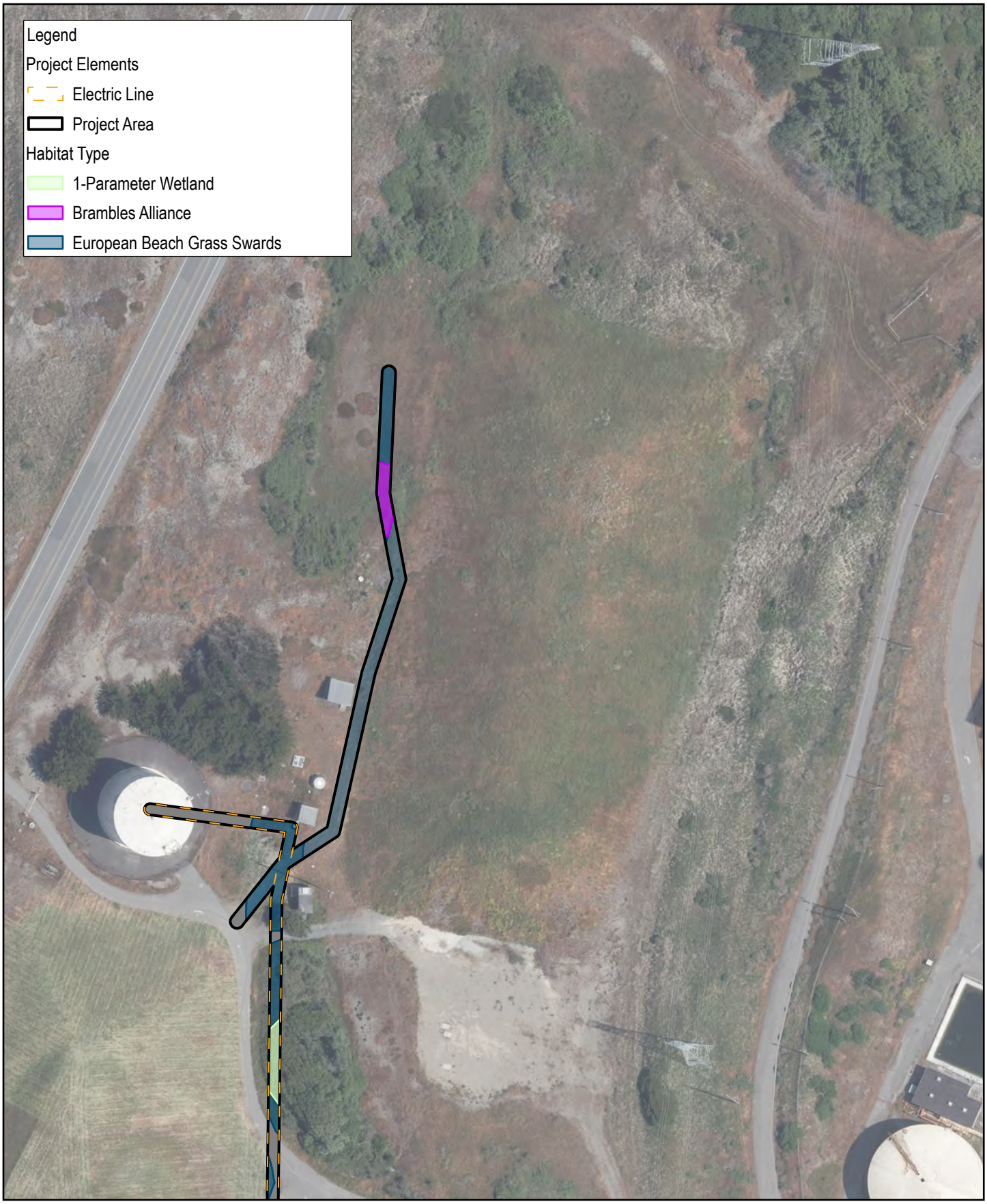
Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.27

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
Print date: 23 Jul 2026 - 16:50

Data source: Humboldt County, City of Eureka, 2023_mosaic: . Created by: jlopez4



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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
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Date **Jul 2026**

FIGURE 3.3-2.28

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
Print date: 23 Jul 2026 - 16:51

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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

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GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

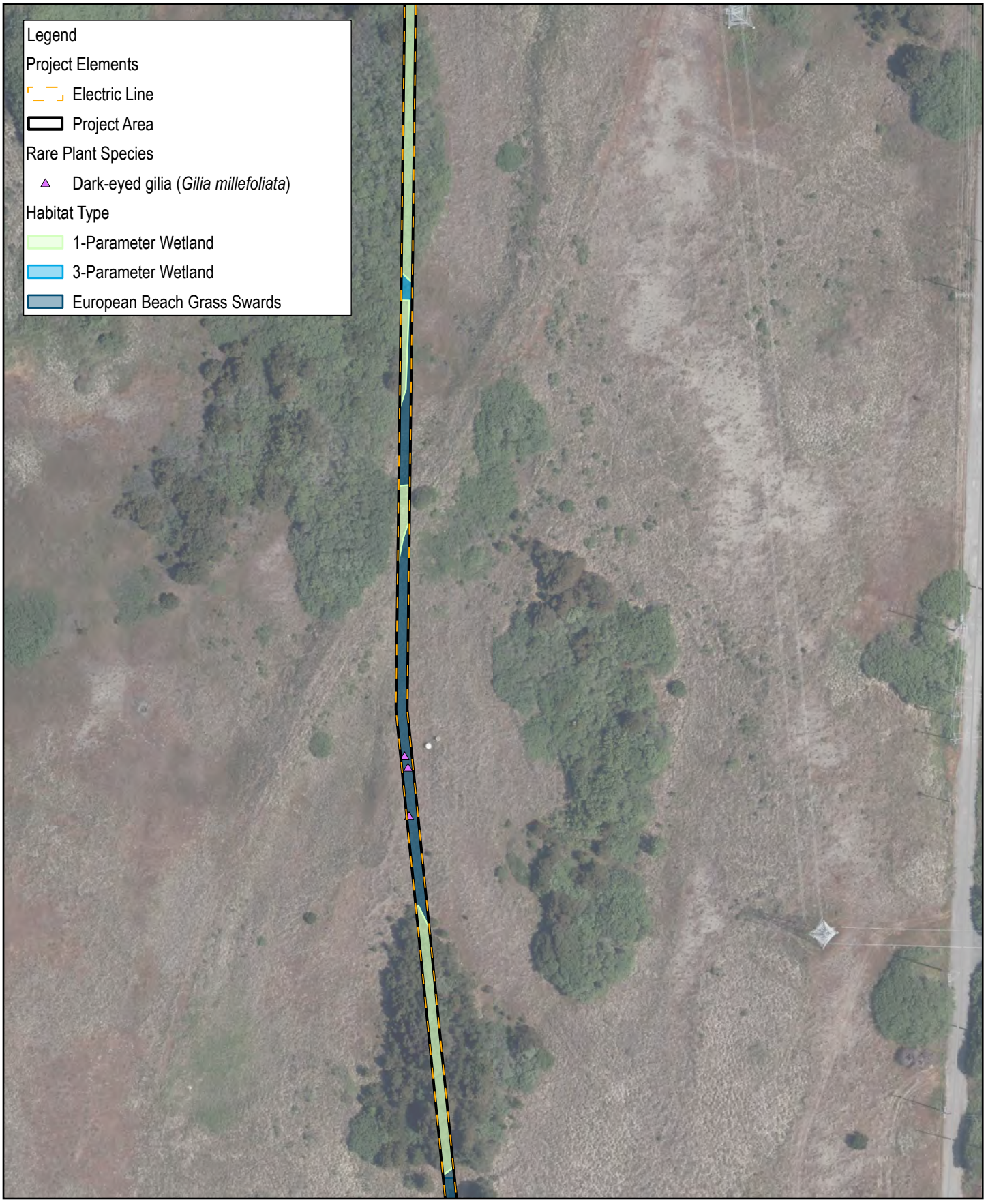
Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.29

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
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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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.30

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
Print date: 23 Jul 2026 - 16:52

Data source: Humboldt County, City of Eureka, 2023_mosaic: . Created by: jlopez4



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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.31

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
Print date: 23 Jul 2026 - 16:53

Data source: Humboldt County, City of Eureka, 2023_mosaic: . Created by: jlopez4



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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

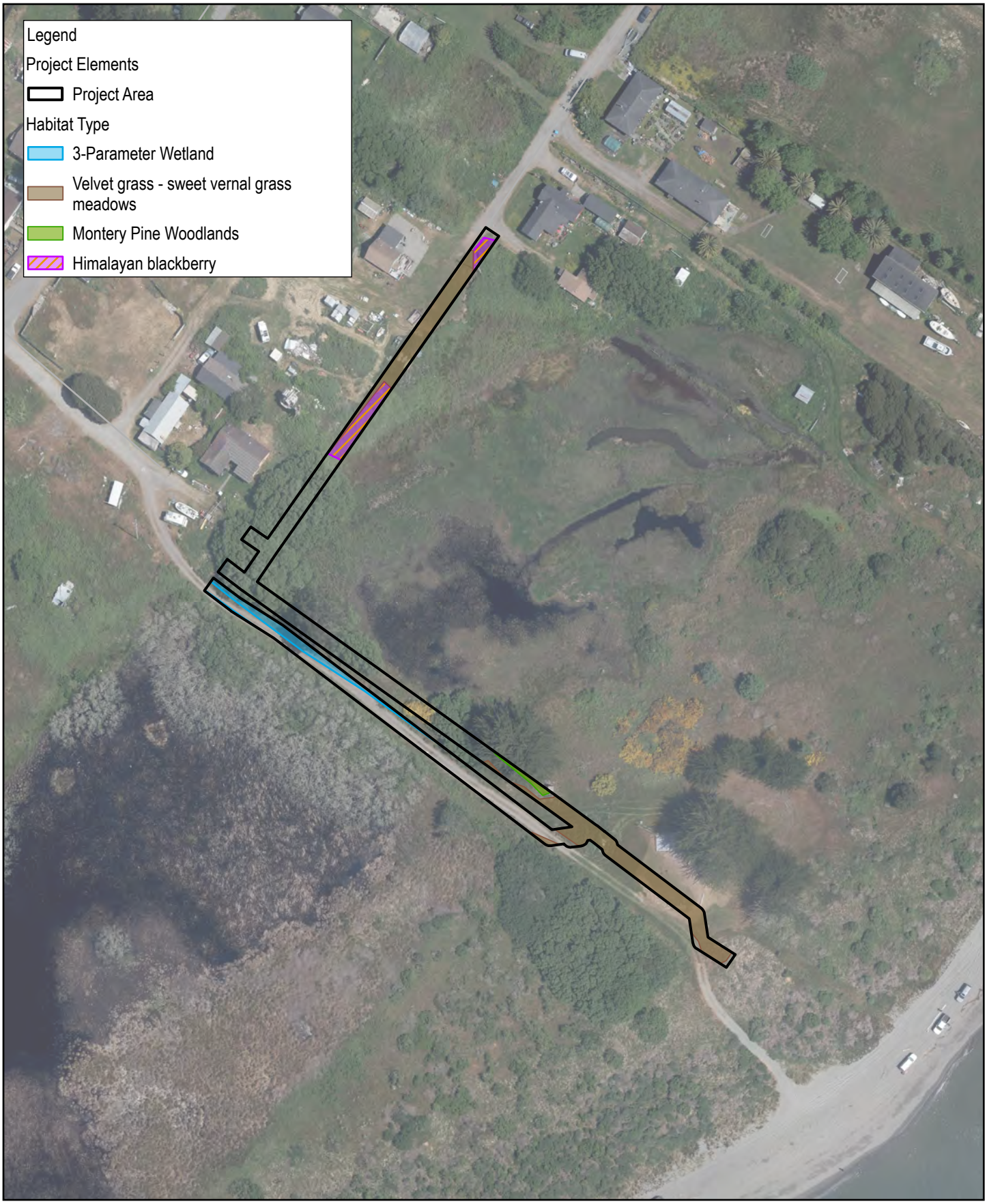
Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.32

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
Print date: 23 Jul 2026 - 16:53

Data source: Humboldt County, City of Eureka, 2023_mosaic: . Created by: jlopez4



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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.33

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
Print date: 23 Jul 2026 - 16:54

Data source: Humboldt County, City of Eureka, 2023_mosaic: . Created by: jlopez4



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

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GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Observed Special Status Plants, Upland SNCs/ESHA, and Wetlands

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.3-2.34

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_151_Fig3.3.2-41_SNC_RarePlants_RevL
Print date: 23 Jul 2026 - 16:54

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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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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Wetland Delineation
Map Series Overview

Project No. **12603983**
Revision No. **F**
Date **Jul 2026**

FIGURE 3.3-3

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_006_Fig3.3-3_WetlandDelin_Overview_RevF
Print date: 22 Jul 2026 - 12:19

Data source: World Imagery (Clarity): This work is licensed under the Esri Master License Agreement.View Summary | View Terms of UseExport: This layer is not intended to be used to export tiles for offline. Data Collection and Editing: This layer may be used in various ArcGIS apps to support data collection and editing, with the results used internally or shared with others, as described for these use cases.. Created by: jlopez4



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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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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Project No. **12603983**
Revision No. **O**
Date **Jul 2026**

Wetland Delineation

FIGURE 3.3-3.1

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_0013_Fig3.3.3.1-23_WetlandDelineation_MapSeries_RevP
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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

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GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

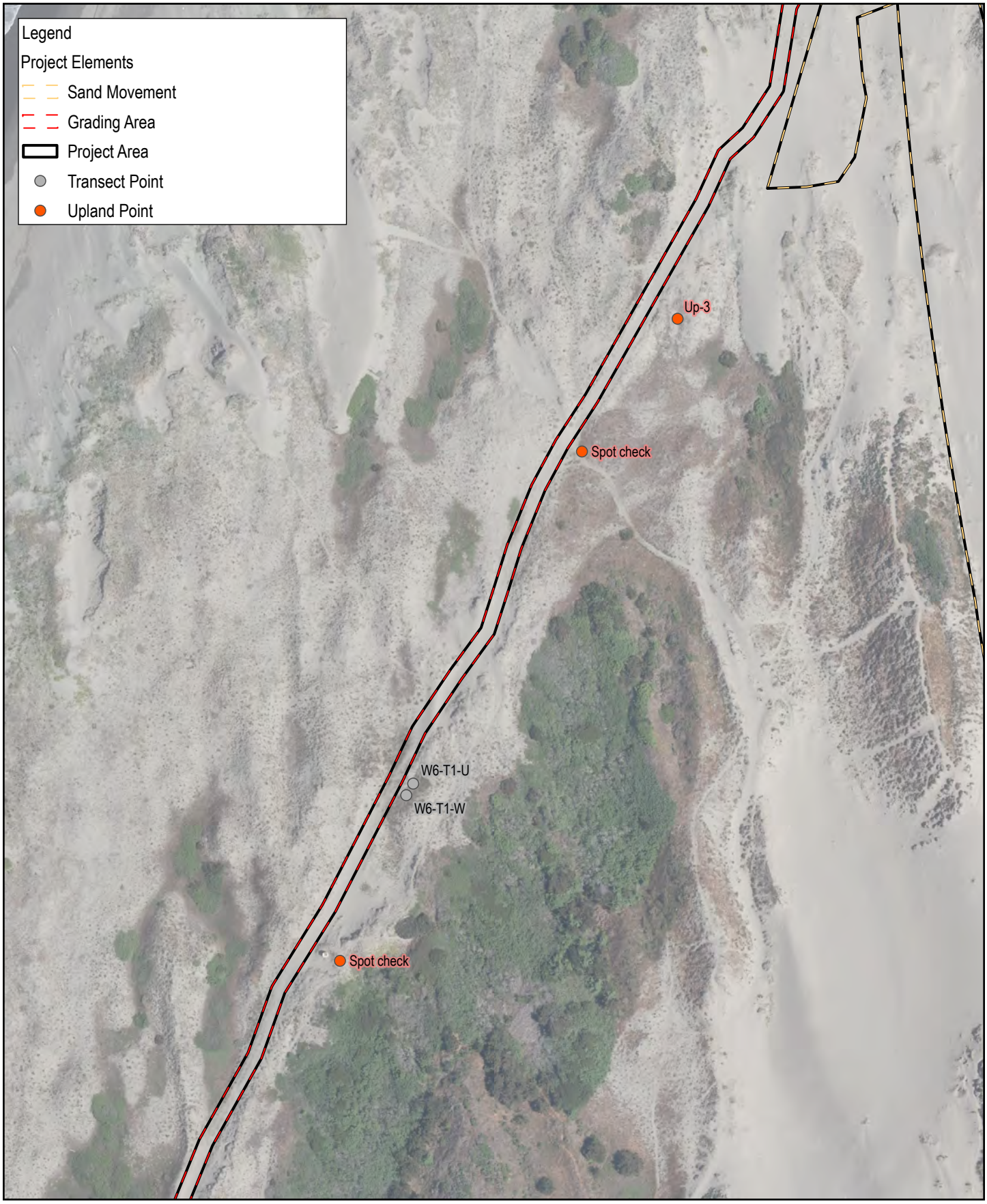
Project No. **12603983**
Revision No. **O**
Date **Jul 2026**

Wetland Delineation

FIGURE 3.3-3.2

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Print date: 23 Jul 2026 - 13:11

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Paper Size ANSI A

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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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GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

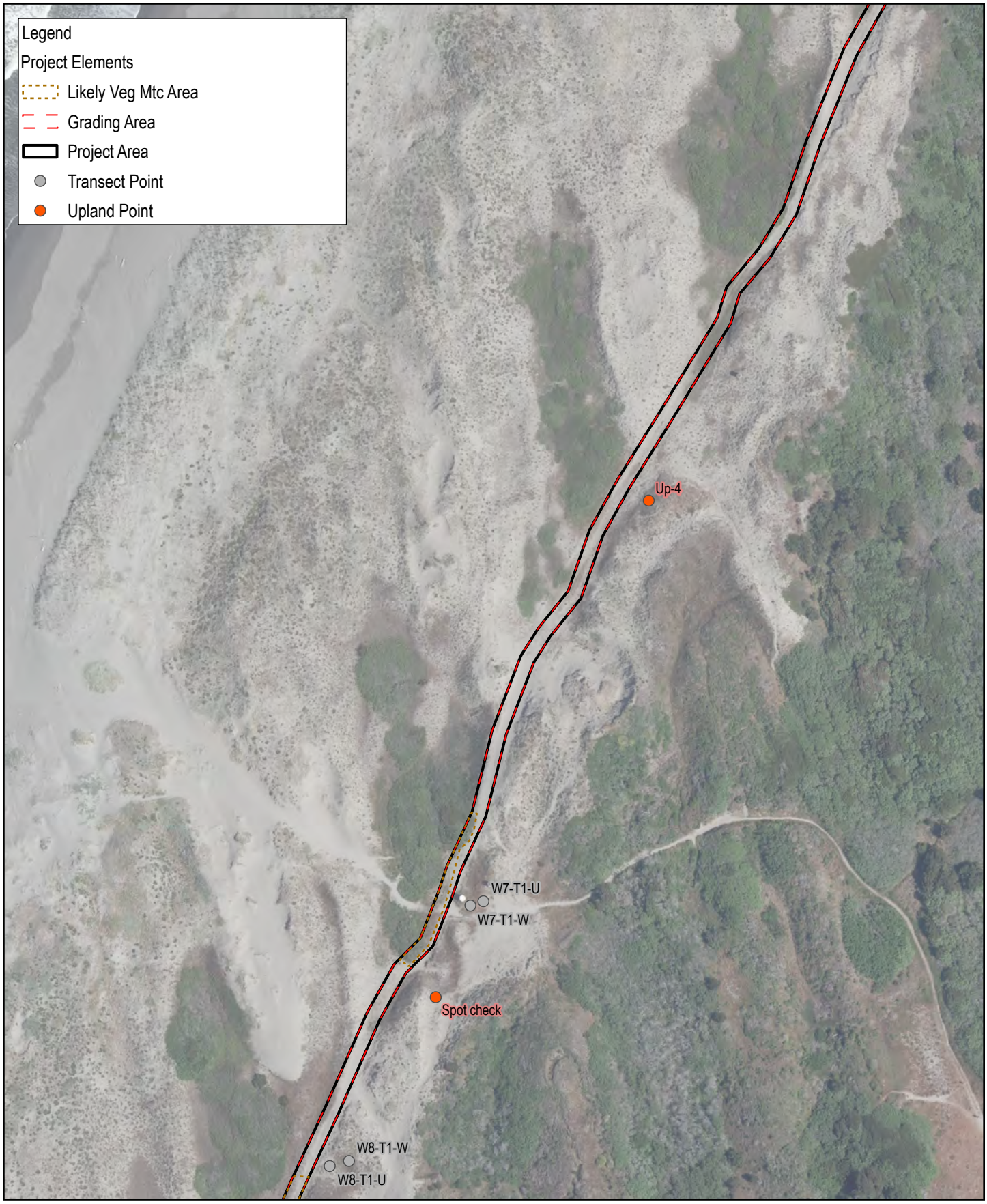
Project No. **12603983**
Revision No. **O**
Date **Jul 2026**

Wetland Delineation

FIGURE 3.3-3.3

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Print date: 23 Jul 2026 - 13:12

Data source: Humboldt County, HBMWD, GHD, 2023_mosaic: City of Eureka. Created by: jlopez4



Paper Size ANSI A

0 100

Feet

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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

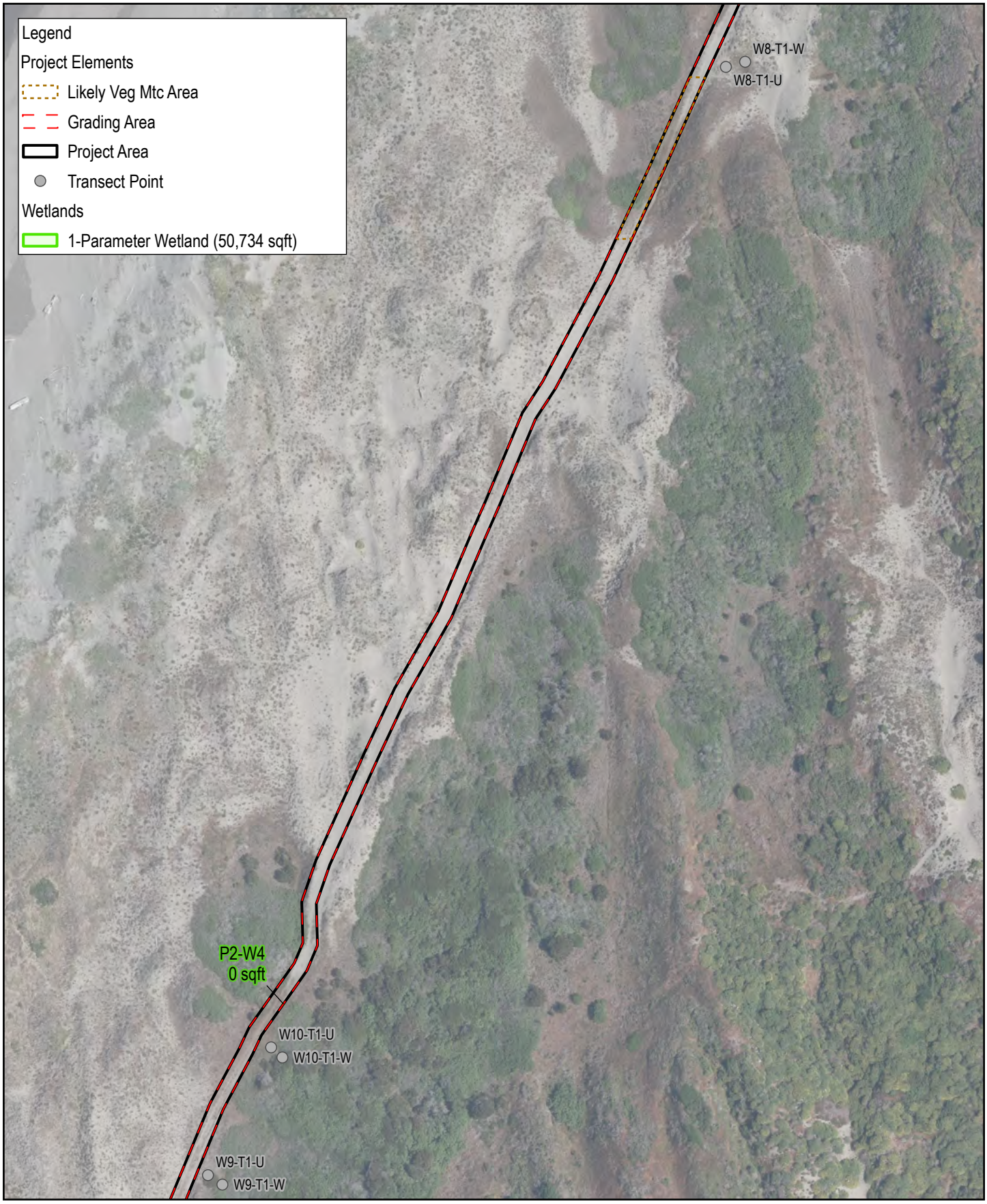
Project No. **12603983**
Revision No. **O**
Date **Jul 2026**

Wetland Delineation

FIGURE 3.3-3.4

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Print date: 23 Jul 2026 - 13:12

Data source: Humboldt County, HBMWD, GHD, 2023_mosaic: City of Eureka. Created by: jlopez4



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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Project No. **12603983**
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Date **Jul 2026**

Wetland Delineation

FIGURE 3.3-3.5

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_0013_Fig3.3.3.1-23_WetlandDelineation_MapSeries_RevP
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Paper Size ANSI A

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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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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

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Revision No. **O**
Date **Jul 2026**

Wetland Delineation

FIGURE 3.3-3.6

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_0013_Fig3.3.3.1-23_WetlandDelineation_MapSeries_RevP
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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

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GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

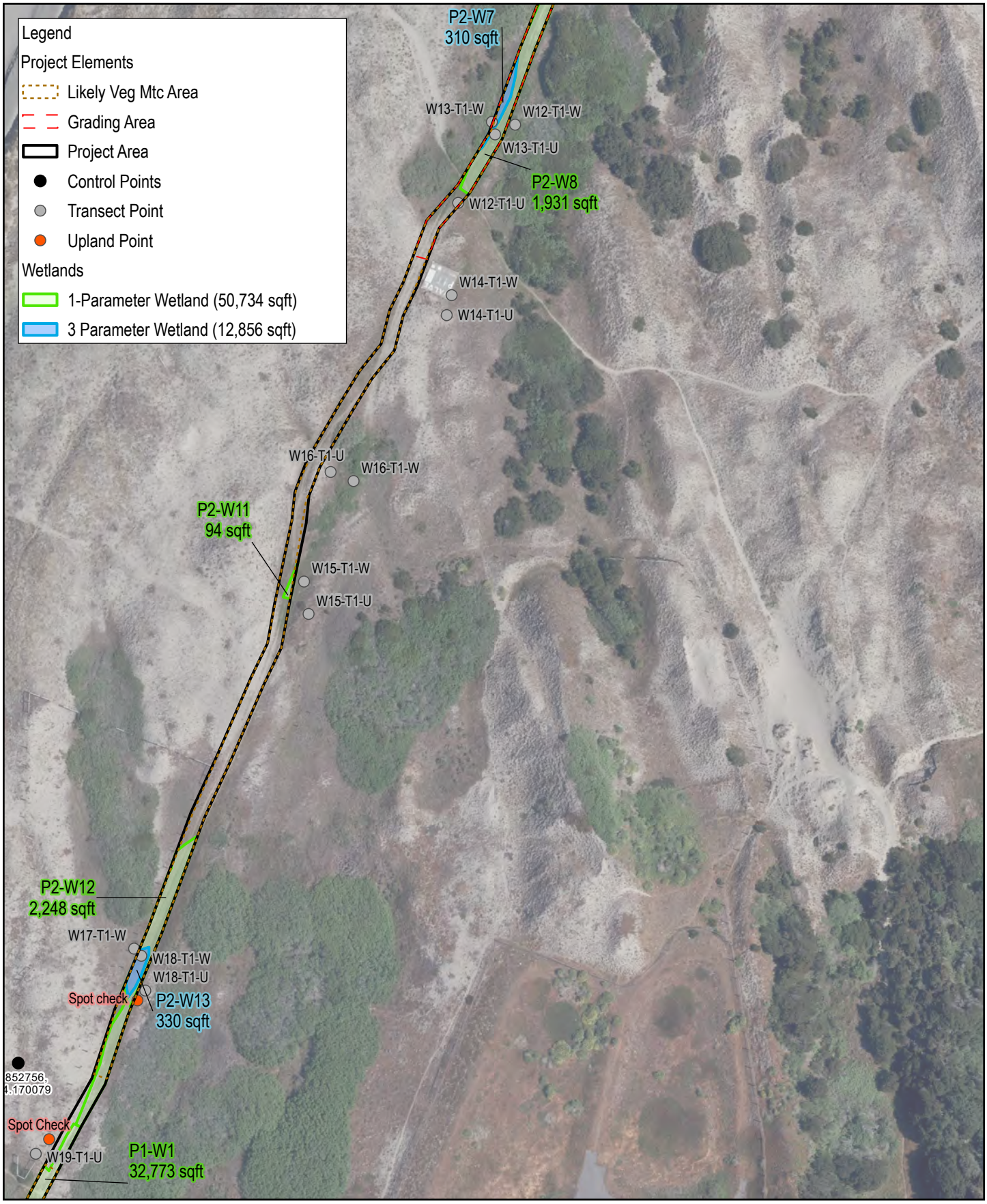
Project No. **12603983**
Revision No. **O**
Date **Jul 2026**

Wetland Delineation

FIGURE 3.3-3.7

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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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Project No. **12603983**
Revision No. **O**
Date **Jul 2026**

Wetland Delineation

FIGURE 3.3-3.8

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_0013_Fig3.3.3.1-23_WetlandDelineation_MapSeries_RevP
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Data source: Humboldt County, HBMWD, GHD, 2023_mosaic: City of Eureka. Created by: jlopez4



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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

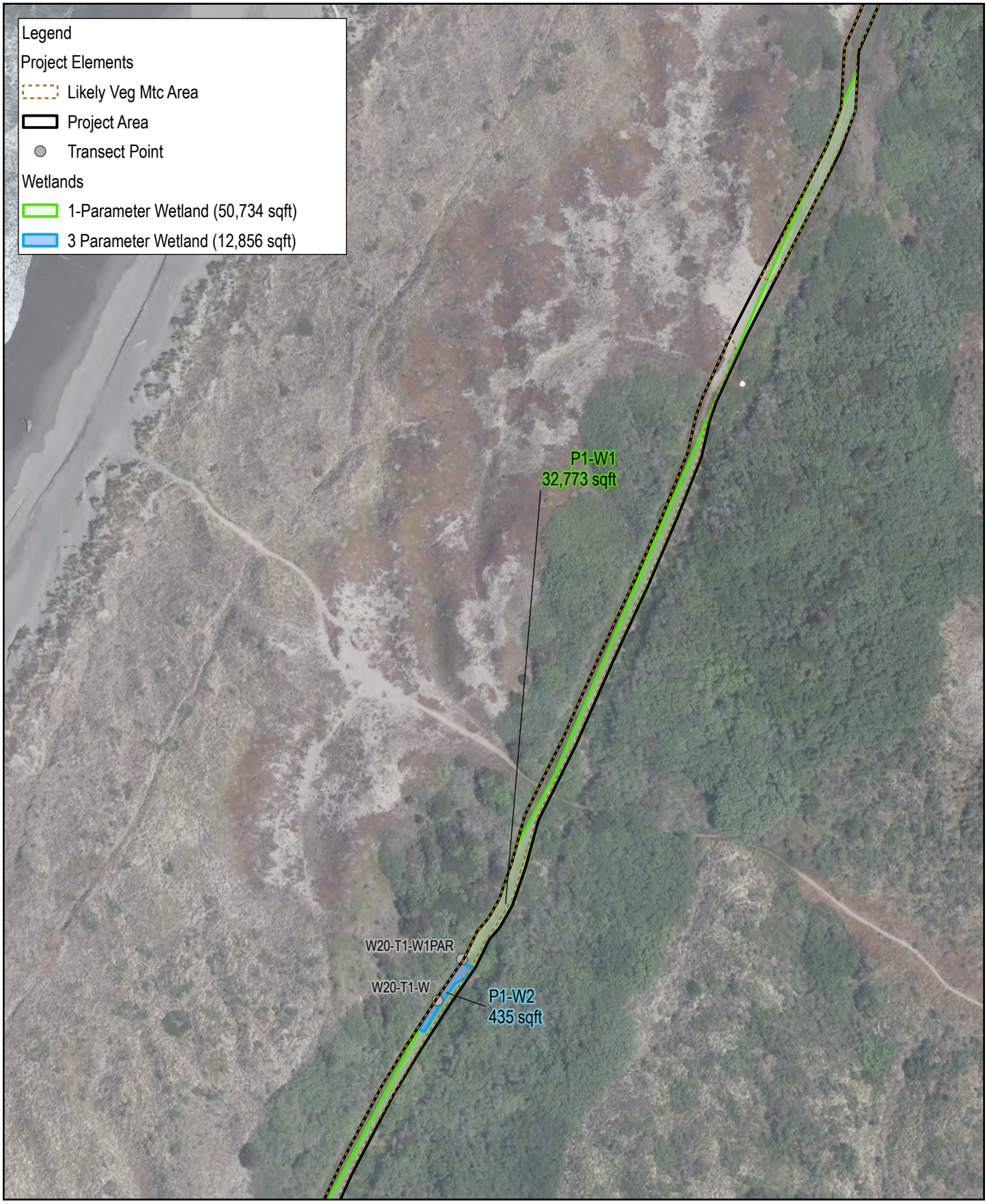
Project No. **12603983**
Revision No. **O**
Date **Jul 2026**

Wetland Delineation

FIGURE 3.3-3.9

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Print date: 23 Jul 2026 - 13:14

Data source: Humboldt County, HBMWD, GHD, 2023_mosaic: City of Eureka. Created by: jlopez4



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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

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Wetland Delineation

FIGURE 3.3-3.10

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_0013_Fig3.3.3.1-23_WetlandDelineation_MapSeries_RevP
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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

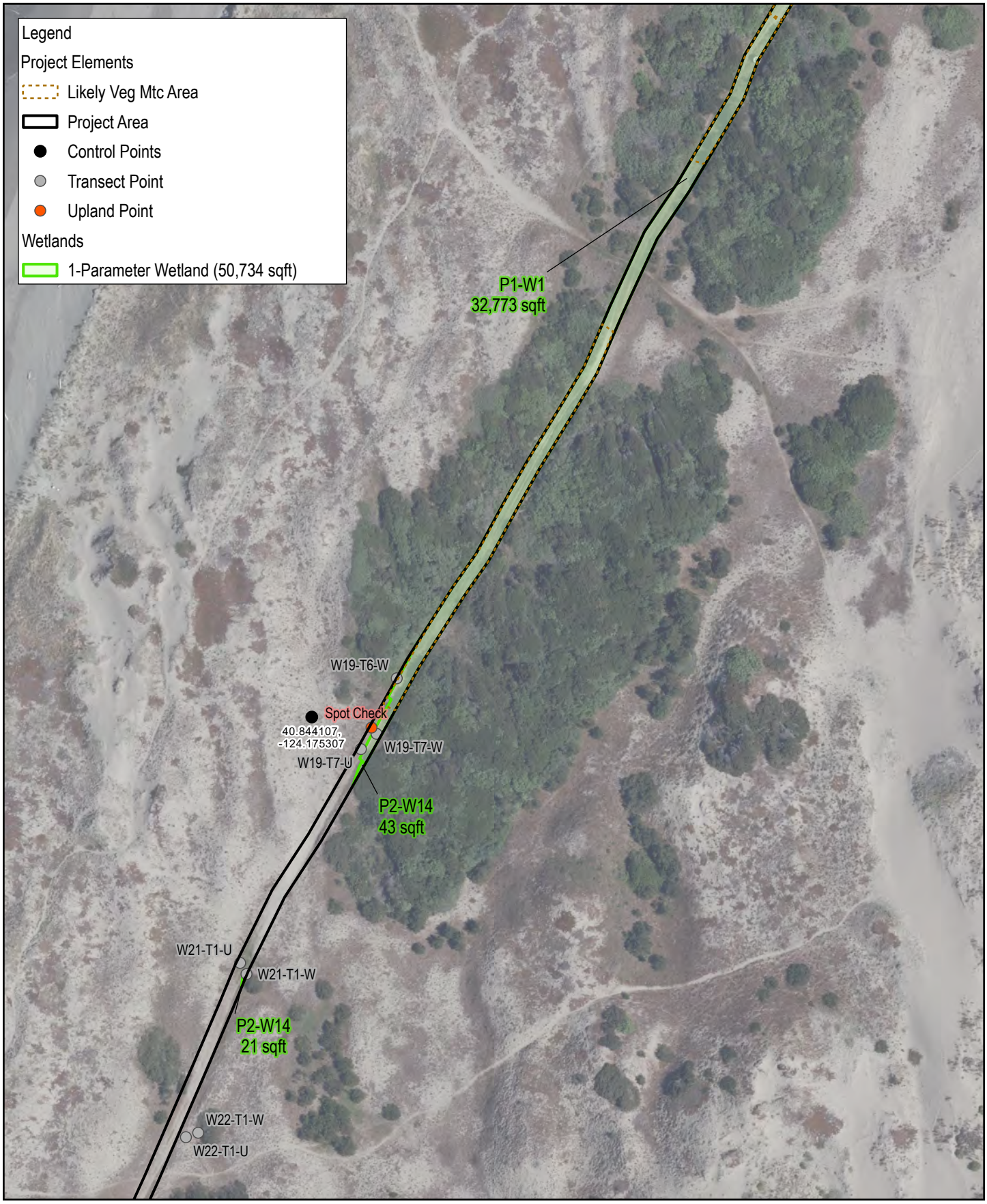
Project No. **12603983**
Revision No. **O**
Date **Jul 2026**

Wetland Delineation

FIGURE 3.3-3.11

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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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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

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Date **Jul 2026**

Wetland Delineation

FIGURE 3.3-3.12

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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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

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Wetland Delineation

FIGURE 3.3-3.13

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Print date: 23 Jul 2026 - 13:16

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Feet

Map Projection: Lambert Conformal Conic
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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

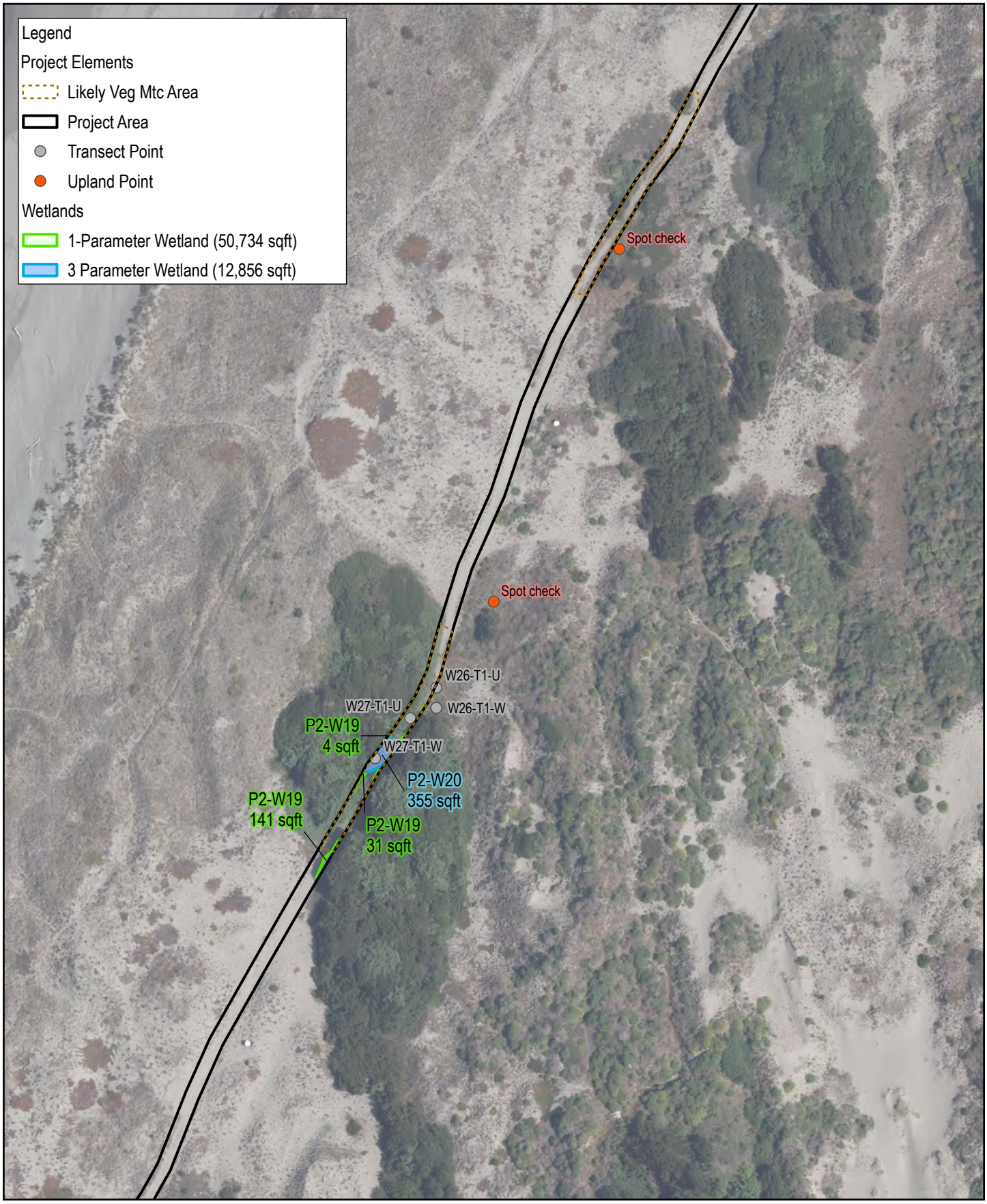
Project No. **12603983**
Revision No. **O**
Date **Jul 2026**

Wetland Delineation

FIGURE 3.3-3.14

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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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Wetland Delineation

Project No. **12603983**
Revision No. **O**
Date **Jul 2026**

FIGURE 3.3-3.15

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_0013_Fig3.3.3.1-23_WetlandDelineation_MapSeries_RevP
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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

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Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Project No. **12603983**
Revision No. **O**
Date **Jul 2026**

Wetland Delineation

FIGURE 3.3-3.16

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_0013_Fig3.3.3.1-23_WetlandDelineation_MapSeries_RevP
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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

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Revision No. **O**
Date **Jul 2026**

Wetland Delineation

FIGURE 3.3-3.17

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Print date: 23 Jul 2026 - 13:18

Data source: Humboldt County, HBMWD, GHD, 2023_mosaic: City of Eureka. Created by: jlopez4



Paper Size ANSI A

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Map Projection: Lambert Conformal Conic
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Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

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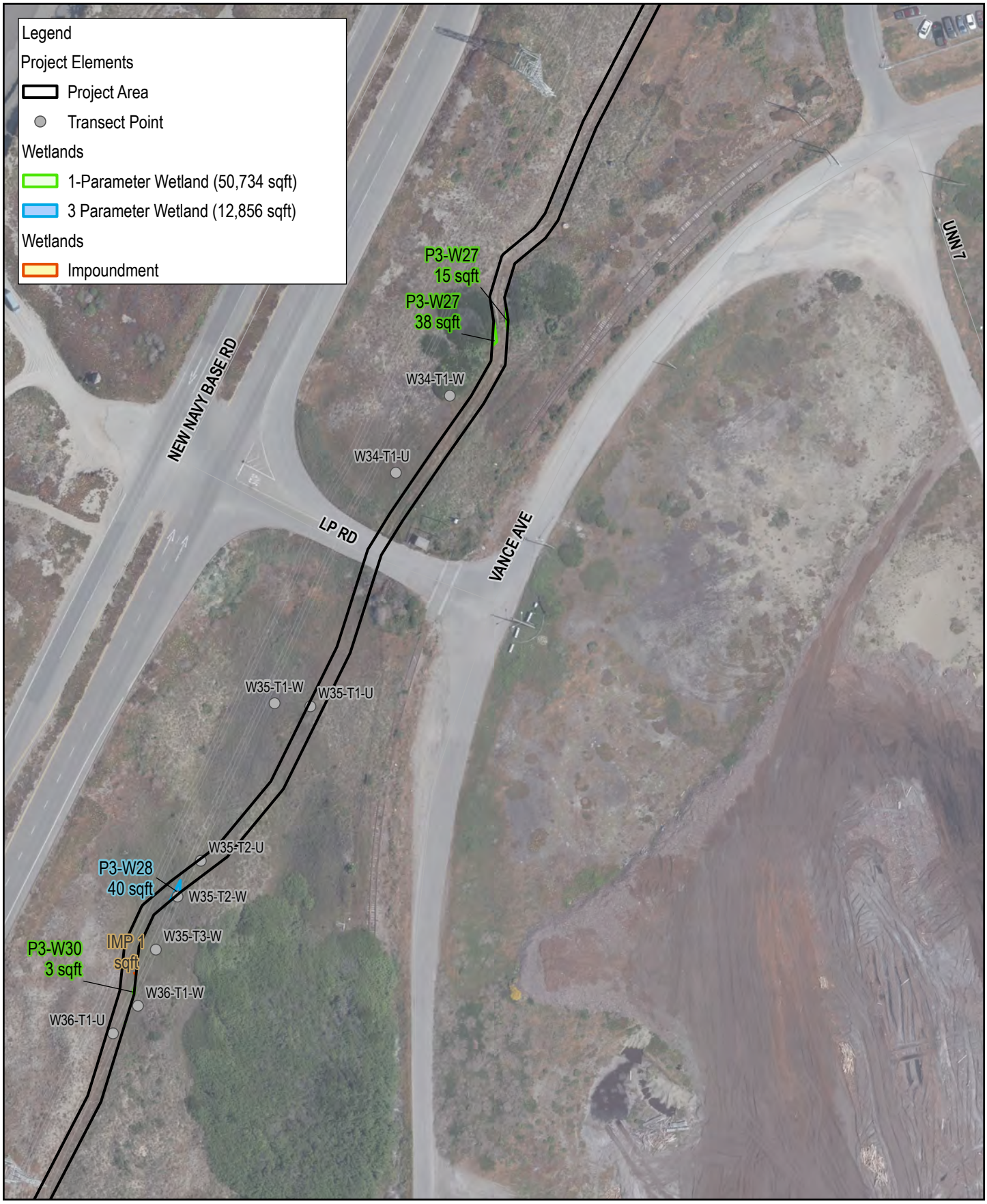
Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Project No. **12603983**
Revision No. **O**
Date **Jul 2026**

Wetland Delineation

FIGURE 3.3-3.18

Data source: Humboldt County, HBMWD, GHD, 2023_mosaic: City of Eureka. Created by: jlopez4



Paper Size ANSI A

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Map Projection: Lambert Conformal Conic
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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

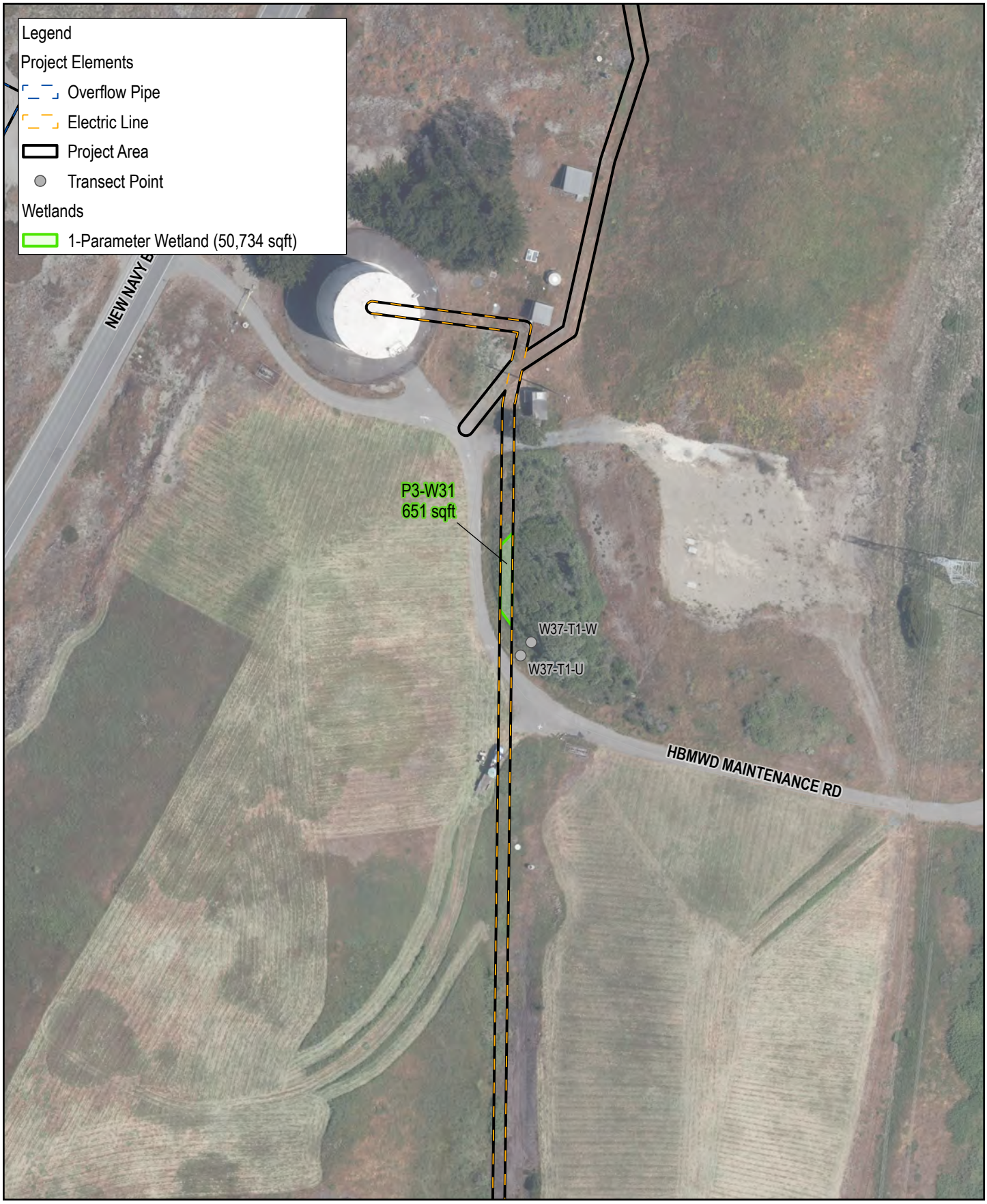
Project No. **12603983**
Revision No. **O**
Date **Jul 2026**

Wetland Delineation

FIGURE 3.3-3.19

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Paper Size ANSI A

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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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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Project No. **12603983**
Revision No. **O**
Date **Jul 2026**

Wetland Delineation

FIGURE 3.3-3.20

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Data source: Humboldt County, HBMWD, GHD, 2023_mosaic: City of Eureka. Created by: jlopez4



Paper Size ANSI A

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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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GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

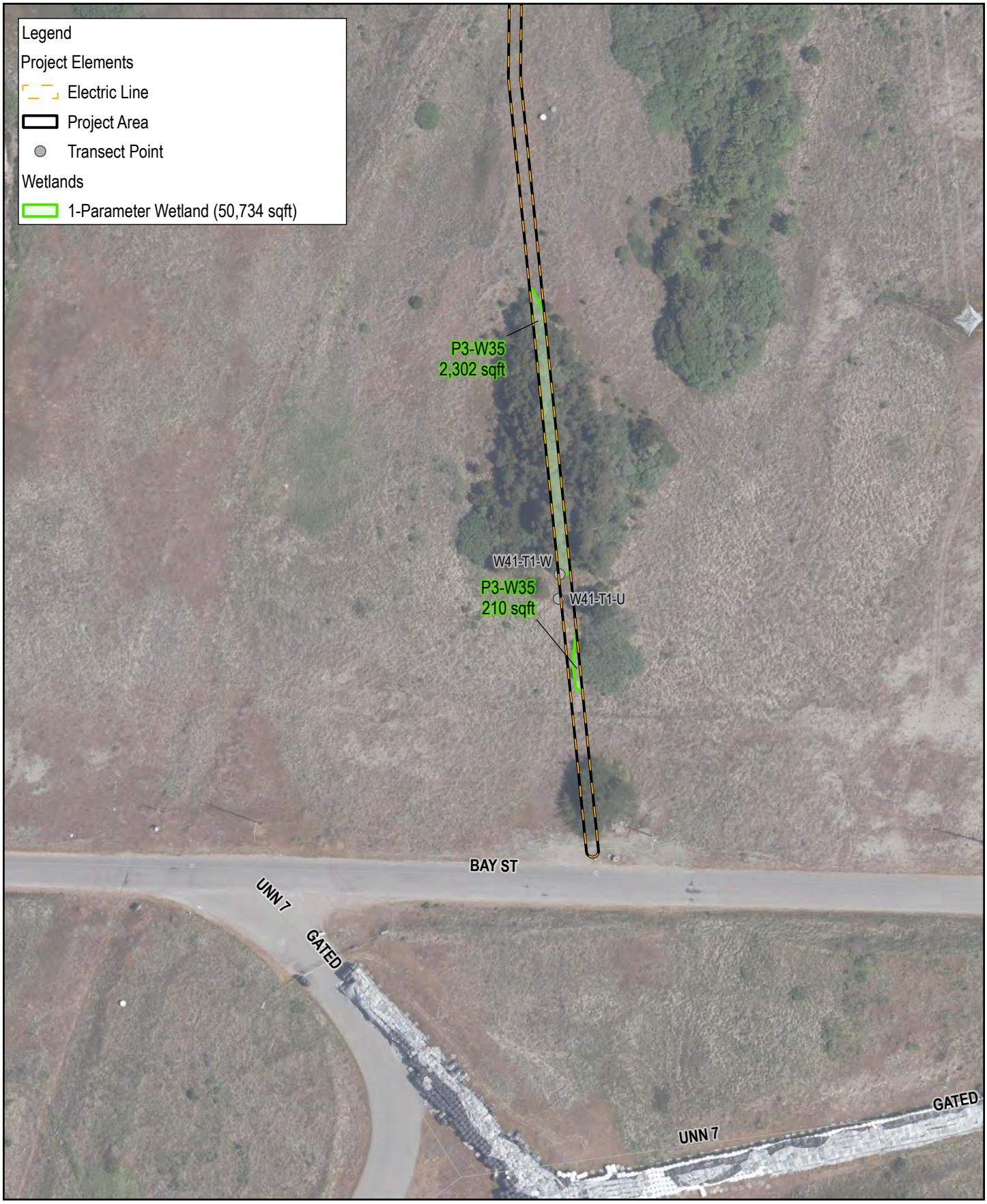
Project No. **12603983**
Revision No. **O**
Date **Jul 2026**

Wetland Delineation

FIGURE 3.3-3.21

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Print date: 23 Jul 2026 - 13:19

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Paper Size ANSI A

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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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GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Project No. **12603983**
Revision No. **O**
Date **Jul 2026**

Wetland Delineation

FIGURE 3.3-3.22

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Paper Size ANSI A

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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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GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Project No. **12603983**
Revision No. **O**
Date **Jul 2026**

Wetland Delineation

FIGURE 3.3-3.23

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Map Projection: Lambert Conformal Conic
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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

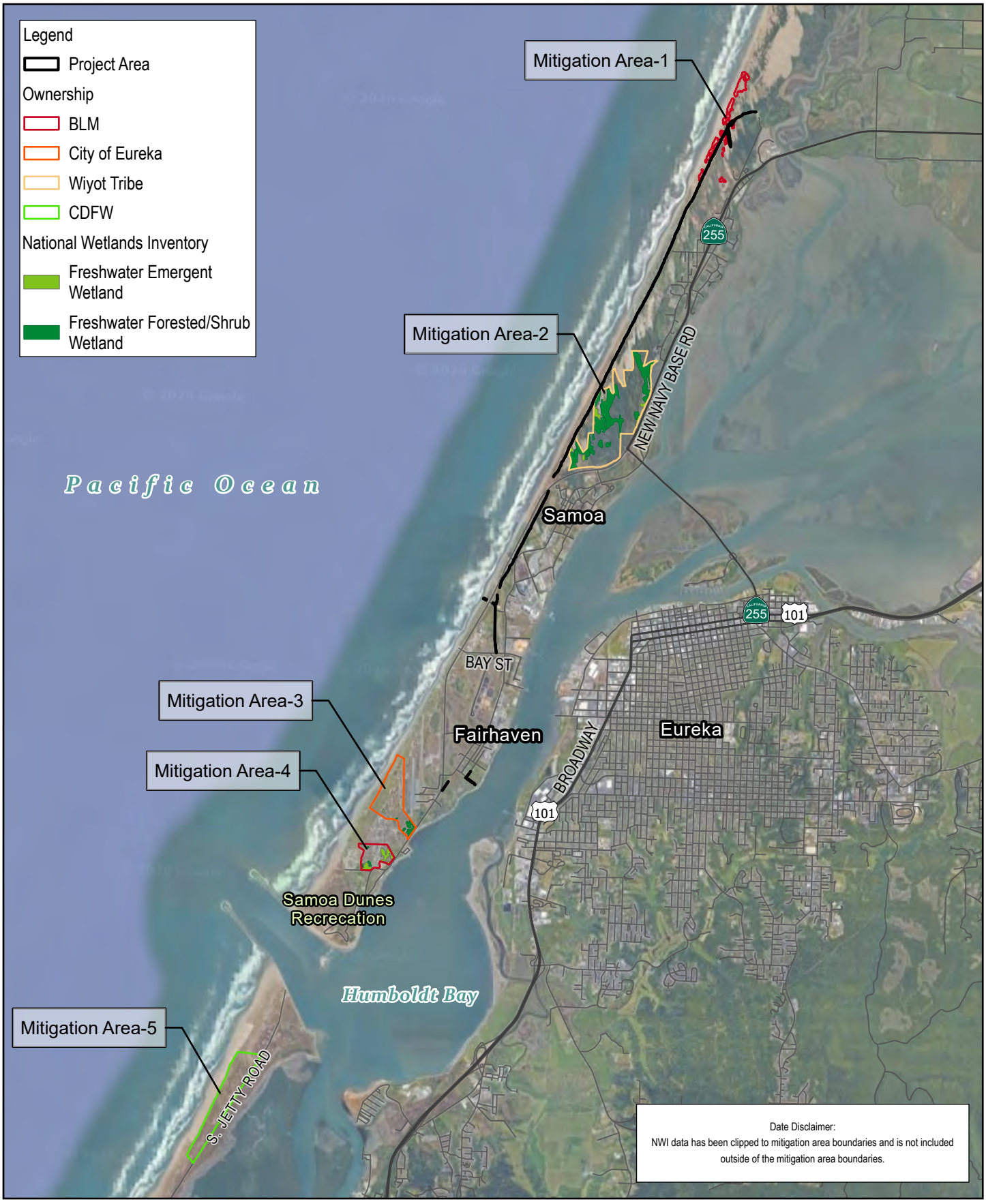
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Revision No. **O**
Date **Jul 2026**

Wetland Delineation

FIGURE 3.3-3.24

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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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GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Potential Mitigation Areas and National Wetland Inventory Aquatic Resources

Project No. **12603983**
Revision No. **B**
Date **Jul 2026**

FIGURE 3.3-4

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Data source: NWI, National Wetlands Inventory : Google: Google. Created by: jlopez4



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Map Projection: Lambert Conformal Conic
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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

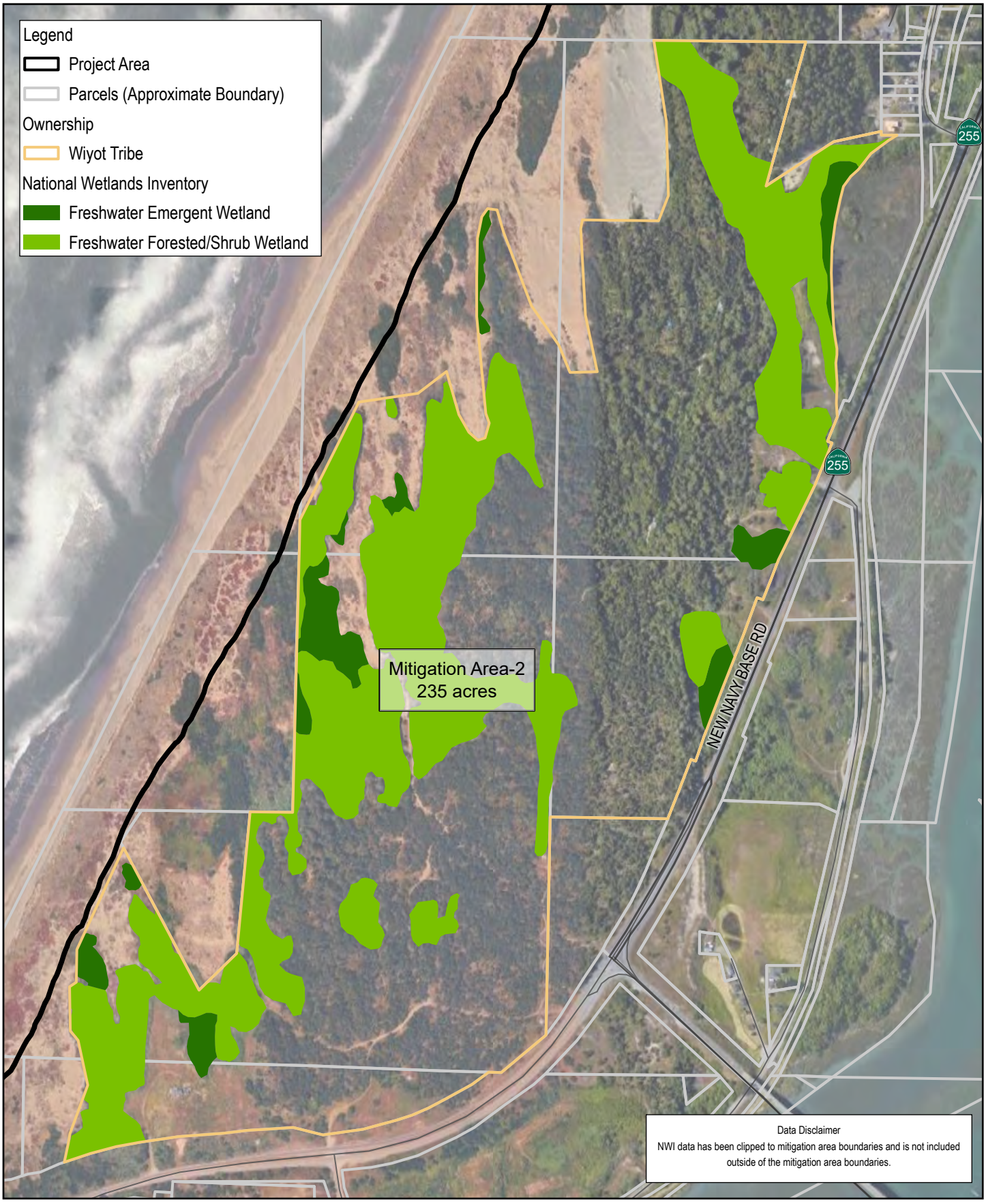
Potential Mitigation Areas and National Wetlands Inventory Aquatic Resources

Project No. **12603983**
Revision No. **B**
Date **Mar 2026**

FIGURE 3.3-4.1

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Print date: 23 Mar 2026 - 15:29

Data source: Humboldt County, CA Coastal Commission, HBMWD, Google: Google. Created by: ethompson3



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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Potential Mitigation Areas and National Wetlands Inventory Aquatic Resources

Project No. **12603983**
Revision No. **B**
Date **Mar 2026**

FIGURE 3.3-4.2

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Data source: Humboldt County, CA Coastal Commission, HBMWD, Google: Google. Created by: ethompson3



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

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Potential Mitigation Areas and National Wetlands Inventory Aquatic Resources

Project No. **12603983**
Revision No. **B**
Date **Mar 2026**

FIGURE 3.3-4.3

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Paper Size ANSI A

0 200 400 600

Feet

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

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GHD

Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Potential Mitigation Areas and National Wetlands Inventory Aquatic Resources

Project No. **12603983**
Revision No. **B**
Date **Mar 2026**

FIGURE 3.3-4.4

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Feet

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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

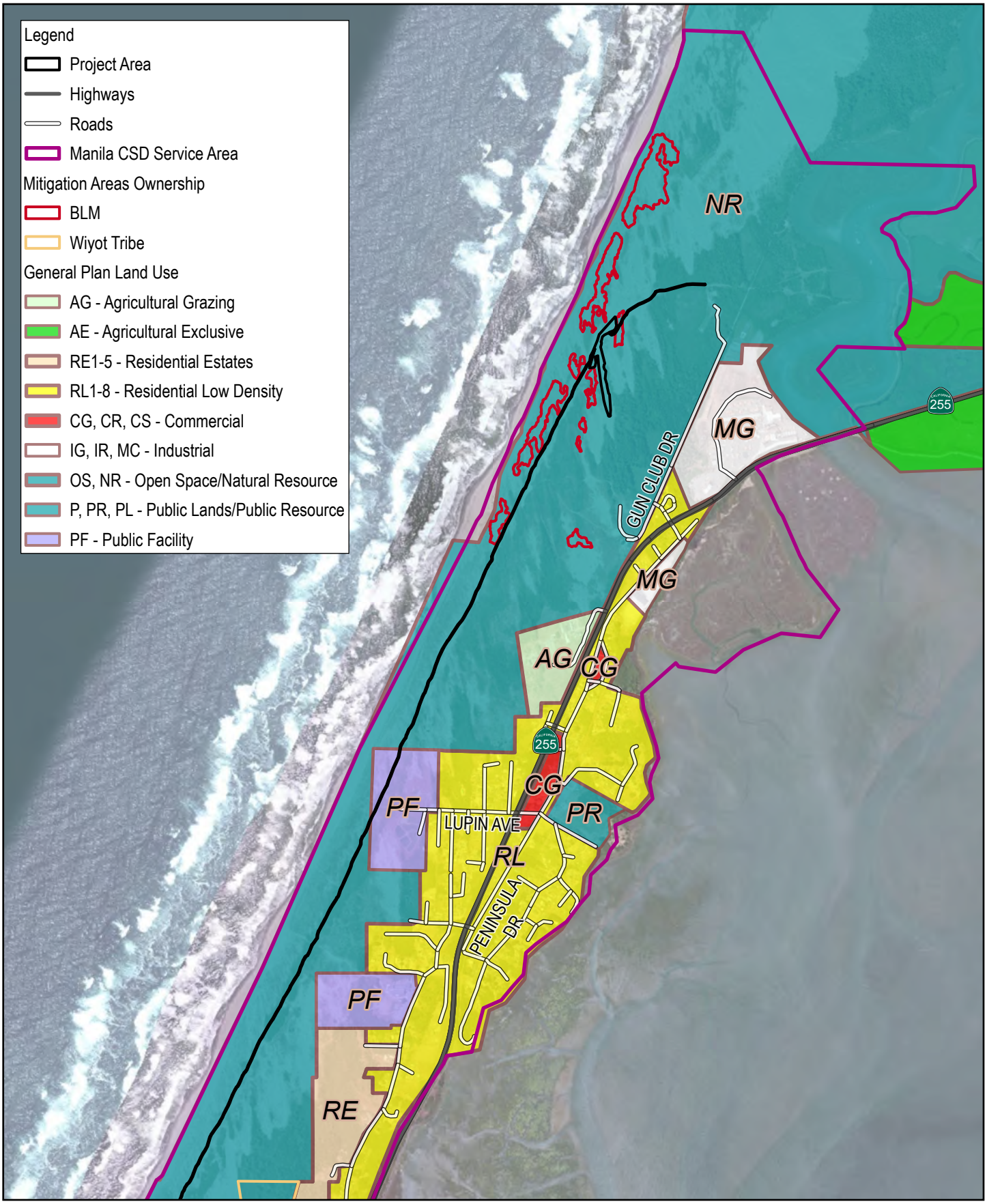
Project Service Area:
MCSD and PCSD

Project No. **12603983**
Revision No. **-**
Date **Jul 2026**

FIGURE 3.10-1

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Map Projection: Lambert Conformal Conic
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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

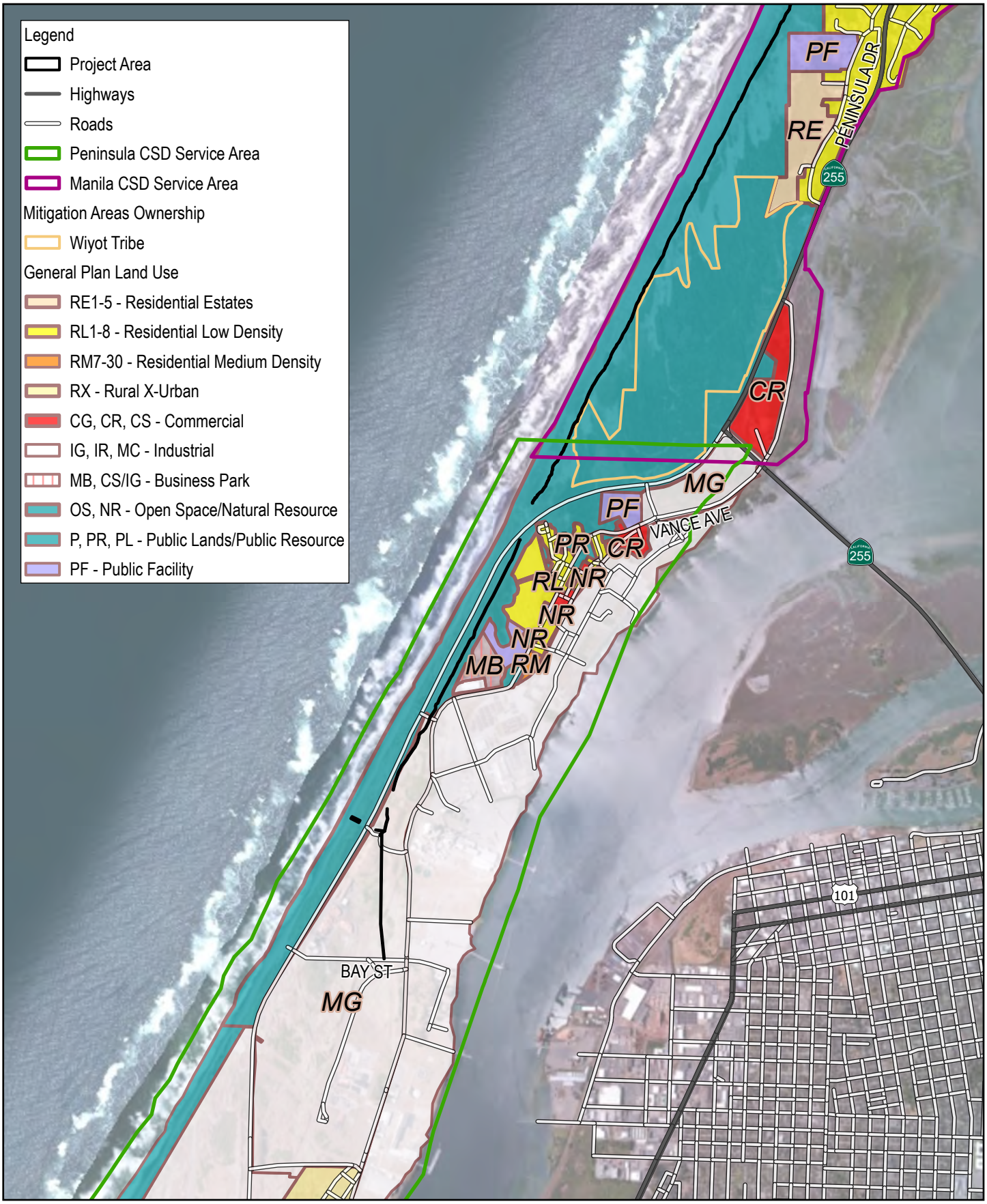
Project No. **12603983**
Revision No.
Date **Jul 2026**

Land Use Designations

FIGURE 3.10-3.1

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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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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

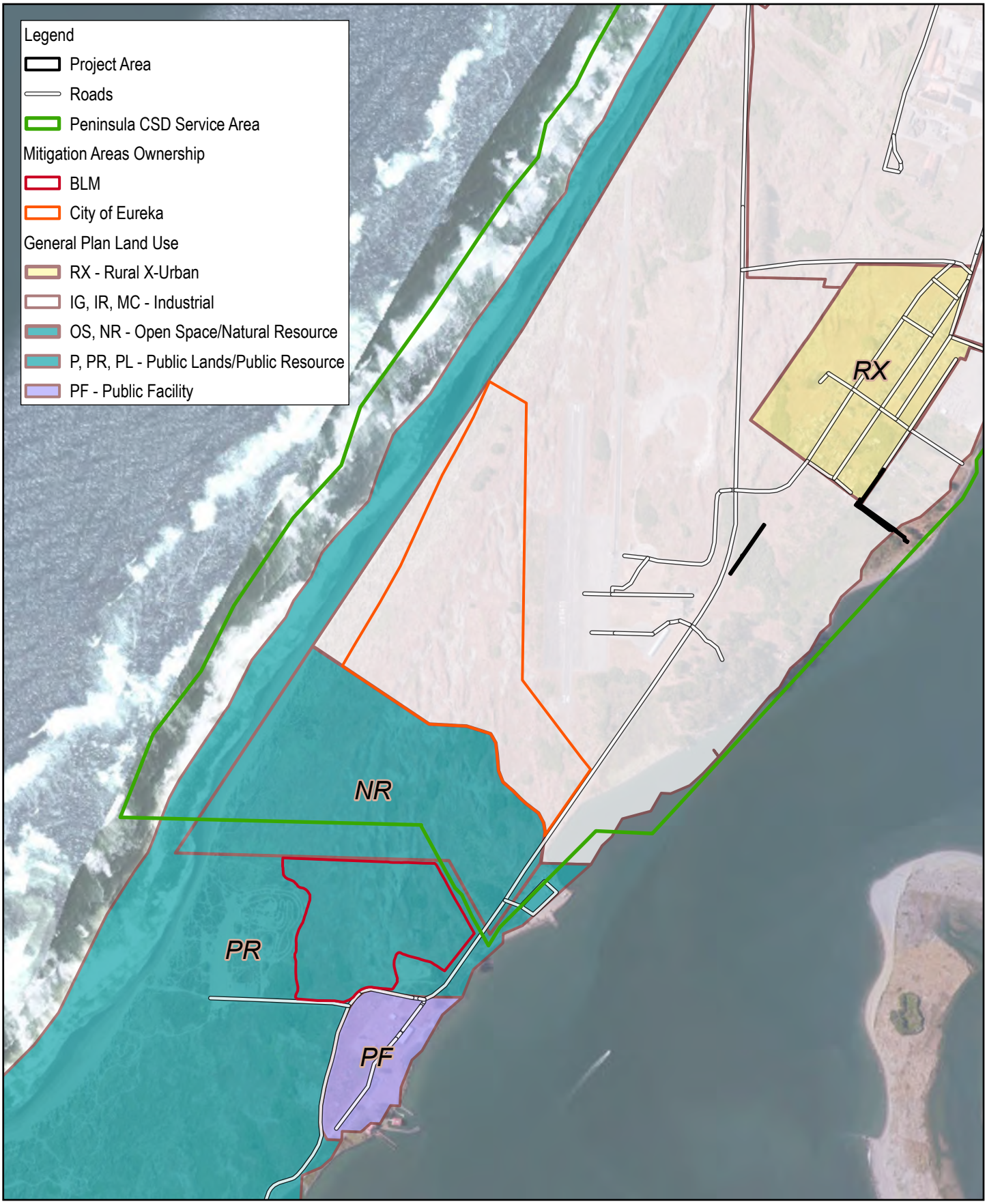
Project No. **12603983**
Revision No.
Date **Jul 2026**

Land Use Designations

FIGURE 3.10-3.2

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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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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Project No. **12603983**
Revision No.
Date **Jul 2026**

Land Use Designations

FIGURE 3.10-3.3

\\ghdnet\ghd\US\Azure\EastUS\12603983\GIS\Maps\Deliverables\12603983_EIR_Ch3.aprx 12603983_031_Fig3.10-3.1-6MS_LandUse_RevB
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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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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

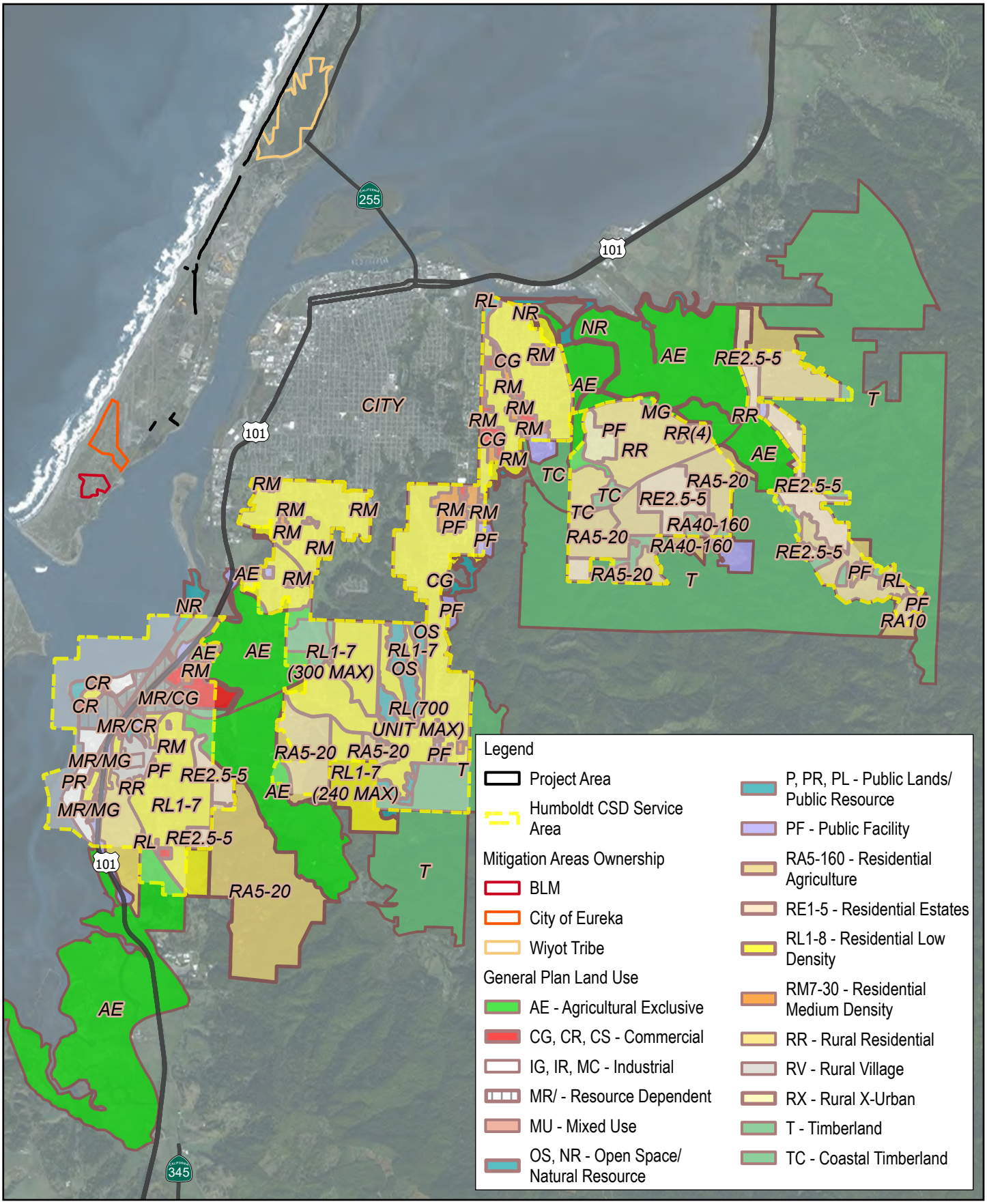
Project No. **12603983**
Revision No.
Date **Jul 2026**

Land Use Designations

FIGURE 3.10-3.4

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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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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Project No. **12603983**
Revision No.
Date **Jul 2026**

Land Use Designations

FIGURE 3.10-3.5

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Print date: 23 Jul 2026 - 12:45

Data source: System Area Boundary Layer: Division of Drinking Water, California Water Resources Control Board, Tracking California, Public Health Institute Water Boundary Tool

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Appendix B

Notice of Preparation

Notice of Preparation of a Draft Environmental Impact Report

Samoa Peninsula Waterline Right-of-Way Maintenance Project

Humboldt Bay Municipal Water District

October 20, 2023

→ **The Power of Commitment**



Notice of Preparation of Draft Environmental Impact Report

Samoa Peninsula Waterline Right-of-Way Maintenance Project

Lead Agency:

Humboldt Bay Municipal Water District
PO Box 95
Eureka, CA, 95502-0095 USA

By:

GHD

718 Third Street
Eureka, CA 95501, United States
T +1 707 443 8326 | **E** kerry.mcnamee@ghd.com | **ghd.com**

October 20, 2023

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  - 1.2.3 Comment Period 1
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1. Introduction

1.1 CEQA Requirements

The Samoa Peninsula Waterline Right-of-Way Maintenance Project (Project) is subject to the requirements of the California Environmental Quality Act (CEQA). The CEQA lead agency and decision-making body is the Humboldt Bay Municipal Water District (HBMWD or District). The HBMWD is responsible for assuring the completion of the appropriate evaluation and processes of the Project as required by CEQA. The HBMWD has the sole responsibility to make the appropriate findings and determinations with respect to the CEQA process and disposition of the Project. The purpose of this Notice of Preparation (NOP) is to inform the public, and responsible and trustee agencies that an Environmental Impact Report (EIR) will be prepared for the Project, and to solicit comments on the proposed Project and potential impacts to be addressed in the EIR. The EIR being prepared is intended to satisfy the requirements of CEQA (Public Resources Code, Division 13, Section 21000-21177), and the State CEQA Guidelines (California Code of Regulations, Title 14, Chapter 3, Section 15000-15387).

1.2 General Information

Protect Title: Samoa Peninsula Waterline Right-of-Way Maintenance Project
Lead Agency: Humboldt Bay Municipal Water District
PO Box 95
Eureka, CA, 95502-0095
Attn: John Friedenbach, General Manager, friedenbach@hbmwd.com, (707) 443-5018

1.2.1 Availability of Project Documents/Files

This NOP is available for review during the business week at the HBMWD office located at 828 7th Street, Eureka, between the hours of 8:30 a.m. to 12:00 p.m. and 1:00 p.m. to 5:00 p.m. An electronic version of this NOP is available for review on the HBMWD website (https://www.hbmwd.com/district-news).

1.2.2 Written Comments

Written comments on the scope of the EIR can be sent to John Friedenbach at the HBMWD office at the above-noted address. Additionally, comments may be submitted electronically via email to: friedenbach@hbmwd.com**.**

1.2.3 Comment Period

CEQA Guidelines Section 15082 (b) requires a 30-day response period for input about the scope and content of the EIR. The comment period for the NOP begins on October 20, 2023 and ends on November 20, 2023. The deadline for submitting written comments is November 20, 2023 at 5:00 p.m.

1.2.4 Public Scoping Meeting

A public scoping meeting will be held to further inform agencies and interested parties about the Project, and to accept comments on the environmental issues germane to the Project. The meeting will be held on November 9, 2023 at 10:00 a.m. at the HBMWD offices. The HBMWD is located at 828 7th Street Eureka, California 95502.

2. Project Description

2.1 Project Location and Setting

The Project is located in coastal Humboldt County, California, within the Samoa Peninsula (see **Figure 1**). The Project Area is located within the Coastal Zone, specifically, within the Appeal jurisdiction of the Coastal Zone, which is regulated by Humboldt County under the Humboldt Bay Area Plan Local Coastal Program (HBAP), and appealable to the California Coastal Commission (CCC).

The Humboldt Bay Municipal Water District (HBMWD or "District") was formed in 1955 and is a regional wholesale water provider that supplies water to approximately 88,000 people in the Humboldt Bay area. HBMWD has two separate and distinct water systems, a domestic system and an industrial system. The domestic system contains treated potable water that comes from wells that draw water from the aquifer beneath the Mad River. HBMWD supplies drinking water to seven wholesale municipal customers which include the cities of Arcata, Blue Lake, and Eureka, as well as community services districts (CSDs) serving the following unincorporated areas: the Humboldt, Fieldbrook/Glendale, Manila, and McKinleyville CSDs. These municipal customers in turn serve water to approximately 66% of the people in Humboldt County.

The industrial system delivers untreated surface water from the Mad River that is utilized for commercial use and fire suppression on the Samoa Peninsula. The industrial system contains two pipelines (or "waterlines") which converge into one pipeline (or "waterline") approximately 1.5 miles south of the northern terminus of the Project Area. At around the turn of the 21st century, timber operations slowed and processing facilities within the Samoa Peninsula began to close. The last major timber processing facility, Freshwater Tissue Company, closed in 2010. Due to the current relatively small demand for industrial water, the District's ROW maintenance schedule within the Samoa Peninsula has been deferred or carried out minimally. However, with anticipated growth of industrial services within this area in the near future (e.g. aquaculture, Humboldt Bay port development, etc.), the District wishes to continue ROW maintenance work along its industrial and domestic waterlines to maintain access to this critical infrastructure for repairs or replacement (including the specific replacement of certain infrastructure components described in Section 2.2), and thus continue to deliver water throughout the distribution area.

2.2 Project Activities

The existing ROW alignment of the domestic and industrial waterlines extends from the east (Arcata) via the Mad River Slough crossings and traverses south through the Samoa Peninsula. The domestic waterline ultimately continues south into Eureka to provide water to the Humboldt CSD (see **Figure 1**). The Project Area for the proposed Project is approximately 7.37 miles and includes approximately 5.71 miles of District ROW and 1.66 miles of County ROW throughout the Samoa Peninsula as shown in **Figure 2-1 through 2-3**. The Project Area includes the Districts ROW which is predominantly 30 feet wide, and in some locations 50 feet wide, and the County's ROW which varies by width (see **Figure 2-3**). Approximately 0.86 acres (37,300 square feet) of the northern Phase 1 area is located outside of the District's ROW on property owned by the Redwood Gun Club. The total area of the Project is 54.49 acres, which includes 29.71 acres within the District's ROW, 0.86 acres on private property (owned by the Redwood Gun Club), and 23.93 acres within the County ROW. All Project work will occur within the 54.49-acre Project Area. The District will access its pipeline for Project activities through its ROW, recorded deeds of easement to the pipeline ROW, or through the public ROW.

Proposed Project activities include both general maintenance activities, and specific Project components.

Project maintenance activities include:

– Removal of vegetation (grasses, herbaceous plants, shrubs, and trees),
– Grubbing,
– Filling and/or movement of sand or soil to safeguard District infrastructure,
– Excavation for pipeline repairs and replacement, and
– Other activities required for accessing the District's infrastructure and managing and maintaining water service in this region.

And specific Project components include:

– Replacement of an existing 15-inch pipe,
– Overflow pipe area maintenance,
– Electrical line installation,
– Techite pipe replacement project maintenance

Additional information on the listed activities above is included in Sections 2.2.1 through 2.2.5 below.

2.2.1 General Maintenance Activities

Vegetation (herbaceous plants, vines, shrubs and trees) will be trimmed and/or removed throughout the District's ROW in order to enable access to HBMWD infrastructure. Vegetation will be trimmed or removed utilizing mechanical and hand tools, such as masticator and loppers or chainsaws. When possible, vegetation will be trimmed or removed outside of the nesting bird season, which is considered March 15 through August 15 in this region, otherwise surveys for nesting birds will occur prior to vegetation trimming or removal in accordance with the forthcoming Project permits.

Mechanical movement of sand is anticipated to be required to keep infrastructure buried to appropriate depths, and is expected to occur predominantly in the northern half of the Project Area where there is a lack of woody species. Excavations may also occur to access, maintain, repair or replace HBMWD infrastructure. Heavy machinery including bull dozers, backhoes and excavators will be utilized for sand movement, burial of infrastructure, and excavations.

It should be assumed that biological resources throughout the entirety of the Project Area could be removed or manipulated under this Project for the purpose of maintaining access to HBMWD's infrastructure.

2.2.2 15-inch Pipe Replacement

The District's domestic water pipeline serving the Samoa Peninsula is made up of several segments of varying sizes. A 27-inch pipe conveys water from the District's Essex Facility and transitions to a 15-inch pipe approximately one mile south of the Redwood Gun Club. Based on the District's consideration of current domestic water usage on the peninsula, potential future developments, and the age of the existing piping, the District is considering replacing the existing 15-inch portion with a larger 24-inch PVC pipe. The 15-inch pipe segment to be replaced is approximately four miles in length, approximately located between the one-million-gallon industrial water tank (southerly terminus) to one mile south of the Redwood Gun Club (northerly terminus) (see **Figure 2-2**). Trenching depth will be approximately 5-7 feet deep to install the replacement pipe, with approximately 3-5 feet of cover above the new pipe. All work will occur within the District's ROW.

2.2.3 Overflow Pipe Area Maintenance

Currently an overflow discharge point exists approximately 445 feet west of the one-million-gallon industrial water tank located west of Vance Avenue between LP Drive and Bay Street in the southern portion of the peninsula (see **Figure 2-3**). The discharge point is connected to the water tank via a subsurface pipe, and the entirety of the area is within the District's ROW. When the water tank is at capacity, any additional water gradually overflows through the discharge point onto the beach. Maintenance activities in this area will include movement of sand, stabilization of the discharge point to reduce potential erosion (i.e. potential use of rip rap around the discharge point), overflow pipe replacement (including the necessary excavation for replacement), and vegetation removal to retain access throughout the ROW.

2.2.4 Electrical Line Installation

One of the Project components is to abandon and replace an underground electrical line. The current line is buried and consists of insulated aluminum wire with no conduit, and starts at Bay Street and terminates north at the District's meter building near their one-million-gallon industrial water tank. The current line is approximately 2,400 feet long. The line has become un-operational likely due to winter storms and/or deterioration of the line due to its age. This Project component includes the abandonment of the existing line in place and installation of a new line parallel to the old line. The new line will consist of 2-3 inch diameter PVC conduit, copper wire, and will likely be installed into a trench approximately 3-4 feet deep and buried. Clearing of various shrub and trees will be necessary approximately 10-15 feet wide to construction access for the length of the newly placed line (approximately 2,400 linear feet). Once the line is installed the area will be kept clear of vegetation for maintenance and access reasons at least once every five years.

2.2.5 Techite Pipe Maintenance

The District will conduct maintenance actions along New Navy Base Road between the existing one-million-gallon industrial water tank and Lincoln Avenue. Maintenance actions will occur within the road right of way and may involve the removal of asphalt, excavation, grading, pipe repairs and/or replacement. No work will occur outside of the road ROW.

2.3 Existing Biological Data

Biological surveys conducted in 2022 and 2023 within the Phase 1and 2 portions of the Project Area indicate the presence of three- and one-parameter wetlands which are regulated by the U.S. Army Corps of Engineers (USACE), the North Coast Regional Water Quality Control Board (NCRWQCB) and Humboldt County via the HBAP, respectively, as well as upland Sensitive Natural Communities (SNCs) (which will likely be considered Environmentally Sensitive Habitat Areas [ESHA] under the HBAP) and federally and state Endangered Species Act (ESA) listed beach layia (*Layia carnosa*) and Menzies' wallflower (*Erysimum menziesii*). Impacts to these resources is assumed to occur, and subsequent mitigation will be completed as feasibly close to the Project Area as possible. It is possible that additional federally and/or state ESA listed species may occur in the remaining Phase 3 area. Impacts to biological resources will be avoided when possible. Affected biological resources will be mitigated as warranted based on agreements with jurisdictional agencies as determined during Project permitting.

2.4 Project Implementation Schedule

It is anticipated that implementation of Project components throughout the entire 7.37-mile Project Area will occur in phases over time. Each phase of Project activities is assumed to include up to two miles per year (with the exception of the 15-inch pipe replacement component which spans four miles). After the entire Project Area is initially maintained (i.e. cleared of vegetation, graded and maintained as needed), the Project Area will be revisited at least once every five years for maintenance upkeep which could include vegetation trimming or removal, movement of sand or other activities necessary to safeguard continued access to HBWMD infrastructure. Other Project components, such as repairs/replacement of pipe and other related appurtenances, management of the overflow pipe area, electrical line, techite pipe and 15-inch pipe replacement areas, may occur on a more accelerated schedule. For the purpose of defining this Project's parameters, the lifespan of this Project (also referred to as the Project's operational period) is assumed to be 50 years.

2.5 Project Equipment and Staging

Equipment to be utilized under the Project could include the following: excavators (and attachments), backhoes, bull dozers, front end loaders, tree trimmers, chainsaws, graders, dump trucks, and various smaller equipment and hand tools. Staging will occur along the Project Area or within a paved or previously disturbed area near the Project Area.

2.6 Regulatory Context

The Project will require a variety of permits due to the Project's effects on protected public trust resources located within the Project Area, including (but not limited to) three-parameter wetlands, one-parameter wetlands, upland SNC/ESHA, and federally and/or state threatened or endangered plants (GHD 2022 and 2023). The following permits are anticipated to be required for Project implementation:

- Coastal Development Permit from Humboldt County via the Humboldt Bay Area Plan Local Coastal Program for impacts to protected coastal resources. The Project Area is located in the Appeal jurisdiction of the Coastal Zone;
- Section 404 of the Clean Water Act (CWA) Individual Permit from the USACE for impacts to jurisdictional Waters, including wetlands, and a Wetlands Mitigation and Monitoring Plan;
- Section 401 of the CWA Water Quality Certification from the North Coast Regional Water Quality Control Board (NCRWQCB) for impacts to regulated Waters, including wetlands;
- Coordination with the California Department of Fish and Wildlife (CDFW) for potential impacts to California ESA (CESA) listed beach layia and Menzies' wallflower, an Incidental Take Permit or Consistency Determination is anticipated;
- Formal consultation with the U.S. Fish and Wildlife Service (USFWS) for potential impacts to federally ESA listed beach layia and Menzies' wallflower (i.e. preparation of a Biological Assessment), and a Rare Plant Mitigation and Monitoring Plan;
- California Environmental Quality Act (CEQA) Environmental Impact Report.

Ultimately, it is anticipated that the entire 7.37-mile Project Area will be under a single permit per agency, and that the permits granted for this Project will be renewed upon expiration and thus remain active for the long-term.

3. Probable Environmental Effects of the Project

Per CEQA Guidelines Section 15082 (a)(1)(c), the probable environmental effects of the Project, are summarized below based on a preliminary review of the Project. Probable environmental effects are organized by the environmental resource categories identified in Appendix G of the CEQA Guidelines. Because there is the potential for significant impacts to occur as a result of the Project, even with the use of mitigation measures, HBMWD has determined that an EIR will be prepared. The EIR will provide site specific information and analysis relevant to the Project, evaluate Project alternatives, and will identify mitigation measures where significant impacts are identified.

For the reasons described below, HBMWD does not anticipate the Project will have any impact on two environmental resource categories: Agricultural and Forestry Resources, and Mineral Resources. These resource categories will not be analyzed in the EIR unless input from responsible agencies, trustee agencies, or the public during the scoping period indicate an analysis is warranted.

3.1 Aesthetics

The Project Area is highly scenic and includes coastal dunes, dune swales, and forested dunes. In many locations, Project activities are not anticipated to substantially degrade scenic resources because the majority of the Project Area is already cleared of vegetation. However in some locations vegetation removal and movement of sand may substantially degrade scenic resources. The specific infrastructure component work, such as the 15” pipe replacement component, is anticipated to have temporary impacts to scenic resources due to the prolonged presence of equipment. The EIR will analyze the potential impacts to aesthetic resources, and if appropriate, include feasible mitigation measures.

3.2 Agricultural and Forestry Resources

The Project Area is along the Samoa peninsula and there are no agricultural or forestry land uses within the Project Area. There are no agricultural or timber zoning or active Williamson Act contracts within the Project Area. Additionally, the Project Area is composed of sand dunes, and is not considered agricultural soil or a timber producing area. Therefore, the Project is not expected to impact agricultural and forestry resources and this resource category will not be included in the EIR.

3.3 Air Quality

The Project Area is located within the North Coast Air Basin (NCAB), which is under the jurisdiction of the North Coast Unified Air Quality Management District (NCUAQMD). The NCAB is currently in attainment (or is unclassified) for 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}). The EIR will discuss temporary air quality impacts from Project implementation and ongoing operation of the Project (e.g., equipment and vehicle exhaust emissions). For the purpose of this EIR and permitting, the Project’s operational period is assumed to be fifty years. The EIR will also discuss the Project’s conformity with applicable air quality plans and exposure of sensitive receptors to criteria air pollutants and odors. Mitigation measures for significant impacts will be included where applicable and feasible.

3.4 Biological Resources

The Project Area includes wetlands, coastal dunes, herbaceous and forested vegetated dunes, and uplands that support a diverse array of aquatic and terrestrial biological resources. The EIR will utilize a number of special studies in the preparation of this section, including a site-specific wetland delineation, rare plant assessment and surveys, among others. The EIR will analyze potential impacts to special status wildlife and plant species, riparian habitat, Sensitive Natural Communities, upland Environmentally Sensitive Habitat Areas, wetlands, migratory corridors, and potential conflicts with policies or ordinances protecting biological resources and the EIR will include feasible mitigation measures given significant impacts are anticipated. It is anticipated that off-site mitigation will be completed to account for unavoidable impacts to biological resources. The EIR will also include an inventory of the biological resources within the proposed mitigation sites.

3.5 Cultural Resources

A Cultural Resources Investigation will be prepared to inventory cultural resources in the Project Area, and to assess potential impacts on these resources from Project activities. Potential impacts could include the destruction of known or unknown cultural resources. The EIR will include the results from this investigation and identify mitigation measures if potentially significant impacts could occur. An inventory of the cultural resource value of the biological resource mitigation area will be included in the EIR.

3.6 Energy Resources

The majority of California's energy-related plans are not directly applicable to the Project or its ongoing operations; however, the Project complies with the plan requirements that apply. Ongoing maintenance operations of the Project will involve a variety of earthwork and construction practices, involving the use of heavy equipment. This equipment will require the use of fuels, primarily gas, diesel, and motor oil. The EIR will include and discuss the results of CalEEMod estimations and quantifications related to energy use throughout the Project construction and operation period.

3.7 Geology and Soils

Geologic and soils issues include potential erosion, loss of topsoil, and sedimentation during and after Project actions due to proposed vegetation removal, as well as changes in sand movement associated with removal of vegetation from the coastal dunes, grading, and infrastructure replacement. The EIR will describe the site's existing geologic conditions and soils based on existing information and technical reports prepared for the Project. The EIR will include an analysis of the geology of the site as it relates to slope stability, earthquake hazards, landslides, and other potential geologic hazards, and recommend appropriate mitigation measures if potentially significant impacts are identified.

3.8 Greenhouse Gas Emissions

The EIR will evaluate the potential impact of the Project on greenhouse gas emissions. Potential GHG emissions resulting from the Project will be estimated and quantified using CalEEMod emissions modeling software, assuming ongoing maintenance actions over 50 years. The NCUAQMD has not adopted a threshold 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; however, this potential impact will be further discussed in the EIR.

3.9 Hazards and Hazardous Materials

The EIR will discuss potential hazards in the Project Area, identify appropriate spill prevention measures, identify potential impacts to construction workers and recreation users due to potential soil contamination and other potential hazards at the site. Phase I and II Environmental Site Assessments were not completed for the Project and are not assumed to be needed; however, a records search of the California Department of Toxic Substances Control (DTSC) Cortese List, and of the State Water Resources Control Board's Geotracker database will be conducted. This information will be used in the analysis and appropriate mitigation measures incorporated if potentially significant impacts are identified.

3.10 Hydrology and Water Quality

The Project is not located immediately adjacent to any receiving waterways. There is typically approximately 500 feet between the ROW and the ocean, and therefore potential impacts to water quality from maintenance activity related runoff, such as sedimentation or contamination, are not anticipated. The EIR will discuss Project actions that could result in water quality degradation or violation of water quality standards. Appropriate mitigation measures will be incorporated if potentially significant impacts are identified.

3.11 Land Use and Planning

The Project is within the Appeal jurisdiction of the Coastal Zone and will require a Coastal Development Permit from Humboldt County per the California Coastal Act. The EIR will describe existing land uses in the Project Area, assess Project impacts and identify any potential land use conflicts.

3.12 Mineral Resources

There are no existing mining operations in the Project Area. The Project Area is primarily comprised of sand and contains no known mineral resources available for extraction. There are no Surface Mining and Reclamation Act-designated parcels located within the Project Area. Although Humboldt County has not yet been included in the California Mineral Land Classification System by the State Mining and Geology Board to designate lands containing mineral deposits of regional or statewide significance, it seems evident that the Project Area would not rise to the level of significance for mineral resource extraction. Therefore, the Project is not anticipated to result in a loss of mineral resources and this resource category will not be included in the EIR.

3.13 Noise

Noise levels will increase during Project activities which will occur periodically over the course of the Project operational period (50 years). The EIR will describe the existing noise levels in the Project Area and identify noise sensitive receptors in the Project vicinity, which are considered (but not limited to) schools, residences, libraries, hospitals, and other care facilities. Potential impacts of noise on wildlife will be discussed in the Biological Resources section. The only sources of noise deviations will occur during implementation of specified Project components, i.e. installation of the 15" pipe, because general maintenance activities have been historically carried out. However, all Project related noise levels will be compared to existing noise levels and applicable noise standards to determine if the Project will cause a significant increase in ambient noise levels. Appropriate mitigation measures will be incorporated if significant impacts are identified.

3.14 Population and Housing

The proposed Project will not add any new homes or businesses, nor extend any roads or other infrastructure within the Project Area. The Project will not cause any displacement of housing or people, on or adjacent to the site. However, the proposed 15-inch pipeline replacement component of the Project includes installation of a 24-inch domestic water pipe. Therefore this increased diameter pipeline has greater capacity to provide increased volume of water, which could facilitate future expanded industry, population or housing. The entire Project, including the 15-inch pipe replacement component, will be discussed in the EIR through the lens of potential population and housing growth and mitigation measures will be incorporated if appropriate.

3.15 Public Services

It is unlikely that the Project will directly increase population, therefore, it is not anticipated that the Project will increase the need for public services. However, as described above, the Project has the potential to support future population increase, and therefore need for public services will be discussed in the EIR.

3.16 Recreation

The Project may temporarily obstruct points of access to the beach during maintenance actions. However, alternate access will be provided. The Project is not anticipated to place additional demands on recreational facilities or require recreational facility construction or expansion. Appropriate mitigation measures will be incorporated if potentially significant impacts are identified.

3.17 Transportation

The Project may result in increased traffic during maintenance actions, which may temporarily decrease the overall performance and safety of local roadways. The EIR will discuss existing and proposed Project traffic volumes in relation to the Project Area and recommend mitigation measures if significant impacts are identified.

3.18 Tribal Cultural Resources

Tribal cultural resources are sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either included or determined to be eligible for inclusion in the California Register of Historical Resources; or included in a local register of historical resources as defined in subdivision (k) of Section 5020.1; or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. The Project may potentially encounter known or as-of-yet unknown archaeological materials during Project-related activities. If such resources were to represent as “tribal cultural resources” as defined by CEQA, any substantial change to or destruction of such resources would be a significant impact. The EIR will analyze tribal cultural resources per Public Resources Code Section 21080.3.1, and include mitigation measures, if applicable, per Public Resources Code Section 21080.3.2.

3.19 Utilities and Service Systems

The Project is a utilities project designed to create dependable access for routine inspection, operation, maintenance, modification, and replacement of HBMWD infrastructure (pipelines, valves, etc.) along the

District's ROW. The Project does not include the construction of new facilities (residential, commercial, or industrial) that will place additional long-term demands on public water systems, wastewater systems, or landfills. The proposed 15-inch pipe replacement component will result in an increased capacity of water supply (via the larger diameter pipeline) available to water users, replacement of aging infrastructure and a more uniform diameter water pipeline throughout the Samoa Peninsula. No new connections to the 15-inch pipe replacement component are proposed, rather existing connections would be replaced during this Project component. Landfills may be used for disposal of HBMWD infrastructure removed from the Project Area. The EIR will analyze potential impacts related to utilities and service systems, and feasible mitigation measures will be incorporated if significant impacts are identified.

3.20 Wildfire

According to mapping from CAL FIRE, the Project is in the Local Responsibility Area, adjacent to zones designated as having a high, moderate or unzoned fire hazard severity. The vegetated portions of the Project Area could be susceptible to wildfire during Project activities due to accidental ignition. The Project will not block emergency access during implementation of Project activities. The EIR will analyze potential impacts related to wildfire, emergency operation plans, and other elements that might exacerbate fire risks. Mitigation measures will be incorporated if significant impacts are identified.

Appendices

Appendix A

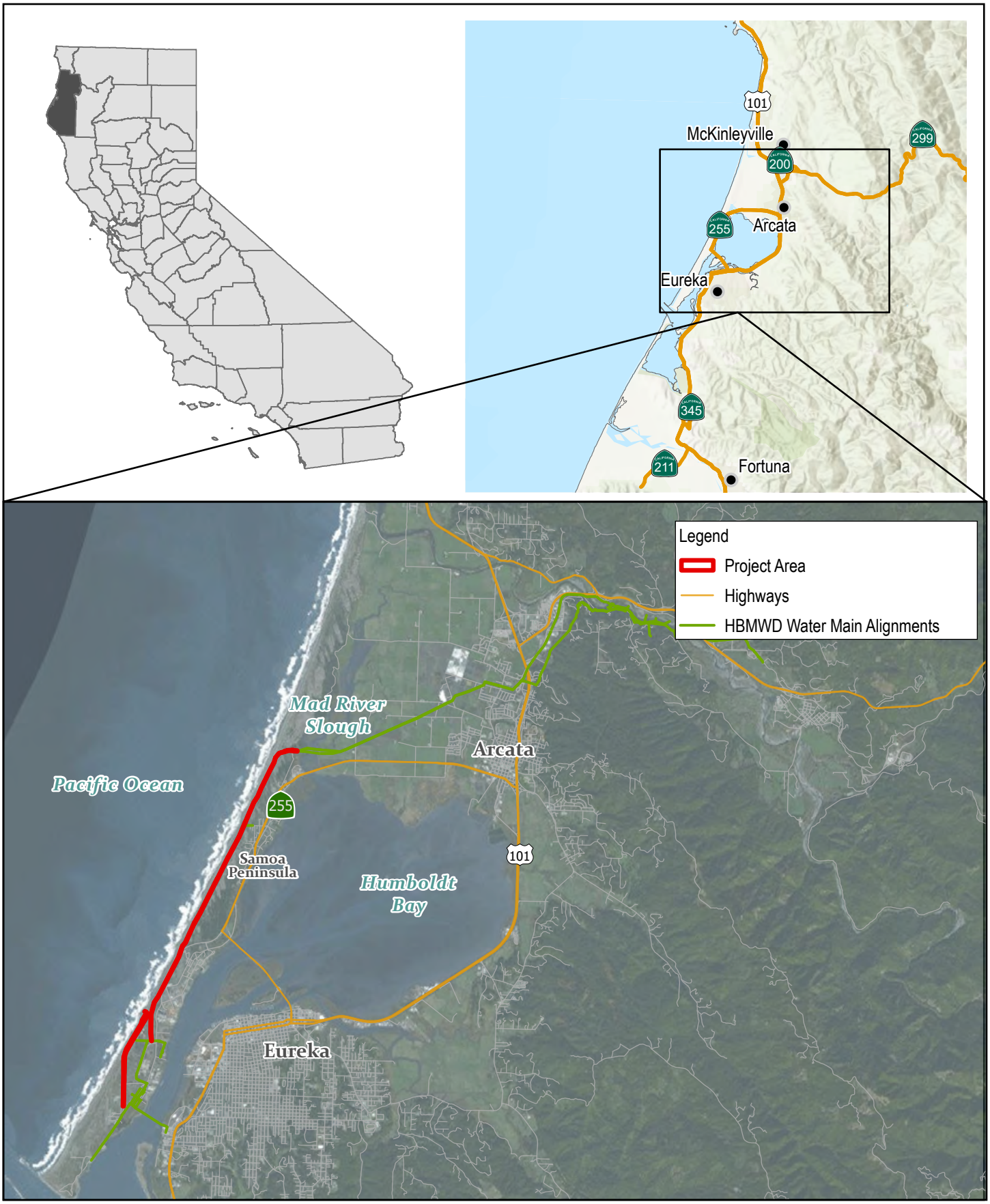
Figures

Figure 1: Project Vicinity

Figure 2-1: Project Area

Figure 2-2: 15-inch Pipe Replacement Project Component

Figure 2-3: Project Components in Phase 3



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Map Projection: Mercator Auxiliary Sphere
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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Project No. **12603983**
Revision No. **-**
Date **Sep 2023**

Project Vicinity

FIGURE 1

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Data source: World Imagery (Clarity): This work is licensed under the Esri Master License Agreement.View Summary | View Terms of UseExport: This layer is not intended to be used to export tiles for offline. Data Collection and Editing: This layer may be used in various ArcGIS apps to support data collection and editing, with the results used internally or shared with others, as described for these use cases.; World Topographic Map - labelless: California State Parks, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, Bureau of Land Management, EPA, NPS; World Hillshade: Esri, CGIAR, USGS. Created by: jlopez4



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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Project No. **12603983**
Revision No. **C**
Date **Sep 2023**

Project Area

FIGURE 2-1

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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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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

15-inch Pipe Replacement Project Component

Project No. **12603983**
Revision No. **C**
Date **Sep 2023**

FIGURE 2-2

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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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Humboldt Bay Municipal Water District
Samoa Peninsula Waterline
Right-of-Way Maintenance Project

Project Components in Phase 3

Project No. **12603983**
Revision No. **C**
Date **Sep 2023**

FIGURE 2-3

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The Power of Commitment

Appendix C

Scoping Comments

From:	Kerry McNamee
To:	Kerry McNamee
Subject:	RE: Coastal Commission Comment
Date:	Tuesday, December 5, 2023 3:01:06 PM

From: John Friedenbach <friedenbach@hbmwd.com>
Sent: Monday, November 13, 2023 4:59 PM
To: Kerry McNamee <Kerry.McNamee@ghd.com>
Subject: RE: Coastal Commission Comment

Hi Kerry,
Here is what we took off of the recording for Kat's comments:

> Catherine Mitchell, with the local California Coastal Commission office, stated "I prefer presentations versus reading through an NOP – and this was very helpful. Thank you". She then inquired; "Will this project cover certain time periods of maintenance? Perhaps it may be unexpected now but may come up in the future." Mr. Friedenbach responded we expect maintenance to be ongoing. The permit is for five years and we hope to renew it every five years.

John

NATIVE AMERICAN HERITAGE COMMISSION

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October 24, 2023

John Friedenbach
Humboldt Bay Municipal Water District
P.O. Box 95
Eureka, CA 95502

Re: 2023100565, Samoa Peninsula Waterline Right-Of-Way Maintenance Project, Humboldt County

Dear Mr. Friedenbach:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015. If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). Both SB 18 and AB 52 have tribal consultation requirements. If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

a. A brief description of the project.

b. The lead agency contact information.

c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).

d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

a. Alternatives to the project.

b. Recommended mitigation measures.

c. Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

a. Type of environmental review necessary.

b. Significance of the tribal cultural resources.

c. Significance of the project's impacts on tribal cultural resources.

d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

a. Whether the proposed project has a significant impact on an identified tribal cultural resource.

b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe. (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (https://ohp.parks.ca.gov/?page_id=30331) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:

a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.

b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.

a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.

b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.

c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Cameron.Vela@nahc.ca.gov.

Sincerely,

Cameron Vela

Cameron Vela
Cultural Resources Analyst

cc: State Clearinghouse

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State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Northern Region
601 Locust Street
Redding, CA 96001
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

GOVERNOR'S OFFICE OF PLANNING AND RESEARCH
Nov 09 2023
STATE OF CALIFORNIA

November 9, 2023

John Friedenbach, General Manager
Humboldt Bay Municipal Water District
PO Box 95
Eureka, CA 95502
friedenbach@hbmwd.com

SUBJECT: SAMOA PENINSULA WATERLINE RIGHT-OF-WAY MAINTENANCE PROJECT
NOTICE OF PREPARATION (SCH# 2023100565)

Dear John Friedenbach:

The California Department of Fish and Wildlife (CDFW) received a Notice of Preparation (NOP) for a Draft Environmental Impact Report (DEIR) from Humboldt Bay Municipal Water District (District; Lead Agency) for the Samoa Peninsula Waterline Right-of-Way Maintenance Project (Project). CDFW appreciates the opportunity to provide feedback and looks forward to reviewing additional details in the DEIR.

As the Trustee Agency for the State's fish and wildlife resources, CDFW has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and the habitat necessary to sustain their populations (Fish and Game Code, §§ 1801 and 1802). As a Responsible Agency, CDFW administers the California Endangered Species Act (CESA) and other provisions of the Fish and Game Code that conserve the State's fish and wildlife public trust resources. CDFW offers the following comments and recommendations in our role as Trustee and Responsible Agency pursuant to the California Environmental Quality Act (CEQA; California Public Resource Code §21000 *et seq*.). These comments are intended to minimize Project impacts on public trust resources.

Project Description

The Project is located on the Samoa peninsula in coastal Humboldt County, California. The Humboldt Bay Municipal Water District supplies drinking water to wholesale municipal customers and community service districts in the Humboldt Bay area. A separate industrial system delivers water for commercial use and fire suppression on the Samoa Peninsula. Due to relatively low industrial demand, right-of-way (ROW) maintenance within the Samoa Peninsula has been deferred. However, the District wishes to resume maintenance work along its industrial and domestic lines in anticipation of future growth in industrial services. The Project area extends over 7.37 miles of ROW throughout the Samoa Peninsula, covering an area of approximately 54.49 acres. As described in the NOP, Project elements

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include replacement of a four-mile stretch of 15-inch pipe with a larger 24-inch pipe; maintenance of an overflow discharge point associated with an industrial water tank; replacement of an existing electrical line; and maintenance or replacement of techite pipe along New Navy Base Road. The Project also entails general maintenance activities necessary to access, protect, and replace or maintain infrastructure, including grubbing and vegetation removal, excavation, and mechanical movement or fill of sand. The Project will be implemented in phases, with routine maintenance activities anticipated every five years thereafter. The lifespan or operational period of the Project is assumed to be 50 years.

Biological Significance

The Samoa Peninsula is a diverse mosaic of wetland, riparian, coastal dune, and upland forest habitats, many of which are considered Sensitive Natural Communities (SNC) due to their limited extent and vulnerability to ongoing threats. These diverse ecosystems provide essential habitat for numerous special status species, including several listed or proposed for candidacy pursuant to the federal Endangered Species Act and the California Endangered Species Act. Notable examples include beach layia (*Layia carnosa*; federally threatened [FT], state endangered [SE]) and Menzies' wallflower (*Erysimum menziesii*; FE, SE). Special status wildlife known or likely to occur in the Project area include Western Snowy Plover (*Charadrius nivosus nivosus*; FT), White-Tailed Kite (*Elanus leucurus*; CDFW Fully Protected [FP]), Northern Harrier (*Circus hudsonius*; CDFW Species of Special Concern [SSC]), and northern red-legged frog (*Rana aurora*; SSC), among others. There are also several historical occurrences of western bumble bee (*Bombus occidentalis*; state candidate endangered) on the Samoa Peninsula, which includes large tracts of intact foraging and nesting habitat. Coastal dunes support a diverse array of sensitive plant species, including but not limited to short-leaved evax (*Hesperevax sparsiflora* var. *brevifolia*; California Rare Plant Rank [CRPR] 1B.2) and dark-eyed gilia (*Gilia millefoliata*; CRPR 1B.2).

Comments and Recommendations

CDFW is familiar with the Project area and looks forward to working with the District to minimize or adequately mitigate the Project's potentially significant impacts on biological resources.

California Endangered Species Act (CESA) Compliance. CDFW recommends including a full impact analysis of CESA listed species in the DEIR. Project-related activities that result in take of CESA listed species would require authorization from CDFW through an Incidental Take Permit (ITP) or Consistency Determination (CD) pursuant to Fish and Game Code §§2080.1 or 2081(b) and California Code of Regulations Title 14 (14 CCR) §783 *et seq*. The ITP or CD application should include a complete project description, as well as other required elements (14 CCR §783.2). CDFW's CESA website provides additional information about the permitting process and maintains lists of rare, threatened, and endangered plants and animals.

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Biological Surveys. A thorough biological assessment should be conducted *prior* to circulation of the DEIR to adequately disclose direct, indirect, and cumulative impacts and identify feasible mitigation measures. CDFW understands biological surveys have only been completed for Phase 1 and 2, with Phase 3 surveys scheduled for 2024. The NOP acknowledges "*additional federally and/or state listed species may occur in the remaining Phase 3 area*." As written, it is unclear whether the Lead Agency intends to complete biological surveys prior to circulating the CEQA document. Without the results of these surveys to establish baseline conditions, CDFW, other agencies, and the public cannot evaluate the full extent or significance of impacts to special status species and sensitive habitats. Appropriately timed habitat assessments and/or focused, species-specific surveys are recommended to adequately evaluate presence within the Project area as well as potential Project impacts. Rare plants and Sensitive Natural Communities should be assessed following CDFW's March 2018 *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*. A comprehensive assessment of biological resources should also consider wetlands, riparian areas, and migratory corridors.

Mitigation. An EIR must discuss mitigation measures to reduce significant adverse impacts, providing sufficient detail to evaluate the efficacy and feasibility of proposed measures. Although CDFW appreciates the District's commitment to mitigate for unavoidable impacts to biological resources, we caution against deferring the details of mitigation to some future time (CEQA § 15126.4(a)(1)(B)). The NOP currently implies that mitigation measures will be formulated during the permitting phase of the Project: "*affected biological resources will be mitigated as warranted based on agreements with jurisdictional agencies as determined during Project permitting*." The DEIR should disclose the whole of the action for public review (CEQA § 15378(a)), quantifying the nature and extent of Project-related impacts and identifying feasible mitigation measures. A draft Mitigation and Monitoring Plan (MMRP) should be provided, specifying performance standards such as revegetation ratios and success criteria. CDFW encourages the District to consider coastal dune restoration with an emphasis on invasive species removal, which is identified as an effective conservation strategy for both beach layia and Menzies' wallflower (USFWS 1998). Dune restoration also increases resiliency to sea level rise by facilitating landward transfer of sand and more rapid recovery following storm surge (Hilgendorf et al. 2022). CDFW looks forward to working with the District to identify potential mitigation strategies and suitable locations.

Submittal of Biological Data to CNDDB. CEQA requires that information developed in Environmental Impact Reports and Negative Declarations be incorporated into a database, which may be used to make subsequent or supplemental environmental determinations (Public Resources Code § 21003(e)). Accordingly, please report any special status species and Sensitive Natural Communities detected during Project surveys to the California Natural Diversity

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Database (CNDDB). Additional information and instructions for data submission can be found on the CNDDB website.

If you have any questions, please contact Kathryn Rian, Environmental Scientist, by e-mail at Kathryn.Rian@Wildlife.ca.gov.

Sincerely,

DocuSigned by:
Rebecca Garwood
B5D12ECE94324AF...

Rebecca Garwood
Northern Region Coastal Habitat Conservation Program Manager

ec: Office of Planning and Research, State Clearinghouse
state.clearinghouse@opr.ca.gov

California Department of Fish and Wildlife
Rebecca Garwood, Michael van Hattem, Kathryn Rian
CEQACommentLetters@wildlife.ca.gov

References

Hilgendorf, Z., I. J. Walker, A. J. Pickart, and C. M. Turner. 2022. Dynamic restoration and the impact of native versus invasive vegetation on coastal foredune morphodynamics, Lanphere dunes, California, USA. Earth Surface Processes and Landforms 2022: 1-17.

USFWS. 1998. Seven coastal plants and the Myrtle's silverspot butterfly recovery plan. U.S. Fish and Wildlife Service, Portland, OR.

December 4, 2023

John Friedenbach, General Manager
Humboldt Bay Municipal Water District
P.O. Box 95
Eureka, CA 95502
friedenbach@hbmwd.com

Subject: Samoa Peninsula Waterline Right-of-Way Maintenance Project, Notice of Preparation of a Draft Environmental Impact Report

Dear John Friedenbach:

Friends of the Dunes received a Notice of Preparation (NOP) for a Draft Environmental Impact Report (DEIR) from Humboldt Bay Municipal Water District's (District) contractor on this project, along with a letter about this proposed project. Friends of the Dunes appreciates being notified, as this environmentally significant project is proposed on and across lands that our non-profit organization owns and manages for habitat conservation, native dune ecosystem restoration, and public access consistent with these conservation and habitat protection purposes.

The letter accompanying the NOP, dated November 13, 2023, informed us that the public scoping meeting for this phase of the California Environmental Quality Act (CEQA) planning process had already taken place on November 9, 2023, four days after the date of the letter and five days after the notice was initially put in the mail to our organization. From this point forward, we request that Friends of the Dunes be informed of opportunities for public comment under CEQA on this project before the opportunity takes place, rather than after.

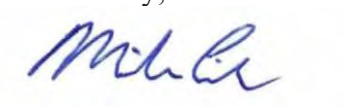
The NOP includes language in section 2.2.1 of the project description that is concerning: "It should be assumed that biological resources throughout the entirety of the Project Area could be removed or manipulated under this Project for the purpose of maintaining access to HBMWD's infrastructure." Friends of the Dunes is concerned that this EIR could pursue an extreme and environmentally damaging alternative of wholesale and repeated removal of vegetation from the entirety of the District's right-of-way without exploring reasonable and viable alternatives that seek to avoid impacts rather than to mitigate for them.

CEQA mandates that an EIR must describe a reasonable range of alternatives to a proposed project that could feasibly attain most of the basic project objectives, and would avoid or substantially lessen any of the proposed project's significant effects. We ask that the District enter into this CEQA process in a good-faith effort with environmental organizations, regulators, coastal land managers, and the public in order to meet District objectives for access and maintenance while finding ways to avoid severe adverse environmental impacts. Avoidance as an environmental planning tool needs to be legitimately integrated in the EIR's alternatives as a replacement for mitigation.

Friends of the Dunes recognizes and appreciates our longstanding positive, collaborative relationship with the Humboldt Bay Municipal Water District, and we seek to continue a dialogue through this CEQA planning process that allows the District to meet its maintenance needs while prioritizing the conservation of what are, in many areas of this proposed project area, irreplaceable coastal resources.

Thank you for your consideration of these comments, and for adding us to the list of organizations that you will contact in advance of the next public meetings for this CEQA process.

Sincerely,



Mike Cipra
Executive Director

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Fax 707-444-0447 • E-mail info@friendsofthedunes.org • www.friendsofthedunes.org

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Arcata Field Office
1695 Heindon Road
Arcata, CA 95521
www.ca.blm.gov/arcata

November 28, 2023

In Reply Refer To:
2920/7000/2881 (CA330)P

John Friedenbach, General Manager
Humboldt Bay Municipal Water District
P.O. Box 95
Eureka, CA 95502-0095

Dear Mr. Friedenbach,

The Bureau of Land Management (BLM), Arcata Field Office is in receipt of the Notice of Preparation of a Draft Environmental Impact Report for the Samoa Peninsula Waterline Right-of-Way Maintenance Project (NOP). Thank you for the opportunity to review this proposed project. We understand that this is an important project to the local community and we look forward to working with you.

The southern portion of the Ma-le'l Dunes Cooperative Management Area (CMA) is managed by the BLM and overlaps the area proposed for waterline maintenance. The CMA is a popular recreational area for visitors to the dunes and beach, and as you indicate in the NOP, contains wetlands, plant species of concern, and the potential for culturally significant deposits. The BLM recognizes that the Humboldt Bay Municipal Water District (HBMWD) maintains the pipeline through this area via both an easement and a right-of-way (see attached map). The BLM and HBMWD have enjoyed a constructive partnership for decades, and the BLM looks forward to this project as an opportunity to continue collaborating. To that end, the BLM staff has several comments, both on the NOP, and issues that may extend beyond the parameters of the EIS/EIR:

1. Please identify all public lands parcels affected by the proposed project prior to implementation. This should include referencing the MOU that was recorded between BLM and HBMWD on June 30, 2011 (2011-13696-8) which spells out the roles and responsibilities of both agencies regarding dune vegetation preservation and pipeline maintenance.

2. The project, as outlined, has the potential to impact significant recreational resources on public lands. Please describe the timing of proposed maintenance activities on public lands and how these activities will be designed to minimize impacts to recreational users in this high-use area. The CMA is a popular, high-use area where the current pipeline corridor is multi-use trail and waterline activities have the potential to affect public use and safety. Disruptions to the use of this trail should be fully considered in the EIS/EIR and actions taken to minimize disruptions to public recreational use.

3. The project would impact known populations of federally-listed plant species including beach layia (*Layia carnosa)* and Menzies wallflower (*Erysimum menziesii)* as well as state-listed rare species such as manyleaf gilia *(Gilia millefoliata)* in the proposed project area. The proposal to excavate and clear vegetation to the full extent of the ROW (10-15 ft) for the 15-inch pipe segment and electrical line replacement phase of the project may be more clearing than necessary in all areas. Additionally, total clearing of vegetation along the ROW every 5 years for scheduled maintenance seems more than necessary. The frequency of periodic disturbance would likely lead to negative impacts within the

dune mat community and known populations of federally-listed species mentioned above. The proposal to conduct off-site mitigation would likely be inadequate to properly compensate for the loss of known listed species if those species are not present within the new proposed mitigation site. Please describe alternatives within the EIR to address minimizing impacts within the ROW where federally-listed species are present and what measures would be taken to minimize impacts where impacts are unavoidable. As you have indicated, consultation with the U.S. Fish and Wildlife Service will likely be needed to address any impacts. Please coordinate with us on your consultation efforts to ensure consistency. BLM staff can assist in identifying appropriate measures for mitigation, as needed.

4. Reintroduction of non-native, invasive species within the proposed project area is a concern. The BLM has conducted habitat restoration since 1994 in support of native plant community diversity through eradication of non-native European beachgrass (*Ammophila arenaria),* ice plant *(Carpobrotus edulis),* yellowbush lupine *(Lupinus arboreus), and* pampas grass *(Cortedaria selloana)* that threaten the biodiversity within the Ma-le'l Dunes unit. This work helped provide natural ecosystem conditions that supported the 2021 designation of the Ma-le'l Dunes as part of a National Natural Landmark by the National Park Service. Further, heavy equipment and vegetation clearing operations may lead to new areas becoming vulnerable to invasion by non-native species from surrounding lands that have not been restored from the north and south that contain robust populations of the aforementioned species. The concern is that seeds would be transported on heavy equipment from heavily infested areas to recently disturbed (vegetation clearing) sites along the ROW within the project area. The BLM would like to see this evaluated within the EIR as well as stipulations for the HBMWD to ensure this threat is minimized during the proposed activities.

5. The project may affect cultural resources on public lands and we ask that you coordinate with the BLM to ensure all relevant data are shared among appropriate cultural resources staff, and measures are taken to avoid impacts, where feasible.

6. Similarly, please identify tribal consultation work in progress, or anticipated. As you may know, federal agencies are required to consult with relevant tribes. A Native American Graves Protection and Repatriation Act (NAGPRA) Plan of Action will be needed prior to implementation. We can discuss who would be the appropriate party to initiate this effort.

7. The project should consider effects to the western snowy plover *(Charadrius alexandrinus nivosus)* and any actions that might occur on the foredunes or the beach.

8. Please describe the quantities of sand and method it would be moved to maintain the pipeline through the public lands parcels. Given that the dunes are a dynamic environment, examining the methods and extent of sand manipulation should be fully considered in the effects analysis.

9. Mitigation options should be proposed that address impacts to repair any access routes, vegetation impacts, and recreation impacts. Mitigation measures could be included as proactive design features within the proposed action and may include road repairs, trail improvements, and vegetation enhancements. The BLM would like to collaborate on these issues to minimize or eliminate impacts of the project.

10. The BLM requests the HBMWD provide resources to help with the cost of reviewing the EIS/EIR, and the costs associated with preparing our own NEPA document should additional, temporary access require more rights-of-way authorizations. This may include establishing a contributed funds agreement and/or providing for cost recovery in the case of EIS/EIR review and NEPA preparation, respectively. Once a proposed action is more fully developed, BLM and HBMWD key staff should meet to discuss any additional BLM requirements and associated workload.

11. Finally, the BLM requests that the HBMWD detail all access points, staging areas, equipment to be used, and other areas of ingress/egress to fully describe the disturbance footprint outside of the established easement in the vicinity of public lands. These descriptions will be necessary for the BLM to address any offsite effects that may accrue during project implementation.

Our staff looks forward to working with you on this project to minimize impacts to public lands. I suggest that key HBMWD and BLM staff meet to discuss more project-specific details once you consider our comments.

Please contact Jennifer Wheeler, Assistant Field Manager, at (707) 298-8504 or jswheele@blm.gov, who can discuss the project, direct specific issues to relevant staff, and/or help coordinate a meeting.

Sincerely,

Collin Ewing
Field Manager

Dec. 4, 2023

John Friedenbach, General Manager
Humboldt Bay Municipal Water District
P.O. Box 95
Eureka, CA 95502
Submitted via email: friedenbach@hbmwd.com

Subject: Samoa Peninsula Waterline Right-of-Way Maintenance Project, Notice of Preparation of a Draft Environmental Impact Report

Dear John Friedenbach:

Thank you for the opportunity to comment on the Notice of Preparation (NOP) for a Draft Environmental Impact Report (DEIR) for the Samoa Peninsula Waterline Right-of-Way Maintenance Project. Please accept these comments on behalf of the Northcoast Environmental Center, Environmental Protection Information Center, and Humboldt Waterkeeper.

We would like to incorporate by reference the comments of the California Department of Wildlife dated Nov. 9, 2023. In addition, we submit the following comments:

The NOP includes language in section 2.2.1 of the project description that is concerning: “It should be assumed that biological resources throughout the entirety of the Project Area could be removed or manipulated under this Project for the purpose of maintaining access to HBMWD’s infrastructure.” Our concern is that this EIR could pursue an extreme and environmentally damaging alternative of wholesale and repeated removal of vegetation from the entirety of the District’s right-of-way without exploring reasonable and viable alternatives that seek to avoid impacts rather than to mitigate for them. The project area includes wetlands, Sensitive Natural Areas, and Environmentally Sensitive Habitat Areas as defined by the Coastal Act, and avoiding impacts needs to be prioritized over mitigating them whenever possible.

In addition, all areas proposed for ground disturbance, whether as part of the proposed project’s activities or in areas to be used for compensatory mitigation for the project’s unavoidable impacts, should be carefully scrutinized for known, suspected, and potential contamination, including legacy contamination from historical uses. If contaminants in soil, groundwater, or bay sediment are present and unaddressed in project plans, ground disturbance can remobilize them, resulting in impacts to human health and the environment. Mitigation in or near tidal or freshwater wetlands are of particular concern given that dioxins and furans, PCBs, heavy metals, petroleum hydrocarbons, and other constituents are often present on or near former

industrial sites, even those that have not been used in decades. Not all of these sites are included in state and federal databases, and are often inappropriately excluded from consideration in environmental review.

CEQA mandates that an EIR must describe a reasonable range of alternatives to a proposed project that could feasibly attain most of the basic project objectives, and would avoid or substantially lessen any of the proposed project's significant effects. We ask that the District enter into this CEQA process in a good-faith effort with environmental organizations, regulators, coastal land managers, and the public in order to meet District objectives for access and maintenance while finding ways to avoid severe adverse environmental impacts. Avoidance as an environmental planning tool needs to be legitimately integrated in the EIS' alternatives as a replacement for mitigation.

We look forward to continuing dialogue with the Humboldt Bay Municipal Water District throughout the CEQA process and respectfully request that our organizations be added to the list of stakeholders to be notified of future public meetings and other opportunities for review and comment.

Sincerely,

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1.1. Basic Project Information

Data Field	Value
Project Name	HBMWD Samoa Pen Project
Construction Start Date	1/1/2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.90
Precipitation (days)	75.0
Location	40.79598110944556, -124.20819885916511
County	Humboldt
City	Unincorporated
Air District	North Coast Unified APCD
Air Basin	North Coast
TAZ	105
EDFZ	—
Electric Utility	—
Gas Utility	—
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
User Defined Linear	2.46	Mile	18.3	0.00	—	—	—	1 Initial Veg Removal

User Defined Linear	3.75	Mile	2.73	0.00	0.00	—	—	3 Pipeline 3.75 Mile 15-inch
User Defined Linear	1.96	Mile	1.43	0.00	0.00	—	—	4 Pipeline 1.96 Mile 15-inch
Road Construction	0.45	Mile	0.22	0.00	0.00	—	—	7 Pipeline NNB Road
User Defined Recreational	1.00	User Defined Unit	75.0	0.00	0.00	0.00	—	8 MM Bio Mechanical

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.21	55.2	82.7	0.17	2.13	2.12	3.58	1.96	0.33	2.21	19,304	0.79	0.26	5.30	19,405
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.22	55.3	83.3	0.17	2.13	56.8	58.4	1.96	5.76	7.22	19,302	0.80	0.26	0.14	19,400
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.68	24.8	37.1	0.08	0.97	3.14	4.11	0.89	0.38	1.27	8,615	0.36	0.12	1.05	8,659
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.67	4.53	6.77	0.01	0.18	0.57	0.75	0.16	0.07	0.23	1,426	0.06	0.02	0.17	1,434

Exceeds (Annual)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	40.0	40.0	99.0	—	—	—	15.0	—	—	—	—	—	—	—	—
Unmit.	No	No	No	—	—	—	No	—	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	8.21	55.2	82.7	0.17	2.13	2.12	3.58	1.96	0.33	2.21	19,304	0.79	0.26	5.30	19,405
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	8.22	55.3	83.3	0.17	2.13	56.8	58.4	1.96	5.76	7.22	19,302	0.80	0.26	0.14	19,400
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	3.68	24.8	37.1	0.08	0.97	3.14	4.11	0.89	0.38	1.27	8,615	0.36	0.12	1.05	8,659
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.67	4.53	6.77	0.01	0.18	0.57	0.75	0.16	0.07	0.23	1,426	0.06	0.02	0.17	1,434

3. Construction Emissions Details

3.1. 1 Access - Clearing & Maintenance (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.75	6.42	10.6	0.02	0.23	—	0.23	0.21	—	0.21	1,588	0.06	0.01	—	1,593
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.75	6.42	10.6	0.02	0.23	—	0.23	0.21	—	0.21	1,588	0.06	0.01	—	1,593
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	1.16	1.91	< 0.005	0.04	—	0.04	0.04	—	0.04	287	0.01	< 0.005	—	288
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.21	0.35	< 0.005	0.01	—	0.01	0.01	—	0.01	47.5	< 0.005	< 0.005	—	47.7
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.05	0.57	0.00	0.00	0.08	0.08	0.00	0.02	0.02	86.5	0.01	< 0.005	0.38	88.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.62	0.00	0.00	0.08	0.08	0.00	0.02	0.02	86.4	0.01	< 0.005	0.01	87.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.11	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	15.7	< 0.005	< 0.005	0.03	15.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	2.59	< 0.005	< 0.005	< 0.005	2.64
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.3. 4 Access - Inspection (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.25	0.00	0.00	56.1	56.1	0.00	5.60	5.60	34.6	< 0.005	< 0.005	< 0.005	35.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	2.44	2.44	0.00	0.24	0.24	1.90	< 0.005	< 0.005	< 0.005	1.93
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	0.45	0.45	0.00	0.04	0.04	0.31	< 0.005	< 0.005	< 0.005	0.32
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.5. 2 Access - Sand Borrow (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	4.05	6.05	0.01	0.17	—	0.17	0.16	—	0.16	934	0.04	0.01	—	937
Dust From Material Movement	—	—	—	—	—	0.40	0.40	—	0.04	0.04	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	1.22	1.82	< 0.005	0.05	—	0.05	0.05	—	0.05	281	0.01	< 0.005	—	282
Dust From Material Movement	—	—	—	—	—	0.12	0.12	—	0.01	0.01	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.22	0.33	< 0.005	0.01	—	0.01	0.01	—	0.01	46.6	< 0.005	< 0.005	—	46.7
Dust From Material Movement	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.46	0.00	0.00	0.07	0.07	0.00	0.02	0.02	69.2	< 0.005	< 0.005	0.31	70.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.14	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	20.9	< 0.005	< 0.005	0.04	21.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	3.46	< 0.005	< 0.005	0.01	3.51
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.7. 8.A Pipeline NNB Road Excavation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.52	10.6	14.5	0.04	0.38	—	0.38	0.35	—	0.35	3,748	0.15	0.03	—	3,761
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.52	10.6	14.5	0.04	0.38	—	0.38	0.35	—	0.35	3,748	0.15	0.03	—	3,761
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.73	5.11	6.98	0.02	0.18	—	0.18	0.17	—	0.17	1,807	0.07	0.01	—	1,814
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.93	1.27	< 0.005	0.03	—	0.03	0.03	—	0.03	299	0.01	< 0.005	—	300
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.13	1.37	0.00	0.00	0.20	0.20	0.00	0.05	0.05	208	0.01	0.01	0.92	212
Vendor	< 0.005	0.07	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	46.0	< 0.005	0.01	0.12	48.1
Hauling	< 0.005	0.30	0.05	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	222	< 0.005	0.04	0.42	233
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.16	0.15	1.50	0.00	0.00	0.20	0.20	0.00	0.05	0.05	207	0.02	0.01	0.02	211
Vendor	< 0.005	0.07	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	46.0	< 0.005	0.01	< 0.005	48.0
Hauling	< 0.005	0.31	0.05	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	222	< 0.005	0.04	0.01	233
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.69	0.00	0.00	0.09	0.09	0.00	0.02	0.02	100	0.01	< 0.005	0.19	102
Vendor	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	22.2	< 0.005	< 0.005	0.02	23.2
Hauling	< 0.005	0.15	0.02	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	107	< 0.005	0.02	0.09	112
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.13	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	16.6	< 0.005	< 0.005	0.03	16.9
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	3.67	< 0.005	< 0.005	< 0.005	3.83
Hauling	< 0.005	0.03	< 0.005	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	17.7	< 0.005	< 0.005	0.01	18.6

3.9. 3 Access - Ongoing Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.38	3.33	4.76	0.01	0.17	—	0.17	0.15	—	0.15	752	0.03	0.01	—	754
Dust From Material Movement	—	—	—	—	—	0.53	0.53	—	0.06	0.06	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	10.3	< 0.005	< 0.005	—	10.3
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	1.71	< 0.005	< 0.005	—	1.71
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.25	0.00	0.00	0.03	0.03	0.00	0.01	0.01	34.6	< 0.005	< 0.005	< 0.005	35.1
Vendor	< 0.005	0.07	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	46.0	< 0.005	0.01	< 0.005	48.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.47	< 0.005	< 0.005	< 0.005	0.48
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.63	< 0.005	< 0.005	< 0.005	0.66
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.08	< 0.005	< 0.005	< 0.005	0.08
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.10	< 0.005	< 0.005	< 0.005	0.11
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.11. 11 MM Bio Mechanical Removal (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.63	4.52	6.07	0.02	0.15	—	0.15	0.14	—	0.14	1,804	0.07	0.01	—	1,810
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.63	4.52	6.07	0.02	0.15	—	0.15	0.14	—	0.14	1,804	0.07	0.01	—	1,810
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.27	0.37	< 0.005	0.01	—	0.01	0.01	—	0.01	109	< 0.005	< 0.005	—	109
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	18.0	< 0.005	< 0.005	—	18.1
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.05	0.57	0.00	0.00	0.08	0.08	0.00	0.02	0.02	86.5	0.01	< 0.005	0.38	88.2
Vendor	< 0.005	0.07	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	46.0	< 0.005	0.01	0.12	48.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.62	0.00	0.00	0.08	0.08	0.00	0.02	0.02	86.4	0.01	< 0.005	0.01	87.8
Vendor	< 0.005	0.07	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	46.0	< 0.005	0.01	< 0.005	48.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	5.22	< 0.005	< 0.005	0.01	5.31
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	2.77	< 0.005	< 0.005	< 0.005	2.89
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.86	< 0.005	< 0.005	< 0.005	0.88
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.46	< 0.005	< 0.005	< 0.005	0.48
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.13. 6 Infrastructure Maintenance (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	4.78	6.91	0.01	0.21	—	0.21	0.19	—	0.19	1,077	0.04	0.01	—	1,081
Dust From Material Movement	—	—	—	—	—	0.53	0.53	—	0.06	0.06	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	4.78	6.91	0.01	0.21	—	0.21	0.19	—	0.19	1,077	0.04	0.01	—	1,081
Dust From Material Movement	—	—	—	—	—	0.53	0.53	—	0.06	0.06	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.29	0.42	< 0.005	0.01	—	0.01	0.01	—	0.01	64.9	< 0.005	< 0.005	—	65.1
Dust From Material Movement	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.05	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	10.7	< 0.005	< 0.005	—	10.8
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.46	0.00	0.00	0.07	0.07	0.00	0.02	0.02	69.2	< 0.005	< 0.005	0.31	70.5
Vendor	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	23.0	< 0.005	< 0.005	0.06	24.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.50	0.00	0.00	0.07	0.07	0.00	0.02	0.02	69.1	0.01	< 0.005	0.01	70.2
Vendor	< 0.005	0.04	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	23.0	< 0.005	< 0.005	< 0.005	24.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	4.18	< 0.005	< 0.005	0.01	4.25
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.39	< 0.005	< 0.005	< 0.005	1.45
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.69	< 0.005	< 0.005	< 0.005	0.70
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.23	< 0.005	< 0.005	< 0.005	0.24
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.15. 10 Pipeline - Repair (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	9.32	13.2	0.03	0.39	—	0.39	0.36	—	0.36	2,943	0.12	0.02	—	2,953
Dust From Material Movement	—	—	—	—	—	0.40	0.40	—	0.04	0.04	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	9.32	13.2	0.03	0.39	—	0.39	0.36	—	0.36	2,943	0.12	0.02	—	2,953
Dust From Material Movement	—	—	—	—	—	0.40	0.40	—	0.04	0.04	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	1.68	2.39	0.01	0.07	—	0.07	0.06	—	0.06	532	0.02	< 0.005	—	534
Dust From Material Movement	—	—	—	—	—	0.07	0.07	—	0.01	0.01	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.31	0.44	< 0.005	0.01	—	0.01	0.01	—	0.01	88.1	< 0.005	< 0.005	—	88.4
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.11	1.15	0.00	0.00	0.17	0.17	0.00	0.04	0.04	173	0.01	0.01	0.77	176
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.13	1.25	0.00	0.00	0.17	0.17	0.00	0.04	0.04	173	0.01	0.01	0.02	176
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.22	0.00	0.00	0.03	0.03	0.00	0.01	0.01	31.3	< 0.005	< 0.005	0.06	31.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	5.19	< 0.005	< 0.005	0.01	5.27
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.17. 8.B Pipeline NNB Road Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.38	3.56	4.97	0.01	0.16	—	0.16	0.15	—	0.15	755	0.03	0.01	—	758
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.38	3.56	4.97	0.01	0.16	—	0.16	0.15	—	0.15	755	0.03	0.01	—	758

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	1.72	2.40	< 0.005	0.08	—	0.08	0.07	—	0.07	364	0.01	< 0.005	—	365
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.31	0.44	< 0.005	0.01	—	0.01	0.01	—	0.01	60.3	< 0.005	< 0.005	—	60.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.69	0.00	0.00	0.10	0.10	0.00	0.02	0.02	104	0.01	< 0.005	0.46	106
Vendor	< 0.005	0.07	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	46.0	< 0.005	0.01	0.12	48.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.75	0.00	0.00	0.10	0.10	0.00	0.02	0.02	104	0.01	< 0.005	0.01	105
Vendor	< 0.005	0.07	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	46.0	< 0.005	0.01	< 0.005	48.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.35	0.00	0.00	0.05	0.05	0.00	0.01	0.01	50.1	< 0.005	< 0.005	0.10	50.9
Vendor	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	22.2	< 0.005	< 0.005	0.02	23.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	8.30	< 0.005	< 0.005	0.02	8.44
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	3.67	< 0.005	< 0.005	< 0.005	3.83
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.19. 7 Conduit (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.60	11.1	15.4	0.04	0.45	—	0.45	0.42	—	0.42	3,930	0.16	0.03	—	3,944
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.60	11.1	15.4	0.04	0.45	—	0.45	0.42	—	0.42	3,930	0.16	0.03	—	3,944
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	2.01	2.78	0.01	0.08	—	0.08	0.08	—	0.08	711	0.03	0.01	—	713
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.37	0.51	< 0.005	0.01	—	0.01	0.01	—	0.01	118	< 0.005	< 0.005	—	118
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.12	1.26	0.00	0.00	0.19	0.19	0.00	0.04	0.04	190	0.01	0.01	0.84	194
Vendor	< 0.005	0.07	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	46.0	< 0.005	0.01	0.12	48.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.14	1.37	0.00	0.00	0.19	0.19	0.00	0.04	0.04	190	0.01	0.01	0.02	193
Vendor	< 0.005	0.07	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	46.0	< 0.005	0.01	< 0.005	48.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.24	0.00	0.00	0.03	0.03	0.00	0.01	0.01	34.5	< 0.005	< 0.005	0.07	35.0
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	8.32	< 0.005	< 0.005	0.01	8.68
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	5.71	< 0.005	< 0.005	0.01	5.80
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.38	< 0.005	< 0.005	< 0.005	1.44
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.21. 5 Pipeline - 3.75 miles (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.60	11.1	15.4	0.04	0.45	—	0.45	0.42	—	0.42	3,930	0.16	0.03	—	3,944
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.60	11.1	15.4	0.04	0.45	—	0.45	0.42	—	0.42	3,930	0.16	0.03	—	3,944
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	5.37	7.41	0.02	0.22	—	0.22	0.20	—	0.20	1,895	0.08	0.02	—	1,902
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.98	1.35	< 0.005	0.04	—	0.04	0.04	—	0.04	314	0.01	< 0.005	—	315
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.12	1.26	0.00	0.00	0.19	0.19	0.00	0.04	0.04	190	0.01	0.01	0.84	194
Vendor	< 0.005	0.07	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	46.0	< 0.005	0.01	0.12	48.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.14	1.37	0.00	0.00	0.19	0.19	0.00	0.04	0.04	190	0.01	0.01	0.02	193
Vendor	< 0.005	0.07	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	46.0	< 0.005	0.01	< 0.005	48.0

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.63	0.00	0.00	0.08	0.08	0.00	0.02	0.02	91.9	0.01	< 0.005	0.17	93.4
Vendor	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	22.2	< 0.005	< 0.005	0.02	23.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.12	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	15.2	< 0.005	< 0.005	0.03	15.5
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	3.67	< 0.005	< 0.005	< 0.005	3.83
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.23. 9 Pipeline - 1.96 miles (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.60	11.1	15.4	0.04	0.45	—	0.45	0.42	—	0.42	3,930	0.16	0.03	—	3,944
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.60	11.1	15.4	0.04	0.45	—	0.45	0.42	—	0.42	3,930	0.16	0.03	—	3,944
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.77	5.37	7.41	0.02	0.22	—	0.22	0.20	—	0.20	1,895	0.08	0.02	—	1,902
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.98	1.35	< 0.005	0.04	—	0.04	0.04	—	0.04	314	0.01	< 0.005	—	315
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.12	1.26	0.00	0.00	0.19	0.19	0.00	0.04	0.04	190	0.01	0.01	0.84	194
Vendor	< 0.005	0.07	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	46.0	< 0.005	0.01	0.12	48.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.14	1.37	0.00	0.00	0.19	0.19	0.00	0.04	0.04	190	0.01	0.01	0.02	193
Vendor	< 0.005	0.07	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	46.0	< 0.005	0.01	< 0.005	48.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.63	0.00	0.00	0.08	0.08	0.00	0.02	0.02	91.9	0.01	< 0.005	0.17	93.4
Vendor	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	22.2	< 0.005	< 0.005	0.02	23.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.12	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	15.2	< 0.005	< 0.005	0.03	15.5
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	3.67	< 0.005	< 0.005	< 0.005	3.83
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
1 Access - Clearing & Maintenance	Linear, Grubbing & Land Clearing	1/6/2026	7/3/2026	5.00	66.0	1 Access - Clearing & Maintenance
4 Access - Inspection	Linear, Grubbing & Land Clearing	1/14/2026	2/10/2026	5.00	20.0	4 Access - Inspection
2 Access - Sand Borrow	Linear, Grubbing & Land Clearing	04/21/2026	9/21/2026	5.00	110	2 Access - Sand Borrow
8.A Pipeline NNB Road Excavation	Linear, Grading & Excavation	3/17/2026	11/17/2026	5.00	176	8.A NNB Road Excavation
3 Access - Ongoing Grading	Linear, Grading & Excavation	1/7/2026	1/13/2026	5.00	5.00	3 Access - Ongoing Grading
11 MM Bio Mechanical Removal	Linear, Grading & Excavation	9/18/2026	10/19/2026	5.00	22.0	11 MM Bio Mechanical Removal
6 Infrastructure Maintenance	Linear, Grading & Excavation	9/18/2026	10/19/2026	5.00	22.0	6 Infrastructure Maintenance
10 Pipeline - Repair	Linear, Drainage, Utilities, & Sub-Grade	9/18/2026	12/18/2026	5.00	66.0	10 Pipeline - Repair
8.B Pipeline NNB Road Paving	Linear, Paving	3/20/2026	11/20/2026	5.00	176	8.B NNB Road Paving
7 Conduit	Linear, Trenching	1/15/2026	4/16/2026	5.00	66.0	7 Conduit
5 Pipeline - 3.75 miles	Linear, Trenching	1/12/2026	9/14/2026	5.00	176	5 Pipeline - 3.75 miles 15-Inch
9 Pipeline - 1.96 miles	Linear, Trenching	1/15/2026	9/17/2026	5.00	176	9 Pipeline - 1.96 miles 15-Inch

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
1 Access - Clearing & Maintenance	Other Material Handling Equipment	Diesel	Average	1.00	6.00	120	0.75
1 Access - Clearing & Maintenance	Concrete/Industrial Saws	Diesel	Average	2.00	6.00	33.0	0.73
1 Access - Clearing & Maintenance	Other Material Handling Equipment	Diesel	Average	1.00	6.00	93.0	0.75
1 Access - Clearing & Maintenance	Excavators	Diesel	Average	1.00	6.00	36.0	0.38
2 Access - Sand Borrow	Graders	Diesel	Average	1.00	6.00	148	0.41
2 Access - Sand Borrow	Skid Steer Loaders	Diesel	Average	1.00	6.00	71.0	0.37
2 Access - Sand Borrow	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
2 Access - Sand Borrow	Excavators	Diesel	Average	1.00	6.00	36.0	0.38
8.A Pipeline NNB Road Excavation	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
8.A Pipeline NNB Road Excavation	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
8.A Pipeline NNB Road Excavation	Skid Steer Loaders	Diesel	Average	1.00	6.00	71.0	0.37
8.A Pipeline NNB Road Excavation	Off-Highway Trucks	Diesel	Average	2.00	4.00	376	0.38
8.A Pipeline NNB Road Excavation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	4.00	84.0	0.37
8.A Pipeline NNB Road Excavation	Trenchers	Diesel	Average	1.00	4.00	40.0	0.50
8.A Pipeline NNB Road Excavation	Plate Compactors	Diesel	Average	1.00	4.00	8.00	0.43

8.A Pipeline NNB Road Excavation	Generator Sets	Diesel	Average	1.00	6.00	14.0	0.74
8.A Pipeline NNB Road Excavation	Concrete/Industrial Saws	Diesel	Average	1.00	4.00	33.0	0.73
8.A Pipeline NNB Road Excavation	Concrete/Industrial Saws	Diesel	Average	1.00	4.00	33.0	0.73
8.A Pipeline NNB Road Excavation	Off-Highway Trucks	Diesel	Average	1.00	6.00	376	0.38
3 Access - Ongoing Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
3 Access - Ongoing Grading	Skid Steer Loaders	Diesel	Average	1.00	6.00	71.0	0.37
11 MM Bio Mechanical Removal	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
11 MM Bio Mechanical Removal	Tractors/Loaders/Backhoes	Diesel	Average	1.00	4.00	84.0	0.37
11 MM Bio Mechanical Removal	Skid Steer Loaders	Diesel	Average	1.00	6.00	71.0	0.37
11 MM Bio Mechanical Removal	Off-Highway Trucks	Diesel	Average	2.00	4.00	376	0.38
6 Infrastructure Maintenance	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
6 Infrastructure Maintenance	Graders	Diesel	Average	1.00	8.00	148	0.41
6 Infrastructure Maintenance	Skid Steer Loaders	Diesel	Average	2.00	6.00	71.0	0.37
10 Pipeline - Repair	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
10 Pipeline - Repair	Skid Steer Loaders	Diesel	Average	1.00	6.00	71.0	0.37
10 Pipeline - Repair	Off-Highway Trucks	Diesel	Average	2.00	4.00	376	0.38
10 Pipeline - Repair	Tractors/Loaders/Backhoes	Diesel	Average	1.00	4.00	84.0	0.37
10 Pipeline - Repair	Trenchers	Diesel	Average	1.00	4.00	40.0	0.50
10 Pipeline - Repair	Plate Compactors	Diesel	Average	1.00	4.00	8.00	0.43
10 Pipeline - Repair	Generator Sets	Diesel	Average	1.00	7.00	14.0	0.74

10 Pipeline - Repair	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
10 Pipeline - Repair	Graders	Diesel	Average	1.00	6.00	148	0.41
8.B Pipeline NNB Road Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
8.B Pipeline NNB Road Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
8.B Pipeline NNB Road Paving	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
8.B Pipeline NNB Road Paving	Signal Boards	Electric	Average	3.00	8.00	6.00	0.82
7 Conduit	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
7 Conduit	Skid Steer Loaders	Diesel	Average	1.00	6.00	71.0	0.37
7 Conduit	Off-Highway Trucks	Diesel	Average	2.00	4.00	376	0.38
7 Conduit	Tractors/Loaders/Backhoes	Diesel	Average	1.00	4.00	84.0	0.37
7 Conduit	Trenchers	Diesel	Average	1.00	4.00	40.0	0.50
7 Conduit	Plate Compactors	Diesel	Average	1.00	4.00	8.00	0.43
7 Conduit	Generator Sets	Diesel	Average	1.00	6.00	14.0	0.74
7 Conduit	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
7 Conduit	Graders	Diesel	Average	1.00	6.00	148	0.41
7 Conduit	Off-Highway Trucks	Diesel	Average	1.00	6.00	376	0.38
5 Pipeline - 3.75 miles	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
5 Pipeline - 3.75 miles	Skid Steer Loaders	Diesel	Average	1.00	6.00	71.0	0.37
5 Pipeline - 3.75 miles	Off-Highway Trucks	Diesel	Average	2.00	4.00	376	0.38
5 Pipeline - 3.75 miles	Tractors/Loaders/Backhoes	Diesel	Average	1.00	4.00	84.0	0.37
5 Pipeline - 3.75 miles	Trenchers	Diesel	Average	1.00	4.00	40.0	0.50
5 Pipeline - 3.75 miles	Plate Compactors	Diesel	Average	1.00	4.00	8.00	0.43
5 Pipeline - 3.75 miles	Generator Sets	Diesel	Average	1.00	6.00	14.0	0.74
5 Pipeline - 3.75 miles	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
5 Pipeline - 3.75 miles	Graders	Diesel	Average	1.00	6.00	148	0.41

5 Pipeline - 3.75 miles	Off-Highway Trucks	Diesel	Average	1.00	6.00	376	0.38
9 Pipeline - 1.96 miles	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
9 Pipeline - 1.96 miles	Skid Steer Loaders	Diesel	Average	1.00	6.00	71.0	0.37
9 Pipeline - 1.96 miles	Off-Highway Trucks	Diesel	Average	2.00	4.00	376	0.38
9 Pipeline - 1.96 miles	Tractors/Loaders/Backhoes	Diesel	Average	1.00	4.00	84.0	0.37
9 Pipeline - 1.96 miles	Trenchers	Diesel	Average	1.00	4.00	40.0	0.50
9 Pipeline - 1.96 miles	Plate Compactors	Diesel	Average	1.00	4.00	8.00	0.43
9 Pipeline - 1.96 miles	Generator Sets	Diesel	Average	1.00	6.00	14.0	0.74
9 Pipeline - 1.96 miles	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
9 Pipeline - 1.96 miles	Graders	Diesel	Average	1.00	6.00	148	0.41
9 Pipeline - 1.96 miles	Off-Highway Trucks	Diesel	Average	1.00	6.00	376	0.38

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
1 Access - Clearing & Maintenance	—	—	—	—
1 Access - Clearing & Maintenance	Worker	12.5	9.53	LDA,LDT1,LDT2
1 Access - Clearing & Maintenance	Vendor	0.00	7.16	HHDT,MHDT
1 Access - Clearing & Maintenance	Hauling	0.00	20.0	HHDT
1 Access - Clearing & Maintenance	Onsite truck	—	—	HHDT
7 Conduit	—	—	—	—
7 Conduit	Worker	27.5	9.53	LDA,LDT1,LDT2
7 Conduit	Vendor	2.00	7.16	HHDT,MHDT
7 Conduit	Hauling	0.00	20.0	HHDT
7 Conduit	Onsite truck	—	—	HHDT
5 Pipeline - 3.75 miles	—	—	—	—
5 Pipeline - 3.75 miles	Worker	27.5	9.53	LDA,LDT1,LDT2

5 Pipeline - 3.75 miles	Vendor	2.00	7.16	HHDT,MHDT
5 Pipeline - 3.75 miles	Hauling	0.00	20.0	HHDT
5 Pipeline - 3.75 miles	Onsite truck	—	—	HHDT
9 Pipeline - 1.96 miles	—	—	—	—
9 Pipeline - 1.96 miles	Worker	27.5	9.53	LDA,LDT1,LDT2
9 Pipeline - 1.96 miles	Vendor	2.00	7.16	HHDT,MHDT
9 Pipeline - 1.96 miles	Hauling	0.00	20.0	HHDT
9 Pipeline - 1.96 miles	Onsite truck	—	—	HHDT
8.A Pipeline NNB Road Excavation	—	—	—	—
8.A Pipeline NNB Road Excavation	Worker	30.0	9.53	LDA,LDT1,LDT2
8.A Pipeline NNB Road Excavation	Vendor	2.00	7.16	HHDT,MHDT
8.A Pipeline NNB Road Excavation	Hauling	3.14	20.0	HHDT
8.A Pipeline NNB Road Excavation	Onsite truck	—	—	HHDT
8.B Pipeline NNB Road Paving	—	—	—	—
8.B Pipeline NNB Road Paving	Worker	15.0	9.53	LDA,LDT1,LDT2
8.B Pipeline NNB Road Paving	Vendor	2.00	7.16	HHDT,MHDT
8.B Pipeline NNB Road Paving	Hauling	0.00	20.0	HHDT
8.B Pipeline NNB Road Paving	Onsite truck	—	—	HHDT
4 Access - Inspection	—	—	—	—
4 Access - Inspection	Worker	5.00	9.53	LDA,LDT1,LDT2
4 Access - Inspection	Vendor	0.00	7.16	HHDT,MHDT
4 Access - Inspection	Hauling	0.00	20.0	HHDT
4 Access - Inspection	Onsite truck	—	—	HHDT
3 Access - Ongoing Grading	—	—	—	—
3 Access - Ongoing Grading	Worker	5.00	9.53	LDA,LDT1,LDT2
3 Access - Ongoing Grading	Vendor	2.00	7.16	HHDT,MHDT
3 Access - Ongoing Grading	Hauling	0.00	20.0	HHDT
3 Access - Ongoing Grading	Onsite truck	—	—	HHDT

11 MM Bio Mechanical Removal	—	—	—	—
11 MM Bio Mechanical Removal	Worker	12.5	9.53	LDA,LDT1,LDT2
11 MM Bio Mechanical Removal	Vendor	2.00	7.16	HHDT,MHDT
11 MM Bio Mechanical Removal	Hauling	0.00	20.0	HHDT
11 MM Bio Mechanical Removal	Onsite truck	—	—	HHDT
2 Access - Sand Borrow	—	—	—	—
2 Access - Sand Borrow	Worker	10.0	9.53	LDA,LDT1,LDT2
2 Access - Sand Borrow	Vendor	0.00	7.16	HHDT,MHDT
2 Access - Sand Borrow	Hauling	0.00	20.0	HHDT
2 Access - Sand Borrow	Onsite truck	—	—	HHDT
6 Infrastructure Maintenance	—	—	—	—
6 Infrastructure Maintenance	Worker	10.0	9.53	LDA,LDT1,LDT2
6 Infrastructure Maintenance	Vendor	1.00	7.16	HHDT,MHDT
6 Infrastructure Maintenance	Hauling	0.00	20.0	HHDT
6 Infrastructure Maintenance	Onsite truck	—	—	HHDT
10 Pipeline - Repair	—	—	—	—
10 Pipeline - Repair	Worker	25.0	9.53	LDA,LDT1,LDT2
10 Pipeline - Repair	Vendor	0.00	7.16	HHDT,MHDT
10 Pipeline - Repair	Hauling	0.00	20.0	HHDT
10 Pipeline - Repair	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
1 Access - Clearing & Maintenance	—	—	22.7	0.00	—
4 Access - Inspection	—	—	22.7	0.00	—
2 Access - Sand Borrow	—	—	22.7	0.00	—
8.A Pipeline NNB Road Excavation	4,409	4,409	22.7	0.00	—
3 Access - Ongoing Grading	—	—	22.7	0.00	—
11 MM Bio Mechanical Removal	—	—	22.7	0.00	—
6 Infrastructure Maintenance	—	—	22.7	0.00	—
10 Pipeline - Repair	—	—	22.7	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
User Defined Linear	0.00	100%
User Defined Linear	0.00	100%
User Defined Linear	1.00	100%
Road Construction	0.00	100%
User Defined Recreational	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	6.32	annual days of extreme heat

Extreme Precipitation	15.6	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	5.54	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score

Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	0.27
AQ-PM	4.18
AQ-DPM	5.19
Drinking Water	8.70
Lead Risk Housing	78.3
Pesticides	64.6
Toxic Releases	10.9
Traffic	19.9

Effect Indicators	—
CleanUp Sites	50.3
Groundwater	92.9
Haz Waste Facilities/Generators	82.1
Impaired Water Bodies	58.7
Solid Waste	87.7
Sensitive Population	—
Asthma	80.1
Cardio-vascular	95.1
Low Birth Weights	3.57
Socioeconomic Factor Indicators	—
Education	41.2
Housing	49.7
Linguistic	—
Poverty	70.7
Unemployment	83.2

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—
High school enrollment	—
Preschool enrollment	—

Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—
Supermarket access	—
Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—
Uncrowded housing	—
Health Outcomes	—
Insured adults	—
Arthritis	0.0
Asthma ER Admissions	8.6
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0

Life Expectancy at Birth	0.0
Cognitively Disabled	10.7
Physically Disabled	30.9
Heart Attack ER Admissions	66.7
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	0.0
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	14.5
Children	77.6
Elderly	49.5
English Speaking	0.0
Foreign-born	0.0
Outdoor Workers	38.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	87.8
Traffic Density	0.0
Traffic Access	0.0
Other Indices	—
Hardship	0.0

Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	61.0
Healthy Places Index Score for Project Location (b)	—
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Assumed 75 acres burn over 1 mo period/year.
Construction: Construction Phases	Project-specific phases and phase duration. Assume all construction phases could occur during the same year.
Construction: Off-Road Equipment	Project-Specific Equipment Mix
Construction: Dust From Material Movement	Project-Specific hauling. 1 CY import and 1 CY export per LF 5.A Excavation Roadway, half of total roadway length constructed per year. Assumed material import/export phased.

Construction: On-Road Fugitive Dust	4 Access - Inspection, assume 20% of worker trip length on paved, 80% on unpaved
Construction: Trips and VMT	Updated with additional on-road trips
Construction: Paving	Paving assumptions for repaving New Navy Base Road (1.67-mile length)