Humboldt Bay Harbor, Recreation and Conservation District

Humboldt Bay Water Trails Project

Initial Study and Proposed Mitigated Negative Declaration

May 2014

Humboldt Bay Harbor, Recreation and Conservation District

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Lead Agency:

Humboldt Bay Harbor, Recreation and Conservation District
601 Startare Drive
Eureka, CA 95502

Prepared by:

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April 2014

Project Ref #: 1252611001.11030

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1. Project Information Summary

Project Title	Humboldt Bay Harbor, Recreation and Conservation District Humboldt Bay Water Trails Project
Lead Agency Name & Address	Humboldt Bay Harbor, Recreation and Conservation District 601 Startare Drive Eureka, CA 95502
Contact Person(s)	George Williamson Humboldt Bay Harbor, Recreation and Conservation District Phone number: (707) 825-8260 Email: georgew@planwestpartners.com
Project Location	The Project is located in Humboldt County on and contiguous to Humboldt Bay.
Project Assessor's Parcel Numbers (APN)	Arcata: 50324110 Woodley Island: 40503110 Samoa: 40115110
General Plan Land Use Designation	Arcata: Natural Resource – Public Trust Zone (NR-PTZ) Woodley Island: Public/Quasi Public (PQP) Samoa : Open Space/Parks
Zoning	Arcata: Natural Resource Protection Zone (NRP) Woodley Island: Public Facility - Marina (PF-M) Samoa: Public Recreation (PR)
Description of Project	The Project includes modification or upgrading of existing dock or boat input facilities and access points to encourage use of small personal watercraft on Humboldt Bay.

2. Project Setting

2.1 CEQA Requirements

This Project is subject to the requirements of the California Environmental Quality Act (CEQA). The CEQA lead agency is the Humboldt Bay Harbor, Recreation and Conservation District. The purpose of this Initial Study is to provide a basis for deciding whether to prepare an Environmental Impact Report, a Mitigated Negative Declaration or a Negative Declaration. This Initial Study is intended to satisfy the requirements of the California Environmental Quality Act, CEQA, (Public Resources Code, Div 13, Sec 21000-21177), and the State CEQA Guidelines (California Code of Regulations, Title 14, Chapter 3, Sec 15000-15387). CEQA encourages lead agencies to modify their projects to avoid significant adverse impacts.

2.2 Background

The purpose of the project is to provide access for personal watercraft, including landside features such as parking lot improvements, loading/unloading areas, and low-freeboard docks for launching watercraft. See Figure 1, located in Appendix, a for a vicinity map showing Humboldt Bay and the area surrounding the project sites. The project consists of three sub-projects at the following locations:

1. Arcata Marsh and Wildlife Sanctuary Boat Launch Facility – Proposed improvements include a new dock for launching personal watercraft.
2. Samoa Boat Ramp County Park – Proposed improvements include restriping of the parking lot, creation of an unloading area for personal watercraft, and a new pedestrian access trail from the parking lot to the beach.
3. Woodley Island Marina Personal Watercraft Dock – Proposed improvements include a new dock for launching personal watercraft.

3. Environmental Setting and Existing Conditions

The Project is located within and immediately adjacent to Humboldt Bay, with specific project activities at three locations: Arcata, the Samoa Peninsula, and Woodley Island as described by the following sections.

3.1 Arcata Marsh Existing Conditions

Surrounding land use within the City of Arcata includes parklands, the Arcata Marsh wastewater treatment facility, and part of Humboldt Bay. Much of the land portion of the site is taken up by a parking lot, hiking trails, and small areas of low vegetation. The current conditions at the Arcata Marsh for the paddling community are limited. The existing boat ramp is located at the northwest corner of the parking lot. The ramp is useable at only the highest tides, and at low tide the nearest channel is approximately 150 feet from the boat ramp. The ramp is a typical concrete boat ramp used by vehicles with trailers to back into the water. There is a floating dock adjacent to the boat ramp, but the dock has broken apart over time leaving only a small portion intact. The ramp and dock are not functional for the paddle boat community.

The existing parking lot is approximately 24,000 square feet in size. The parking lot has recently been resurfaced and includes parking appropriately striped for Americans with Disabilities Act (ADA). Currently there is one portable ADA compliant toilet on site, located at the north end of the parking lot. No potable water is currently available at the Arcata Marsh site.

3.2 Samoa Campground Existing Conditions

The Samoa Peninsula, also known as the North Spit, is a coastal bar separating Humboldt Bay from the Pacific Ocean. The Samoa site is within a County park and campground on a relatively undeveloped portion of the Samoa Peninsula with a parking lot and campgrounds on the land side, and Humboldt Bay to the east. The Pacific Ocean and beaches lie a short distance to the west State Route 255 (SR 255) is to the northeast and connects to Woodley Island and the City of Eureka.

Currently there are two main paddle boat access points at Samoa Campground, the boat ramp and beach access. Most boaters use the beach access. Few people use the boat ramp because it is steep, slippery, and boat damage could occur due to the rough concrete. To reach the beach access point, boaters must unload from the parking lot and take a path between rip-rap and a low sand dune covered in ice plant. On the other side of the ice plant mound is an all-terrain vehicle (ATV) trail. The pedestrian trail and ATV trail are separated by approximately 12 feet.

The Samoa Campground is primarily utilized by RV campers. Many of the campers operate ATVs from the campgrounds to the ATV park located south of the campground. The campgrounds lie around the perimeter of the approximately 115,000 square feet of paved parking lot. The parking lot has limited striping and other markings, making it difficult for day users and campers to park appropriately.

Potable water exists at the site. ADA compliant showers and toilets also exist at the campground. The wastewater is discharged to four septic tanks. The septic tank effluent travels through a sand filter and then into a leachfield. All of the wastewater components are directly to the south of the restroom structure.

3.3 Woodley Island Existing Conditions

Woodley Island lies within Humboldt Bay between Eureka and the Samoa Peninsula. The site is a developed harbor, with boat slips and nearby parking areas. Shoreline areas are landscaped with mowed and maintained grass and scattered ornamental trees.

The existing conditions at the marina are good, except for providing an ADA compliant access to the water and dock freeboard. The gangway to the floating dock is steep (between 14.1 and 16.7 percent depending on the tide). The first slip on the west side of Dock G is reserved for paddle boat access. The remaining slips are reserved for motor boats and sailboats. The freeboard at this site is 11.5 inches. Because of dock height from the water, some boaters may have difficulty entering and exiting their boats. The total dock width is 4.3 feet and the active width (concrete base) is 2.6 feet, which might make it difficult for boaters to prepare for or break down from paddling. The dock is 37 feet long. Other facilities at the marina include:

1. Two public ADA-compliant bathrooms, a restaurant, ample parking, including ADA-compliant striping, potable water and a gift shop.

4. Project Description

4.1 Project Purpose

The purpose of the project is to provide access for personal watercraft, including landside features such as parking lot improvements, loading/unloading areas, and low-freeboard docks for launching watercraft.

4.2 Arcata Bay Personal Watercraft Dock

The existing boat launch facility is in the far northeast portion of Arcata Bay, and includes a concrete launch ramp and a single floating dock. Due to shallow depths in the vicinity of the launch ramp, it is functional only at higher tides; during low tides the mudflat is exposed and launching watercraft is not possible. The mudflat in this area is approximately two feet above mean lower low water (MLLW). An existing small channel through the mudflats runs parallel to the shoreline along the southern limit of the project site and the channel thalweg has an elevation of approximately zero feet MLLW. When the water surface reaches an elevation of about two feet MLLW there is sufficient water depth and width to launch watercraft; this water surface elevation will be used as the Design Low Water for the dock design. The dock will also be designed to provide access at a Design High Water of seven feet MLLW.

The proposed dock will be located at the northwest side of the parking area and will consist of a concrete abutment, an aluminum gangway, a gangway landing float and a launching float. The floats will be restrained by concrete guide piles. The dock and gangway will be designed to meet accessible requirements as follows:

1. Gangway slope – The gangway will be approximately 140 feet long and extend at an angle to reach the dredged channel. Because the facility has less than 25 slips and the gangway is at least 30 feet long, the gangway meets ADA and Department of Boating and Waterways (DBAW) accessibility requirements.
2. Floating Launching Docks – The docks will meet cross-slope and longitudinal slope requirements at the design low water and design high water conditions. The dock will be five feet wide to allow staging of watercraft and walking access on one side.
3. Freeboard – The docks are designed to provide low-freeboard access. This will result in a dock with freeboard of approximately eight to 10 inches.

The piles that are installed to hold the dock in place will be either fiberglass composite or steel with a high density polyethylene casing. The piles as driven will not exceed 12 inches in diameter and will be driven hollow with a vibratory hammer or pushed into place with a ram, such as an excavator arm. The installation of the guide piles will be done using land-based equipment working at low tides. Low pressure construction equipment and temporary ground support pads may also be used to create construction access to the dock. After installation of the guide piles, the remainder of the work will be done using standard land-based equipment to install the gangway and floats. Impacts to the bay include construction impacts to the bay bottom surface during pile driving, and creation of approximately 1,300 square feet of shadow fill due to the gangway and floats. The Arcata dock is shown in Appendix A, Figure 2.

4.3 Samoa Boat Ramp County Park

The existing facility consists of a large recreational vehicle (RV) and general day use parking area and concrete boat launch ramp, with two informal trails (ATV and pedestrian) connecting the parking area to the beach. The proposed improvements include the following:

1. Striping the parking area, formally demarcating spaces for cars (day use), trailers (day use), and RVs (camping).
2. Creation of a watercraft loading/unloading area adjacent to the beach access trail and the day use parking spaces. The existing pavement will be removed and replaced with sand/cobble to provide a personal watercraft staging area.
3. Replace the existing pedestrian access trail with a trail constructed of compacted earth or a timber (engineered timber) boardwalk laid on-grade. The waterside end of the trail will be embedded below grade to provide water access during most tidal elevations.

The work at Samoa Boat Ramp will be done entirely with land-based equipment and methods, as all the work will be above the normal tidal elevations. The Samoa site is shown in Appendix A, Figure 4.

4.4 Woodley Island Marina Personal Watercraft Dock

The existing floating portion of the marina consists of nine separate docks designated Docks “A” through “I” which primarily serve to provide slips for boats. Personal watercrafts are launched from existing floats. Watercraft are brought to the docks via aluminum gangways and launched from existing, narrow finger floats. The project proposes to install a low-freeboard dock at the northernmost slip of Dock “I”. The existing utility pedestal and the 45-degree knee brace within the slip will be removed. The new dock will attach to the existing finger and mainwalk, providing additional space for staging of the watercraft and to facilitate launching within the slip. The dock dimensions will be expanded to approximately eight feet wide by 40 feet long.

The new dock will be designed to meet ADA accessibility requirements for recreational boating facilities. The new float will be approximately 12 inches lower than the existing finger float, requiring a 12 foot long transition plate for accessibility; the remaining 28 feet of unobstructed dock will provide space for launching of two watercrafts. Floatation will be designed to provide six to eight inches of freeboard. The dock installation work will not require pile driving and will not affect the bay bottom surface during construction. The dock will create 320 square feet of shadow fill. The Woodley Island site is shown in Appendix A, Figure 3.

4.5 Public Agency Approval

4.5.1 Funding Agencies

1. California Department of Boating and Waterways
2. California Coastal Conservancy

4.5.2 Agencies with Permit Jurisdiction

1. Humboldt County
2. California Coastal Commission
3. US Army Corps of Engineers (USACE)

4. North Coast Regional Water Quality Control Board (NCRWQCB)
5. City of Arcata
6. Humboldt Bay Harbor and Conservation District

4.5.3 CEQA Responsible and Trustee Agencies and Endangered Species Consultation Agencies

1. California Department of Fish and Wildlife
2. NCRWQCB
3. NOAA National Marine Fisheries Service
4. United States Fish and Wildlife Service
5. North Coast Unified Air Quality Management District

4.6 Environmental Protection Actions

The following actions and practices are included as part of the Project to reduce or avoid adverse effects that could result from construction or operation of the pipeline. Additional resource-specific mitigation measures are presented in the following analysis sections.

4.6.1 Environmental Protection Action 1 – Procedures Regarding Encountering Human Remains

Human remains may be encountered, given the reported presence of prehistoric sites in the area. If human graves or remains are encountered, the HBHRCD or construction manager will ensure that work will halt in the vicinity and the County Coroner will be notified. At the same time, a qualified archaeologist will be contacted to evaluate the situation. If human remains are of Native American origin, the Coroner will notify the Native American Heritage Commission (NAHC) within 24 hours of identification, pursuant to Public Resources Code 5097.98.

4.6.2 Environmental Protection Action 2 – Erosion Control Plan

An Erosion Control Plan for the Project will be developed prior to construction to prevent soil erosion and sedimentation during construction. The Plan will address how the contractor will manage erosion and sediment control actions, general site and materials management, and inspection and maintenance. Below are examples of the actions that would be incorporated into Project construction to reduce soil erosion and protect water quality.

1. Erosion and sediment control Actions will be in effect and maintained by the contractor on a year-round basis until all disturbed areas are stabilized.
2. Stockpiled material will be covered or watered daily sufficient to eliminate dust.
3. Fiber rolls or similar products will be utilized to reduce sediment runoff from disturbed soils.
4. A stabilized construction entrance will be maintained to minimize tracking of mud and dirt from construction vehicles onto public roads.
5. Storm drain inlets receiving stormwater runoff will be equipped with inlet protection.
6. A concrete washout area will be designated to clean concrete trucks and tools, if necessary.

4.6.3 Environmental Protection Action 3 – Stormwater Pollution Prevention Plan

If construction disturbs more than one acre of soil, the Project will seek coverage under State Water Resources Control Board (Water Board) Order No. 2009-0009-DWQ, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities. The HBMWD will submit permit registration documents (notice of intent, risk assessment, site maps, Stormwater Pollution and Prevention Plan (SWPPP), annual fee, and certifications) to the Regional Water Quality Control Board. The SWPPP will address pollutant sources, non-stormwater discharges resulting from construction dewatering, best management practices (BMPs), and other requirements specified in the Order. The BMPs will include any measures included in the Project's erosion control plans. The SWPPP will also include dust control practices to prevent wind erosion, sediment tracking, and dust generation by construction equipment. A qualified SWPPP practitioner will oversee implementation of the Project SWPPP, including visual inspections, sampling and analysis, and ensuring overall compliance.

4.6.4 Environmental Protection Action 4 – Noise Reduction Actions

During Project construction, the following measures will be incorporated into the Project to reduce daytime noise impacts to the maximum feasible extent:

1. A preconstruction meeting will be held among the HBHRCD, construction manager, and the general contractor to confirm that noise mitigation and practices are completed prior to commencement of construction (including construction hours, neighborhood notification, posted signs, etc.).
2. Hours of construction will be limited to between 7:00 AM and 6:00 PM, Monday through Friday, and 10:00 AM to 5:00 PM on Saturdays. No construction would be allowed on Sundays, except in an emergency.
3. Semi-stationary equipment (e.g., generators, compressors, etc.) will be located as far as possible from residences.
4. Quietest available equipment and electrically-powered equipment will be used, rather than internal combustion engines where feasible.
5. Equipment and on-site trucks used for Project construction will utilize noise control techniques such as improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds, wherever feasible. All construction equipment will be inspected at periodic intervals to ensure proper maintenance and resulting lower noise levels.
6. Impact tools (e.g. jack hammers, pavement breakers, rock drills) used for Project construction will be hydraulically or electrically powered wherever possible to avoid noise associated with compressed-air exhaust from pneumatically powered tools.

Environmental Factors Potentially Affected

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

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

DETERMINATION

(To be completed by the Lead Agency) On the basis of this initial evaluation:

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

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

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

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

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

_____ _____

Signature Date

5. Environmental Effects of the Project

5.1 Aesthetics

5.1.1 Aesthetic Thresholds of Significance

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

5.1.2 Discussion

The Project sites are predominantly within existing public parks, docks or water access locations on Humboldt Bay. The views from the Arcata Marsh site are of the Bay, existing parking facilities, and adjacent wetlands and open space. Views from the Samoa site are of the Bay and adjacent parking and camping areas, and low coastal dunes. Views from the Woodley Island site are of the Bay and existing developed dock facilities including boats, parking areas, landscaping, and offices.

The Project would include only minor changes to the visual environment. Visible elements of the project would include additions to existing docks or construction of new docks in locations where similar structures are already present. Dock additions would extend only a few feet above the surface of the Bay. Modifications would also be made to existing parking facilities with a reduction in size of the paved area at Samoa. Construction would require the temporary presence of equipment and building materials. These latter visual changes may be expected to last for the duration of construction, which would occur relatively rapidly in any one location.

a) Adverse Effect on a Scenic Vista – Less than Significant Impact

Each of the three Project sites offers some foreground and distant views that may be considered informal scenic vistas. These views may be temporarily altered by equipment, construction materials and workers during active construction in any given project site location. The changes to the views would be relatively minor and would generally be visible only to site visitors in the immediate vicinity. Upon completion of the Project, there would be (at Arcata Marsh and Woodley Island) minor discernible alterations to the visual nature of the area including low additions to existing dock structures and (at the Samoa site) changes to parking lot configuration. Because of the relatively minor, isolated, and temporary nature of the impacts to scenic vistas, the impact of the Project would be less than significant.

b) Damage Scenic Resources within a State Scenic Highway – No Impact

Based on the California Scenic Highway Mapping System, no designated or eligible state scenic highways, or locally designated scenic roadways, are found adjacent to or within view of the Project area (California Department of Transportation 2012). There are no officially designated State Scenic Highways within Humboldt County, although Highway 101, Highway 36 and Highway 299, have been identified by the State Scenic Highway Mapping System as eligible for state listing. These eligible routes are not visible from the Project areas. No impact would occur.

c) Degrade Existing Visual Character – Less than Significant Impact

As discussed above, construction activities associated with the proposed alignment would result in minor temporary aesthetic impacts that would not substantially alter the visual character of the Project aread. Construction activities are anticipated to last approximately one to four weeks and the ground surface would, where disturbed, be restored to pre-project conditions following construction except where pavement is removed or minor access changes made. The visual character in and around the Project area would not be substantially degraded and alterations would be consistent with existing conditions at each location following completion of the Project. Therefore, this would be a less than significant impact.

d) New Source of Light or Glare – No Impact

There are no existing or proposed permanent lighting fixtures associated with the Project. The new dock structures would be no more likely to create a source of visible glare than the surface of the Bay or existing adjacent dock structures. Access and parking modifications would be small and would not be constructed of materials that create glare. No impact would occur.

5.2 Agriculture and Forest Resources

5.2.1 Agriculture and Forest Resources Thresholds of Significance

Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation	Less-Than-Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of State-wide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				✓
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				✓
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				✓
d) Result in the loss of forest land or conversion of forest land to non-forest use?				✓

5.2.1 Agriculture and Forest Resources Thresholds of Significance

Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation	Less-Than-Significant Impact	No Impact
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				✓

a) Convert Farmland – No Impact

Maps prepared pursuant to the State's Farmland Mapping and Monitoring Program include Humboldt County as an "Area Not Mapped" and therefore do not categorize the Project site as any type of Farmland (California Department of Conservation 2012). The Project area is not suitable for farming or agricultural production because it is a mix of open water, fill material, disturbed dune habitat, and parking lots within areas used for public recreation. The Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to a non-agricultural use. No impact would occur.

b) & c) Conflict with Existing Agricultural or Forestland Zoning – No Impact

The Project sites have base zoning of NR-PT (Arcata), PF-M (Woodley Island), and PR (Samoa). No Williamson Act contracts are in place on or near the Project sites (County of Humboldt 2012). The Project would not conflict with agricultural or forest land zoning or Williamson Act contracts. No impact would occur.

d) & e) Convert Forestland or Farmland – No Impact

No forest land or timberland exists at the Project sites. The Project would not result in the loss or conversion of forest land, or involve other changes in the existing environment which would result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use. No impact would occur.

5.3 Air Quality

5.3.1 Air Quality Thresholds of Significance

Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation	Less-Than-Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?				✓
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			✓	
c) Result in a cumulatively considerable net increase any criteria pollutant for which the project region is non-attainment under an			✓	

5.3.1 Air Quality Thresholds of Significance

Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation	Less-Than-Significant Impact	No Impact
applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?				
d) Expose sensitive receptors to substantial pollutant concentrations?			✓	
e) Create objectionable odors affecting a substantial number of people?			✓	

5.3.2 Discussion

The Project site is located within the North Coast Air Basin (NCAB) which is under the jurisdiction of the North Coast Unified Air Quality Management District (NCUAQMD) (Air Resources Board 2012). The NCAB is comprised of three air districts, the NCUAQMD, the Mendocino County AQMD, and the Northern Sonoma County APCD. The NCUAQMD includes Del Norte, Humboldt, and Trinity Counties; the Mendocino County AQMD consists of Mendocino County; and the Northern Sonoma County APCD comprises the northern portion of Sonoma County. The NCAB currently meets all federal air quality standards; however, the entire air basin is currently designated as non-attainment for the state 24-hour and annual average particulate matter smaller than 10 microns in size (PM10) standards. The air basin is designated as unclassified for the state annual PM2.5 standard – available data are insufficient to support designation as attainment or non-attainment. Both natural and anthropogenic sources of particulate matter (including vehicle emissions, wind generated dust, construction dust, wildfire and human caused wood smoke, and sea salts) in the NCAB have led to the PM10 non-attainment designation.

To address non-attainment for PM10, the NCUAQMD adopted a Particulate Matter Attainment Plan in 1995. This plan presents available information about the nature and causes of PM10 standard exceedance and identifies cost-effective control measures to reduce PM10 emissions to levels necessary to meet California Ambient Air Quality Standards. The Humboldt County General Plan calls for the County to coordinate with the NCUAQMD, which has the primary role in achieving air quality goals.

a) Conflict with or Obstruct Applicable Air Quality Plan – No Impact

The Project would generate a minor amount of particulate emissions over the duration of construction in the form of dust and vehicle emissions as a result of minor earthwork, paving, and other construction activities. The Project would not cause any long term increase in the emission of particulate matter of other air pollutants. To reduce potential impacts to air quality, standard construction BMPs, including several measures that would substantially reduce dust and other air pollutants during the construction period have been incorporated into the Project as specified in Section 4.6, Environmental Protection Actions Incorporated into the Project, above. While the NCAB is in non-attainment for PM10, the temporary nature of construction activities combined with Project implementation of standard dust and CO2 emission reduction measures during construction would avoid significant impacts.

In the long term, the Project would not substantially add to the level of PM10 or other emissions such that it would cause a cumulatively considerable net increase of pollutant emissions in the area. With BMPs incorporated into the Project, it would not obstruct implementation of the NCUAQMD particulate matter attainment plan. The Project would also be consistent with applicable County General Plan policies related to air resources and no impact would occur.

b) Violate Air Quality Standard or Contribute Substantially to Existing or Projected Air Quality Violation – Less than Significant Impact

Under the federal Clean Air Act of 1977, the United States Environmental Protection Agency (USEPA) is required to identify National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. The USEPA has established NAAQS for six criteria air pollutants, but the NCAB does not meet or exceed these federal pollutant thresholds. Under the California Clean Air Act, the California Air Resources Board, however, has adopted more stringent standards for the criteria air pollutants. Though it has adopted a particulate matter attainment plan, the NCUAQMD has not established specific thresholds of significance for criteria pollutants. As discussed above, the NCAB is currently designated as a state non-attainment area PM10, but does not violate other federal, state, or local air quality standards. In the NCAB, most particulate matter is caused by vehicle emissions, wind generated dust, construction dust, wildfire and human caused wood smoke, and sea salts. Health effects from particulate matter include reduced lung function, aggravation of respiratory and cardiovascular diseases, increases in mortality rate, and reduced lung function and growth in children.

Project construction activities would cause the release of a small amount of PM10 emissions related to fugitive dust, exhaust emissions from on-road haul trucks, worker commute vehicles, and off-road construction equipment. However, because of the small footprint and duration of the proposed construction, and with Environmental Protection Actions incorporated into the Project, construction would not cause a violation of air quality standards or contribute substantially to existing or projected air quality violations. The project is intended to encourage use of non-motorized watercraft, such as kayaks, although typically personal vehicles would be used to transport watercraft short distances to the Project site. Project operation could increase the number of such trips by encouraging more frequent use by existing users or attracting new users. Long-term operation of the Project would cause only negligible release of emissions and the Project would not substantially contribute to any air quality standard violation. This impact is less than significant.

c) Result in Cumulatively Considerable Net Increase of Any Criteria Pollutant for which the Region is in Non-Attainment – Less than Significant Impact

As described above, the NCAB is in non-attainment for the criteria air pollutant PM_{10}. Project construction would cause minor and short term production of PM_{10} and would not significantly increase the background levels. Project operation would result in negligible additional PM_{10} emissions. With implementation of Environmental Protection Actions, the project would result in a less-than-significant cumulative impact to air quality from criteria air pollutants and precursor emissions.

d) Expose Sensitive Receptors to Substantial Pollutant Concentrations – Less than Significant Impact

Construction of the Project would create temporary emissions of toxic air contaminants, primarily as a component of diesel emissions. Due to the variable nature of construction activity, the generation of toxic air contaminant emissions in most cases would be temporary, particularly considering the

short amount of time such equipment is typically within an influential distance of sensitive receptors. Concentrations of mobile-source diesel PM emissions are typically reduced by 70 percent at a distance of approximately 500 feet (BAAQMD 2011). In addition, current models and methodologies for conducting health risk assessments are associated with longer-term exposure periods of 9, 40, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities.

Construction is scheduled to occur over one to four weeks at any given site and between the hours of 7:00 AM and 6:00 PM, Monday through Friday, and 10:00 AM to 5:00 PM on Saturdays (as needed). As discussed above, the Project would result in only minor and short-term construction-related air emissions. Incorporation of Environmental Protection Actions would keep diesel PM exhaust emissions at lower levels. As these emissions are temporary in nature, health risks from Project construction are not anticipated. With incorporation of Environmental Protection Actions, construction impacts are less than significant.

Project operation would not expose sensitive receptors to substantial pollutant concentrations as the Project does not include any stationary source emissions. Operational impacts would be less than significant.

e) Create Objectionable Odors – Less than Significant Impact

During construction the various diesel-powered vehicles and equipment could create localized odors. Additionally, some materials used in construction or substrates encountered in sub-surface construction may create objectionable localized odors. These odors would be temporary and not likely to be noticeable for extended periods of time beyond the construction zone due to atmospheric dissipation. The impact would be less than significant.

5.4 Biological Resources

5.4.1 Biological Resources Thresholds of Significance

Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation	Less-Than-Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		✓		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?		✓		

5.4.1 Biological Resources Thresholds of Significance

Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation	Less-Than-Significant Impact	No Impact
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?		✓		
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?		✓		
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				✓
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				✓

5.4.2 Discussion

The Project site includes portions of Humboldt Bay and immediately adjacent uplands. The sites are located in the Arcata South and Eureka United States Geological Survey (USGS) quadrangles. A California Natural Diversity Database (CNDDB) record search was conducted for these USGS Quadrangles in May, 2012. Lists of endangered and threatened species on the United States Fish and Wildlife (USFWS) Arcata Field Office web site were also reviewed. Table 5.4-1 lists those special-status species and the potential for the special-status species to occur at the Project sites.

a) Impacts to Special-Status Species – Less than Significant with Mitigation

See Table 5.4-1 (below) for a list of plant and animal species potentially present at the project sites.

Table 5.4-1 Species Potentially Present at Project Sites

Scientific Name	Common Name	Status	Description/Habitat	EUREKA SITES Potential Habitat Present	Occurrence at Eureka Project Sites	ARCATA SITE Potential Habitat Present	Occurrence at Arcata Project Site	Bloom Period
Plants								
Abronia umbellata var. breviflora	pink sand-verbena	CNPS (1B.1)	Sandy soils, coastal scrub, lees of dunes near strand; open sandy beaches, typically at or below the zone of driftwood accumulation	Yes	**Not Present.** Seasonally appropriate survey conducted in June 2012.	Not likely	**Not Present.** Suitable habitat not present in project vicinity.	Jun-Oct
Astragalus pycnostachyus var. pycnostachyus	coastal marsh milk-vetch	CNPS (1B.2)	Coastal Prairie, Coastal Strand, wetland-riparian	Not likely	**Not Present.** Reported historically near the town of Samoa, but has not been recorded in the region for decades.	Not likely	**Not Present.** Reported historically near the town of Samoa, but has not been recorded in the region for decades.	April-October
Cardamine angulata	seaside bittercress	CNPS (2.1)	Wet areas, stream banks; lower montane coniferous forest; North Coast coniferous forest	No	**Not Present.** Suitable habitat not present in project vicinity.	No	**Not Present.** Suitable habitat not present in project vicinity.	Mar-July
Carex arcta	northern clustered sedge	CNPS (2.2)	Wet places, especially sphagnum bogs	Not likely	**Not Present.** Suitable habitat not present in project vicinity.	Not likely	**Not Present.** Suitable habitat not present in project vicinity.	Jun-Aug
Carex lyngbyei	Lyngbye's sedge	CNPS (2.2)	Estuaries, coastal salt marsh, brackish marshes. Flowers May-Aug	Not likely	**Not Present.** Suitable habitat not present.	Yes	**Not Present.** Suitable habitat not present. Possible in nearby saltmarsh/brackish areas; surveys did not identify any present.	May-Aug
Carex praticola	northern meadow sedge	CNPS (2.2)	Meadow and seep / Wetland	Not likely	**Not Present.** Suitable habitat not present.	Not likely	**Not Present.** Suitable habitat not present.	May-July
Castilleja affris ssp. Litoralis	Oregon coast paintbrush	CNPS (2.2)	Dry areas along bluffs, chaparral near coast	Yes	**Not Present.** Seasonally appropriate survey conducted in June 2012.	Not likely	**Not Present.** Suitable habitat not present.	Jun
Castilleja ambigua ssp. Humboldtiensis	Humboldt Bay owl's-clover	CNPS (1B.2)	Salt marsh. Occurs near Mad River Slough, and other salt marsh habitats throughout Humboldt Bay	Yes	**Not Present.** Suitable habitat not present.	Yes	**Present Near Site.** Approximately 300 individuals mapped scattered along edge of bare mud.	Apr-Aug
Chloropyron maritimum ssp. Palustre	Point Reyes bird's-beak	CNPS (1B.2)	Salt marsh. Widespread in coastal salt marsh habitats in Humboldt Bay. The species is known from nearby Manila.	Yes	**Not Present.** Seasonally appropriate survey conducted in June 2012.	Yes	**Present Near Site.** Approximately 20 individuals mapped scattered along edge of bare mud.	Jun-Oct
Erythronium revolutum	coast fawn lily	CNPS (2.2)	Redwood Forest. Mixed Evergreen Forest, wetland-riparian; North Coast, Klamath Ranges, Outer North Coast Ranges. Stream banks, wet places in woodland.	Not likely	**Not Present.** Suitable habitat not present in project vicinity.	Not likely	**Not Present.** Suitable habitat not present in project vicinity.	Feb-May
Erysimum menziesi ssp. eurekense	Humboldt Bay wallflower	E (Fed/State)	Dune mat	Yes	**Not Present.** Known from North and South Spit coastal dune habitats.	Not likely	**Not Present.** Known from North and South Spit coastal dune habitats.	Feb-May
Fissidens pauperculus	minute pocket moss	CNPS (1B.2)	North Coast coniferous forest (damp coastal soil)	No	**Not Present.** Suitable habitat not present.	No	**Not Present.** Suitable habitat not present.	NA
Gilia capitata ssp. Pacifica	Pacific gilia	CNPS (1B.1)	Coastal bluff scrub/Coastal prairie/Valley and foothill grassland	Yes	**Not Present.** Suitable habitat in project vicinity. Seasonally appropriately survey conducted in June 2012.	Not likely	**Not Present.** Suitable habitat not present.	Apr-Aug
Gilia milefoliata	dark-eyed gilia	NCPS (1B.2)	Coastal dunes	Yes	**Not Present.** Suitable habitat in project vicinity. Seasonally appropriately survey conducted in June 2012.	Not likely	**Not Present.** Suitable habitat not present.	Apr-Jul
Hesperevax sparsiflora var. brevifolia	short-leaved evax	CNPS (1B.2)	Coastal bluff scrub/Coastal dunes	Yes	**Not Present.** Suitable habitat present and surveys conducted and no individuals were observed.	Yes	**Not Present.** Suitable habitat in project vicinity and surveys conducted.	Mar-Jun
Lathyrus japonicus	seaside pea	CNPS (2.1)	Coastal dunes from Humboldt to Del Norte counties	Yes	**Not Present.** Suitable habitat present and surveys conducted and no individuals were observed.	Yes	**Not Present.** Suitable habitat present and surveys conducted and no individuals were observed.	May-Aug
Lathyrus palustris	marsh pea	CNPS (2.2)	Bog, fen, marsh, swamp wetland, Coastal prairies, Coastal scrub, Lower montane and North Coast coniferous forest	No	**Not Present.** Suitable habitat not present.	No	**Not Present.** Suitable habitat not present.	Mar-Aug
Layia carnosa	beach layia	CNPS (1B.1)	Coastal dunes, Coastal scrub(sandy)	Yes	**Not Present.** Suitable habitat in project vicinity. Seasonally appropriately survey conducted in June 2012.	Not likely	**Not Present.** Suitable habitat in project vicinity. Seasonally appropriately survey conducted in June 2012.	Mar-Jul
Lilium occidentale	western lily	Fed/State (E); CNPS (1B.1)	Bogs with poorly drained, slightly acidic organic soils. Sea level to 320 feet asl	No	**Not Present.** Suitable habitat not present.	No	**Not Present.** Suitable habitat not present.	Jun-Jul

Table 5.4-1 Species Potentially Present at Project Sites

Scientific Name	Common Name	Status	Description/Habitat	EUREKA SITES Potential Habitat Present	Occurrence at Eureka Project Sites	ARCATA SITE Potential Habitat Present	Occurrence at Arcata Project Site	Bloom Period
Monotropa uniflora	ghost-pipe	CNPS (2.2)	Broadleaved upland forest/North Coast coniferous forest	No	**Not Present.** Suitable habitat not present.	No	**Not Present.** Suitable habitat not present.	May-Oct
Montia howelli	Howell's montia	CNPS (2.2)	Vernally mesic, sometimes roadsides; meadows and seeps; North Coast coniferous forest; Vernal pools	No	**Not Present.** Suitable habitat not present.	No	**Not Present.** Suitable habitat not present.	Feb-May
Oenothera wolfi	Wolf's evening-primrose	CNPS (1B.1)	Grasslands, coastal strand, roadsides, bluffs. Sandy soils, well drained but adequate moisture. Areas protected from NW exposure, south of a headland, promontory, or near river mouth.	Yes	**Not Present.** Suitable habitat in project vicinity. Seasonally appropriately survey conducted in June 2012.	Yes	**Not Present.** Suitable habitat in project vicinity. Seasonally appropriately survey conducted in June 2012.	May-Oct
Sidalcea malviflora ssp. Patula	Siskiyou checkerbloom	CNPS (1B.2)	Broadleaved upland forest/Coastal prairie	Yes	**Not Present.** Suitable habitat in project vicinity. Seasonally appropriately survey conducted in June 2012.	Yes	**Not Present.** Suitable habitat in project vicinity. Seasonally appropriately survey conducted in June 2012.	May-Aug
Sidalcea oregana ssp. Eximia	coast sidalcea	CNPS (1B.2)	Lower montane and North Coast coniferous forest/Meadow and seep, Wetland	No	**Not Present.** Suitable habitat in project vicinity. Seasonally appropriately survey conducted in June 2012.	No	**Not Present.** Suitable habitat in project vicinity. Seasonally appropriately survey conducted in June 2012.	Jun-Aug
Spergularia canadensis var. occidentalis	western sand-spurrey	CNPS (2.1)	Coastal, salt-marsh; prefers prime saltmarsh habitat between 0 and 10 feet elevation	Yes/low	**Not Present.** Suitable habitat in project vicinity. Seasonally appropriately survey conducted in June 2012.	Yes/low	**Present Near Site.** Sand spurrey has not been reported occurring naturally along the east shore of Humboldt Bay. However, approximately 50 plants are present adjacent to the project area within a created bench for habitat establishment.	Jun-Aug
Viola palustris	alpine marsh violet	CNPS (2.2)	Bog and fen/Coastal scrub/Wetland	Low	**Not Present.** Suitable habitat not present.	Low	**Not Present.** Suitable habitat not present.	Mar-Aug
Animals								
Cicindela hirticollis gravida	Sandy beach tiger beetle	S1	Sandy areas adjacent to water	No	No known local records			NA
Acipenser medirostris	Green sturgeon southern DPS	FT	Ocean and estuary; present in Humboldt Bay	No	No impacts to rivers or offshore areas	Yes	Known from Arcata Bay, no direct impacts, potential impacts limited to noise/vibration	NA
Oncorhynchus clarkii clarkii	Coast cutthroat trout	SSC	Anadromous, breeds in rivers and streams	No	No impacts to rivers or offshore areas	Yes	Possible in Arcata Bay	NA
Oncorhynchus kisutch	S. OR/N. CA coho salmon	FT	Anadromous, breeds in rivers and streams	No	No impacts to rivers or offshore areas	Yes	Known from Arcata Bay, no direct impacts, potential impacts limited to noise/vibration	NA
Oncorhynchus mykiss	N. CA steelhead	FT	Anadromous, breeds in rivers and streams	No	No impacts to rivers or offshore areas	Yes	Known from Arcata Bay, no direct impacts, potential impacts limited to noise/vibration	NA
Oncorhynchus tshawytscha	CA coastal Chinook salmon	FT	Anadromous, breeds in rivers and streams	No	No impacts to rivers or offshore areas	Yes	Known from Arcata Bay, no direct impacts, potential impacts limited to noise/vibration	NA
Eucyclogobius newberryi	Tidewater goby	FE	Brackish backwaters and lagoons	No	No suitable habitat present in project vicinity	No	No suitable habitat present in project vicinity	NA
Rhyacotriton variegatus	Southern torrent salamander	SSC	Headwater streams in mature forest	No	No suitable habitat present in project vicinity	No	No suitable habitat present in project vicinity	NA
Ascaphus truei	Pacific tailed frog	SSC	Headwater streams in mature forest	No	No suitable habitat present in project vicinity	No	No suitable habitat present in project vicinity	NA
Rana aurora	Northern red-legged frog	SSC	Breeds in marshes and seasonal wetlands, forages in surrounding uplands	Yes	Not documented in project area but probably occurs nearby in suitable freshwater wetlands	No	Potentially present in nearby freshwater marshes, but no habitat within project area	NA
Rana boylii	Foothill yellow-legged frog	SSC	Rocky streams and rivers including Eel River above estuary limits	No	No suitable habitat present in project area	No	No suitable habitat present in project vicinity	NA
Caretta caretta	Loggerhead sea turtle	FT	Marine	No	No impacts to offshore areas	No	No impacts to deep offshore areas	NA
Chelonia mydas (incl. agassizi)	Green sea turtle	FT	Marine	No	No impacts to offshore areas	No	No impacts to deep offshore areas	NA

Table 5.4-1 Species Potentially Present at Project Sites

Scientific Name	Common Name	Status	Description/Habitat	EUREKA SITES Potential Habitat Present	Occurrence at Eureka Project Sites	ARCATA SITE Potential Habitat Present	Occurrence at Arcata Project Site	Bloom Period
Dermochelys coriacea	Leatherback sea turtle	FE	Marine	No	No impacts to offshore areas	No	No impacts to deep offshore areas	NA
Lepidochelys olivacea	Olive (Pacific) ridley sea turtle	FT	Marine	No	No impacts to offshore areas	No	No impacts to deep offshore areas	NA
Emys marmorata	Western pond turtle	SSC	Rivers, ponds, permanent marshes	No	Potentially present in nearby marshes, but no suitable habitat within project area	No	Potentially present in nearby marshes, but no suitable habitat within project area	NA
Phoebastris albatrus	Short-tailed albatross	FE	Open ocean	No	No impacts to offshore areas	No	No suitable habitat present in project vicinity	NA
Phalacrocorax auritus	Double-crested cormorant	WL	Open water, present in Humboldt Bay and in larger area rivers	No	No impacts to suitable habitat	Yes	Potentially present	NA
Ardea alba	Great egret	CDF sensitive	Forages in wetlands and pastures	Yes (foraging)	Rookeries at Indian Island and Table Bluff, potential foraging habitat is present in the project area.	Yes	Potentially present	NA
Ardea herodias	Great blue heron	CDF sensitive	Forages in wetlands	Yes (foraging)	Rookeries at Indian Island and Table Bluff, potential foraging habitat is present in the project area.	Yes	Potentially present	NA
Egretta thula	Snowy egret	IUCN LC	Forages in wetlands	Yes (foraging)	Rookeries occur nearby but not within the project area. Occasional foraging is possible.	Yes	Potentially present	NA
Nycticorax nycticorax	Black-crowned night heron	IUCN LC	Forages in wetlands	Yes (foraging)	Rookeries occur nearby but not within the project area. Occasional foraging is possible.	Yes	Potentially present	NA
Elanus leucurus	White-tailed kite	CDFW FP	Forages over open grassland	Yes	Observed during site surveys, no nesting habitat present in project corridor	No	No suitable habitat	NA
Pandion haliaetus	osprey	CDFW WL	Coastal areas, including shoreline of Humboldt Bay	Yes	Observed at Redwood Dock. Project not likely to disturb nesting habitat	Yes	Potentially present	NA
Rallus longirostris obsoletus	California clapper rail	FE, FP	Salt marsh	No	Believed to be extirpated in Humboldt County, no records since at least 1966, none confirmed since 1917	No	Believed to be extirpated in Humboldt County, no records since at least 1966, none confirmed since 1917	NA
Charadrius alexandrinus nivosus	Western snowy plover	FT	Ocean beaches, gravel bars in Eel River	No	Historically nested on north spit beaches, nearest recent (post-1999) records are on the south spit. No suitable habitat within project area.	No	No suitable habitat within project area	NA
Brachyramphus marmoratus	Marbled murrelet	FT	Rocky seastacks, nests in old growth redwoods	No	No impacts to redwood forests or offshore areas	No	No suitable habitat within project area	NA
Synthliboramphus hypoleucas	Xantus's murrelet	FC	Offshore ocean waters, breeds on rocky islands	No	No impact to offshore areas	No	No suitable habitat within project area	NA
Strix occidentalis caurina	Northern spotted owl	FT	Mature forest	No	No impacts to mature forested areas	No	No suitable habitat within project area	NA
Riparia riparia	Bank swallow	ST	Nests in bluff faces and steep river cut banks	Not likely	No suitable nesting habitat nearby	No	No suitable habitat within project area	NA
Balleanoptera borealis	Sei whale	FE	Marine	No	No impacts to offshore areas	No	No impacts to deep offshore areas	NA
Baleanoptera musculus	Blue whale	FE	Marine	No	No impacts to offshore areas	No	No impacts to deep offshore areas	NA
Baleanoptera physalus	Fin whale	FE	Marine	No	No impacts to offshore areas	No	No impacts to deep offshore areas	NA
Megoptera novaengliae	Humpback whale	FE	Marine	No	No impacts to offshore areas	No	No impacts to deep offshore areas	NA
Orcinus orca	Killer whale, S. resident	FE	Marine	No	No impacts to offshore areas	No	No impacts to deep offshore areas	NA

Table 5.4-1 Species Potentially Present at Project Sites

Scientific Name	Common Name	Status	Description/Habitat	EUREKA SITES Potential Habitat Present	Occurrence at Eureka Project Sites	ARCATA SITE Potential Habitat Present	Occurrence at Arcata Project Site	Bloom Period
Physeter macrocephalus	Sperm whale	FE	Marine	No	No impacts to offshore areas	No	No impacts to deep offshore areas	NA
Eumetopias jubatus	Steller (northern) sea lion	FT	Haul outs on beaches, ledges, or rocky reefs in the North Pacific	No	No impacts to offshore areas, no suitable habitat near project area	No	No suitable habitat within project area	NA
Arborimus pomo	Sonoma tree vole	SSC	Old-growth Douglas fir forests, resides primarily high in trees	No	No suitable habitat in project vicinity	No	No suitable habitat within project area	NA

Sources:
CNDDB/FWS/CNPS, 2012. Eureka and Arcata South Quads
CNPS = Special-status plant listing by California Native Plant Society (CNPS)

State Key:

E	Endangered
T	Threatened
SSC	State CDFW Species of Special Concern

Federal Key:

(PE) Proposed Endangered	Proposed in the Federal Register as being in danger of extinction
(PT) Proposed Threatened	Proposed as likely to become endangered within the foreseeable future
(E) Endangered	Listed in the Federal Register as being in danger of extinction
(T) Threatened	Listed as likely to become endangered within the foreseeable future
(C) Candidate	Candidate which may become a proposed species

Site visits were made on February 23, May 14, and June 19, 2012 to search for special status plants. The Arcata site consists of non-native grasses within the mowed area adjacent to the parking lot. Scattered saltmarsh species are present. Western sand-spurrey (*Spergularia canadensis var. occidentalis*), Humboldt Bay owls clover (*Castilleja ambigua ssp. humboldtiensis*), and Point Reyes birds beak (*Chloropyron maritimum ssp. palustre*) were mapped within a created bench installed for saltmarsh establishment adjacent to the proposed project site. The bench area where salt marsh establishment activities have occurred and where sensitive plant species were mapped begins at the southern end of the parking lot approximately 30 feet downslope of the picnic area, and extends to the north where it ends at the rip rap associated with the existing boat dock. The southern end of this area is approximately 25 feet from the proposed Arcata project location. See Appendix B for a botanical survey memorandum for the project sites.

The potential for presence of terrestrial special-status plant species is considered minimal at the Woodley Island and Samoa sites, which are disturbed and subject to moderate to heavy human use. The Samoa site has less than one percent cover of native species and no sensitive species were observed. The Woodley island site is mowed and landscaped.

Eelgrass is present at two of the sites. At the Arcata project site, beyond the existing dock, a few very small patches of eelgrass were noted during site visits in May and June 2012; the eelgrass appeared to be near but outside of the proposed footprint. Eelgrass is not mapped at the Arcata project site, however has been observed near the existing dock. At the Woodley Island site, floating eelgrass was observed in close proximity to the existing dock in May 2012, and if rooted would likely be shaded by the proposed improvements.

Trees in the general vicinity of all three Project sites could provide nesting habitat for resident and migratory birds protected by the Migratory Bird Treaty Act, however none of these trees will be damaged or otherwise impacted by the project. Trees and adjacent buildings could provide roosting habitat for bats. Nesting birds and roosting bats could be disturbed by construction noise.

The greatest possibility of negative impacts is to fish and other marine species as a result of pile driving at Arcata Marsh. This will be done at low tide when the pile driving area is free of standing water, since transmission of noise and vibration through air prior to entering water is known to greatly reduce impacts on aquatic species. If practical, a vibratory hammer will be used. Up to six relatively small piles (12 inches in diameter) are expected to be installed at the Arcata site.

Impacts to nesting birds, to fish during pile driving, and to eelgrass beds are considered potentially significant, therefore, the following mitigation measures are included as part of the Project.

Mitigation Measure BIO-1: Conduct Preconstruction Nesting Surveys for Nesting Birds

Any construction or vegetation removal between March 1 and August 15 shall require that preconstruction nesting surveys be conducted by a qualified biologist. If possible, project activities would take place between August 16 and February 28, outside of the active nesting season for migratory bird species (i.e. between March 1 and August 15).

If work must be completed during the nesting season, a qualified biologist should conduct preconstruction surveys of all ground disturbance areas to verify absence of nesting native birds in the project area prior to vegetation removal and the start of construction. These surveys would be conducted within two weeks prior to start of vegetation removal or any construction activities. If nesting native birds are found in the construction area during the preconstruction surveys, they would be avoided with an appropriate buffer area until the young birds have fledged. If California Endangered Species Act (CESA) listed species, Endangered Species Act (ESA) listed species, or raptors are found outside of the construction (disturbance) area but near the construction area,

appropriate buffers will be implemented upon consultation with CDFW. If non-listed state (CESA), non-listed federal (ESA), including state species of special concern are found near, but outside of the construction area, no buffers will be implemented.

Implementation of Mitigation Measure BIO-1 will reduce potential impacts to nesting birds to a less than significant level.

Mitigation Measure BIO-2: Dewater Prior to Pile Installation

The District shall ensure, through contract specifications and plans that dock pile installation shall occur only at or near low tide, when the work area is dewatered and only mud flats are present. Pile installation is only applicable to the Arcata Marsh project site, as other project areas do not require installation of dock piles. Pushing pilings into place or vibrating piles into the ground using a vibratory hammer is the preferred installation method. If pushing or vibrating pilings into place is not practical, a conventional piledriver will be used. If a piledriver must be used, then the first few strikes will be at reduced intensity, allowing aquatic or terrestrial species present in the area sufficient time to move away prior to the onset of full intensity strikes.

Mitigation Measure BIO-3: Conduct Eelgrass Pre-construction Surveys at Project Sites

Prior to construction, the District shall hire a qualified biologist (or other individual appropriately qualified) to conduct pre-construction eelgrass surveys which will be performed at the Arcata Marsh and Woodley Island project sites in consultation with National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NOAA Fisheries) and CDFW.

Eelgrass Pre-construction Surveys

Pre-construction eelgrass surveys of the project areas shall be conducted during the Pacific eelgrass (*Zostera marina*) growing season at the lowest daylight tide within 60 days from the start of construction (or at the end of the prior growing season if construction is scheduled less than 60 days from May 1st). Pacific eelgrass is native to Humboldt Bay, thus is herein referred to as native eelgrass. The surveys will include density information and analysis based on plot data collected within the project areas and at a nearby reference site as recommended by NOAA Fisheries *Southwest Region Draft California Eelgrass Mitigation Policy* (NOAA Fisheries 2011)., Native eelgrass (Pacific eelgrass) and non-native dwarf eelgrass (*Zostera japonica*) will be differentiated during the pre-construction survey. If present, the location and distribution of the non-native species of eelgrass will noted during the pre-construction surveys and reported to CDFW.

Based on the native eelgrass findings of the pre-construction surveys, one of the following alternatives will result:

1. If native eelgrass is not determined to be present within the project and/or construction footprint at a given project site, then no further action will be required by Mitigation Measure BIO-3 at that site as there will be no impact to native eelgrass.
2. If native eelgrass is found within the project and/or construction footprint at a given project site, then impacts to the eelgrass will be avoided if practically feasible. If it is reasonable to alter the project and/or construction footprint to avoid impacting native eelgrass, then such avoidance measures will occur and no further action will be required by Mitigation Measure BIO-3 at that site as there will be no impact to native eelgrass.
3. If it is determined that native eelgrass is present within the areas to be impacted by the project and avoidance of native eelgrass impacts is not possible, then native eelgrass

impacts will be mitigated through relocation of native eelgrass and/or establishment of native eelgrass bed as described below.

Non-native Eelgrass Dispersal Mitigation

If an area containing rooted non-native eelgrass must be disturbed during project work, then the eelgrass will be removed by hand prior to the commencement of construction work and/or smothered/suffocated by placing burlap bags filled with bay mud directly over the non-native eelgrass within the construction area. Removing and/or suffocating the non-native eelgrass will mitigate the potential dispersal of the non-native species as a result of project work. Equipment used within the areas of non-native eelgrass beds will be rinsed of mud and debris where rinsate will not drain directly to coastal waters.

Eelgrass Relocation and Mitigation Methods

The following measures are proposed to support the establishment and/or reestablishment of native eelgrass habitat and compensate for impacts, if any, to existing native eelgrass beds in association with this project. The intent of this subsection of Mitigation Measure BIO-3 is to mitigate impacts to native eelgrass, thereby reducing such impacts to a less than significant level.

If native eelgrass cannot be avoided by project impacts, it will be collected by hand from within the project construction footprint and transplanted at a suitable location identified by a qualified biologist that is outside the impact area of the project. Relocation of native eelgrass will occur, if feasible, otherwise new native eelgrass will be planted at the chosen mitigation area, as recommended by the NOAA Fisheries Southwest Region 2011 *Draft California Eelgrass Mitigation Policy* and as described below:

1. Minimize disturbance to existing eelgrass populations not within the mitigation area footprint to the extent possible in order to retain functioning population structure and localized genetic source material for natural recruitment.
2. As recommended by NOAA Fisheries guidance, planting of new native eelgrass shall occur in a ratio of 4.82 to 1.0 (transplanting/replanting area to impact area), thus for every area unit of eelgrass bed impacted by project activities, 4.82 area units of compensatory eelgrass bed shall be planted. The goal of the 4.82 to 1.0 mitigation ratio is to ensure the mitigation area has established at least 1.2 times more eelgrass bed than that present at the impacted area.
3. The mitigation area shall be monitored for a period of three years in order to observe and document the progress and persistence of the native eelgrass plantings. Monitoring will occur at the mitigation site and at a reference site as recommended by the NOAA Fisheries *Draft California Eelgrass Mitigation Policy*.
4. During the monitoring period, the mitigation area shall be kept clear of any debris which could inhibit natural recruitment or otherwise degrade the function of the established eelgrass beds. If periodic observations note the presence of debris obstructing the establishment of eelgrass consistent with the above-described mitigation ratio, a feasible method will be identified to remove the debris while minimizing the risk of damage to eelgrass beds and restored tidal habitats. Seasonal deposits of detached eelgrass and other vegetative debris would not trigger maintenance within the mitigation area.

Mitigation Measure BIO-4: Conduct Rare Plant Surveys at Arcata Site

Prior to construction, the District shall hire a qualified biologist (or other individual appropriately qualified) to conduct rare plant surveys will be conducted at the Arcata site. If rare plants are

impacted by the project, the affected species will be transplanted or replanted on-site in consultation with the City of Arcata, and monitored for five years to ensure that there is no net loss of sensitive species. If monitoring documents a net loss, additional planting will occur.

Implementation of Mitigation Measures BIO-1, BIO-2, BIO-3, and BIO-4 would reduce impacts to special-status aquatic and terrestrial species to a less-than-significant level by requiring pre-construction nesting surveys, establishing no work protection zones for active nests, minimizing the effects of piledriving, if applicable, and conducting pre-construction surveys for eelgrass and sensitive plants.

b) Riparian or Sensitive Natural Community – Less Than Significant With Mitigation

No riparian habitat is present at the project sites. Environmentally Sensitive Habitat Areas (ESHAs) are present at the Arcata and Woodley Island sites. No ESHAs are present at the Samoa site, which is paved except for a low dune covered by invasive iceplant. The project could impact these sensitive natural communities at two of the Project sites. This would be a significant impact. With implementation of mitigation measures BIO-3 and BIO-4 (above) impacts would be reduced to less than significant.

c) Wetlands – Less than Significant Impact with Mitigation

The Project includes placement of permanent or semi-permanent structures within Humboldt Bay. Although the area affected is small, placement of pilings and footings constitutes fill in Waters of the United States. This would be a significant impact, therefore, the following mitigation is included in the Project.

Mitigation Measure BIO-5: Develop Wetland Mitigation Program for No Net Loss of Wetlands or Waters of the U.S.

The District shall develop a wetland mitigation program acceptable to the applicable regulatory agencies (USACE, USFWS, NCRWQCB and CDFW). At a minimum the program shall: (1) replace the acreage of jurisdictional wetlands to be permanently impacted by the proposed Projects with the creation or restoration of comparable off-site wetlands on a 1:1 basis; (2) include a planting plan that reflects the native plant species within the wetland types to be impacted; and (3) include maintenance of the wetlands for a minimum of five years, including the replanting of any dead or dying plants within the new wetlands.

Implementation of Mitigation Measure BIO-5 would reduce impacts to wetlands and waters of the U.S. to a less-than-significant level by replacing impacted wetlands in-kind.

d) Movement of Fish or Wildlife Species – Less than Significant with Mitigation

The Project would not interfere with the movement of native resident or migratory fish species or with established native resident or migratory wildlife corridors. No native wildlife nursery sites exist at the Project site, except possibly nesting birds as discussed above. Implementation of Mitigation Measure BIO-1 will reduce potential impacts to nesting and/or migrating birds to a less than significant level. Fish and other aquatic species could move through the project area but no impassable barriers would be created either during or after construction. This impact is less than significant with implementation of Mitigation Measure BIO-1.

e) Conflict with Local Policies or Ordinances – No Impact

The Project would not conflict with any local policies or ordinances. There would be no impact.

f) Habitat Conservation Plan – No Impact

No adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan applies to the Project site. No impact would occur.

5.5 Cultural Resources

5.5.1 Cultural Resources Thresholds of Significance

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

5.5.2 Discussion

The lands around Humboldt Bay have a rich cultural past including pre-historical use centered on the food resources of the Bay, and more recently based on manufacturing and industrial opportunities presented by the accessible coastline and available undeveloped land. Although the project will not cause demolition of any structures, there may be cultural artifacts on or below the surface that could be disturbed by the project.

An archaeological investigation was conducted by Roscoe and Associates (RA) Cultural Resources Consultants pursuant to Public Resources Code Sections 21084 and 21084 in June 2012. The objective of the survey was to conduct surface survey and subsurface excavations within the proposed project boundary to establish presence or absence of archaeological materials. The effort included background research, consultation with local Native American Tribes, physical investigation of sample test units, and intensive surface surveys.

a) & b) Historical or Archaeological Resources – Less than Significant with Mitigation

As reported in the RA report, a complete background records search for the project locations were conducted by the North Coastal Information Center (NCIC) on June 22, 2012. The records search indicated that previous archaeological surveys or recorded cultural resources are not known to occur within the actual project boundaries.

Pedestrian surveys of all three sites were conducted as part of the investigation. No cultural resources were noted within the specific boundaries of the three projects. A row of decaying pilings, remnants of the Union Wharf & Plank Walk Company Railroad (later the Arcata and Mad River Railroad) were observed in Humboldt Bay immediately to the southeast of the proposed dock at the Arcata Marsh. All evidence of the railroad grade, rails, ties or other features of this historic landmark have disappeared in the immediate area of the proposed dock since the line was abandoned in the 1940's.

During the survey of the Samoa Boat Ramp County Park no evidence of the World War II seaplane hangar or "Paysonville" was discovered. Construction activities associated with the development of the modern county facility have apparently obscured or destroyed any historic features associated with these occupations.

The RA report concludes that:

"All three project areas exhibited evidence of intense historic disturbance. This report concludes that no archaeological or elements of the historical built environment that; for the purposes of CEQA would be considered an historic resource, exist within the direct limits of the proposed project areas. It is unlikely that buried archaeological materials will be found during project implementation. It is, however, the opinion of Roscoe and Associates that the visual effects of constructing a new dock at the southeast corner of the Arcata Marsh parking area could threaten the integrity of setting and feeling of California Historic Landmark #842. It is recommended that an evaluation be conducted to determine if the proposed project at this location would constitute a substantial adverse change to this resource. If the alternative location of the dock is implemented, no evaluation would be necessary."

No other specific archaeological studies are recommended. However, if previously unidentified archaeological or historic resources are discovered during construction of the Project, impacts to such resources could be significant if not treated properly. Implementation of the recommended protocol for inadvertent cultural resource discoveries would reduce the potential impact to previously unidentified artifacts to less than significant. As such, Mitigation Measure CR-1 shall be implemented.

Mitigation Measure CR-1: Inadvertent Discovery of Cultural Resources

While the likelihood of an archaeological discovery during project implementation is low in this project setting, the following provides means of responding to the circumstance. If cultural materials for example: chipped or ground stone, historic debris, building foundations, or bone are discovered during ground-disturbance activities, work shall be stopped within 20 meters (66 feet) of the discovery, per the requirements of CEQA (January 1999 Revised Guidelines, Title 14 CCR 15064.5 (f)). Work near the archaeological finds shall not resume until a professional archaeologist, who meets the Secretary of the Interior's Standards and Guidelines, has evaluated the materials and offered recommendations for further action.

The District shall ensure that if concentrations of prehistoric or historic-period materials are encountered as a result of ground-disturbing activity attributable to the project, all work in the immediate vicinity shall halt until a qualified archaeologist can evaluate the finds and make recommendations. The recommendations of the archaeologist shall be implemented. Prehistoric materials could include obsidian and chert debitage or formal tools, grinding implements, (e.g., pestles, handstones, bowl mortars, slabs), locally darkened midden, deposits of shell, faunal remains, and human burials. Historic materials could include ceramics/pottery, glass, metal, can and bottle dumps, cut bone, barbed wire fences, building pads, structures, and trails/roads.

If such materials are encountered during construction, the District shall retain a qualified archaeologist who shall be present during subsequent surface and subsurface activities in the vicinity of the sensitive materials as determined necessary by the archaeologist. With respect to these areas of sensitive materials:

1. If cultural materials are discovered, the archaeologist shall assess the discovery to determine if it constitutes either a unique archaeological resource or a historical resource for purposes of CEQA (CCR Title 14 §15064.5[a]).
2. If the archaeologist determines that the materials do not constitute either a unique archaeological resource or a historical resource, their presence shall be noted but need not be considered further (CCR Title 14 §15064.5[c] [3]).
3. If the archaeologist determines: (a) that the materials do constitute a unique archaeological resource or historical resource; and, (b) they are subject to substantial adverse change as defined in CCR Title 14 §15064.5[b], the archaeologist shall provide recommendations to the City for appropriate treatment which, among other options, may include preservation in place or archaeological data recovery. Preservation in place is preferred, if it is feasible.

Implementation of Mitigation Measures CR-1 would reduce potentially significant impacts to less than significant levels by protecting, preserving, or recovering any significant cultural resources, including historical resources, affected by Project construction.

c) Paleontological or Geological Resources – Less than Significant 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 Public Resources Code (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 dunes of the Samoa Peninsula are known to have been established during the late Holocene (Leroy 1999). Holocene coastal dunes are generally considered too young to contain fossilized remains and Holocene marine deposits along coastlines are rare because the rise in sea levels during the period generally exceed tectonic uplift. The Arcata Marsh and Woodley Island sites are on fill material or severely disturbed soils. Furthermore, though not specifically conducted to locate paleontological resources, the RA survey did not identify any fossilized resources during site surface and subsurface sampling. Therefore, the Holocene geologic unit at the Project site has little paleontological potential or sensitivity.

Although it is unlikely that Project construction would impact potentially significant paleontological resources, it cannot be ruled out altogether, therefore, this potential impact is considered significant and the following mitigation measure is proposed to reduce the potential impact to a less than significant level.

Mitigation Measure CR-2: Evaluation and Treatment of Paleontological Resources

If paleontological resources (e.g., vertebrate bones, teeth, or abundant and well-preserved invertebrates or plants), are encountered during construction, the HBHRCD shall ensure work in the

immediate vicinity shall be diverted away from the find until a professional paleontologist assesses and salvages the find, as appropriate.

Implementation of Mitigation Measure CR-3 would reduce impacts to a less-than-significant level by requiring evaluation and salvage of any paleontological resources found during Project construction.

d) Human Remains – Less than Significant Impact

Although no known cemeteries or burial sites are located on the Project site, given the long history of human activity in the area, encountering human remains during construction activities is possible. If human remains are discovered during construction of the Project, impacts could be significant if not mitigated. As such, Environmental Protection Action 1 has been incorporated into this Project to reduce this potential impact to less than significant by providing standard procedures in the event that human remains are encountered during Project construction and adherence to PRC Code Section 5097.98 requiring Native American tribal notification.

5.6 Geology and Soils

5.6.1 Geology and Soils Thresholds of Significance

Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation	Less-Than-Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			✓	
ii) Strong seismic ground shaking?			✓	
iii) Seismic related ground failure, including liquefaction?			✓	
iv) Landslides?			✓	
b) Result in substantial soil erosion or the loss of topsoil?			✓	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on, or off, site landslide, lateral spreading, subsidence, liquefaction or collapse?			✓	

5.6.1 Geology and Soils Thresholds of Significance

Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation	Less-Than-Significant Impact	No Impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			✓	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				✓

a) i) Fault Rupture – Less than Significant Impact

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. This act prohibits the location of structures designed for human occupancy across active faults and regulates construction within fault zones. Although the nearby Little Salmon Fault which runs along Little Salmon Creek south of Eureka is a mapped Alquist-Priolo fault, the Project sites are not located within an Alquist-Priolo Earthquake Fault Zone and no known active or potentially active faults traverse the Project sites. This impact is less than significant.

a) ii) Ground Shaking – Less than Significant Impact

Several known active and potentially active faults are located in the region. All of coastal Northern California is subject to potentially strong seismic ground shaking.

There are no permanently habitable or enclosed structures included in the design, only low docks and related access features such as parking lot modifications and a short segment of trail. The potential impact from strong seismic ground shaking would be limited to these low structures. The impact from seismic ground shaking would be less than significant.

a) iii) Liquefaction – Less than Significant Impact

Regional mapping indicates that the Arcata and Woodley Island Project sites are situated in areas of moderate to high liquefaction susceptibility (USGS 2006). Soils near the Samoa site are relatively dense and contain a high percentage of silt and clay and, therefore, the likelihood of seismic related liquefaction is considered low to moderate at that site (Herzog 2011). Because no inhabited structures are included as part of the project, the impact from liquefaction is less than significant.

a) iv) Landslides – Less than Significant Impact

The Project sites are relatively flat and evidence of slope instability was not observed during site visits. Based on the absence of slopes, the risk of landsliding at the Project sites is very low; nothing capable of extending into the Project area is present. The impact from landslides is less than significant.

b) Soil Erosion or Loss of Top Soil – Less than Significant Impact

The Project sites currently include asphalt paved parking lots, adjacent grassy and landscaped areas, a low sand dune (at Samoa), existing boat docks (at Arcata and Woodley Island), and portions of the shallow margin of Humboldt Bay. The combined Project sites are approximately 95 percent unvegetated wave slope, open water, or impervious pavement, and contain very little historic topsoil. Environmental Protection Action 2 has been incorporated into this project to reduce this potential impact to less than significant by providing for an erosion control plan to be implemented during project construction to prevent soil erosion and sedimentation during construction. Therefore, the Project would not result in a substantial loss of topsoil at any of the sites. An evaluation of soil erosion is provided in Section 5.9, Hydrology and Water Quality.

c) Unstable Soil – Less than Significant Impact

The Arcata and Woodley Island sites include tidal flats, open bay, and adjacent upland fill material. The Samoa site is generally underlain by sandy soil. As summarized in Impacts a) iii) and a) iv) above, the potential for liquefaction and landslides at the Project site is considered less than significant. The potential impact from differential settlement would be less-than-significant because the project does not include any habitable or enclosed structures.

d) Expansive Soils – Less than Significant Impact

Portions of the soil at the Project site may be moderately to highly expansive. These soils are subject to expansive soil heave, which can cause slabs and pavement and lightly loaded foundations to swell and crack. However, the project does not include any habitable or enclosed structures, thus the impact from expansive soils would be less than significant.

e) Septic Tanks – No Impact

No septic tanks or alternative wastewater disposal systems are proposed as part of the Project. No impact would occur.

5.7 Greenhouse Gas Emissions

5.7.1 Greenhouse Gas Emissions Thresholds of Significance

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

5.7.2 Discussion

Climate change refers to change in the Earth's weather patterns including the rise in the Earth's temperature due to an increase in heat-trapping or "greenhouse" gases (GHGs) in the atmosphere. Unlike emissions of criteria and toxic air pollutants, which have local or regional impacts, emissions of GHGs that contribute to global warming or global climate change have a broader, global impact.

Global warming is a process whereby GHGs accumulating in the atmosphere contribute to an increase in the temperature of the Earth's atmosphere. The principal GHGs contributing to global warming are carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O) and fluorinated compounds. These gases allow visible and ultraviolet light from the sun to pass through the atmosphere, but they prevent heat from escaping back out into space. Among the potential implications of global warming are rising sea levels, and adverse impacts to water supply, water quality, agriculture, forestry, and habitats. In addition, global warming may increase electricity demand for cooling, decrease the availability of hydroelectric power, and affect regional air quality and public health. Like most criteria and toxic air contaminants, much of the GHG production comes from motor vehicles. GHG emissions can be reduced to some degree by improved coordination of land use and transportation planning on the city, county and subregional level, and other measures to reduce automobile use. Energy conservation measures also can contribute to reductions in GHG emissions (BAAQMD 2011).

The California Global Warming Solutions Act of 2006 (Assembly Bill 32) definitively established the state's climate change policy and set GHG reduction targets (Health & Safety Code §38500 et seq.). The state set its target at reducing greenhouse gases to 1990 levels by 2020.

The NCUAQMD does not have rules, regulations, or thresholds of significance for non-stationary or construction-related GHG emissions, but currently recommends that GHG emissions be analyzed for CEQA purposes pursuant to BAAQMD guidance.

The existing Humboldt County General Plan predates modern planning relevant to GHG emissions and global warming. Through the ongoing General Plan update, Humboldt County has informally established the following relevant draft goals and policies applicable to GHG emissions, including:

1. Draft Energy Policy E-P4. Revitalization and Reinvestment in Existing Resources by supporting the revitalization and infilling of Urban Development Areas to reduce long-term vehicle miles traveled as an energy conservation strategy.
2. Draft Air Quality Policy AQ-P1. Reduce Length and Frequency of Vehicle Trips by reducing the length and frequency of vehicle trips through land use and transportation policies by encouraging mixed-use development, compact development patterns in areas served by public transit, and alternative modes of travel.
3. Draft Air Quality Policy AQ-P2. Reduce Localized Concentrated Air Pollution. Reduce or minimize the creation of "hot spots" or localized places of concentrated automobile emissions.
4. Draft Energy Goal E-G2. Increase Energy Efficiency and Conservation. Decrease energy consumption through increased energy conservation and efficiency in building, transportation, business, industry, government, water and waste management.

In 2007 the Humboldt County Board of Supervisors initiated a campaign in an effort to reduce county-wide carbon emissions by committing to implement the following milestone steps:

1. Conduct a baseline emissions inventory and forecast of emissions growth.
2. Set an emissions reduction target.
3. Develop a Climate Action Plan to meet the emissions reduction target.
4. Implement the Climate Action Plan.
5. Monitor and report progress and results.

Though not yet adopted or finalized, the ongoing General Plan update recognizes the County's intent to reduce GHG emissions in the unincorporated area resulting from its discretionary land use decisions to 10 percent below 2003 levels by 2020 as part of a county-wide Climate Action Plan. The County also intends to reduce GHG emissions in its own operations to 10 percent below 2003 levels by 2020.

The City of Arcata General Plan 2020 includes an Air Quality Element (2008) which does not specifically address GHG emissions, but does include various policies related to GHG emissions.

For discussion related to sea level rise, refer to the hydrology and water quality section.

a) Generate Greenhouse Gas Emissions – Less than Significant Impact

During construction, GHG emissions would be generated from construction equipment. However, construction would last for only one to four weeks and would be less intensive than traditional land use development that requires a larger fleet of earthmoving equipment or soil off-hauling and/or delivery, and similar such equipment. In addition, as noted in the Project Description, applicable Environmental Protection Actions would be included in the Project design and implemented during construction. These measures include the following: 1) idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes; and 2) all construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications and checked by a certified visible emissions evaluator. Given the short construction period and the inclusion of the Basic Construction Measures in the project design, the impact to GHG emissions during construction is considered less than significant.

The only energy that would be used during Project operation would be electricity for the nighttime lighting that may be installed for safety purposes. This use would generate a negligible amount of indirect GHG emissions. This impact is considered less than significant.

b) Conflict with Applicable Plan, Policy or Regulation – No Impact

As stated above, Humboldt County has prepared draft goals and policies related to GHG emissions as part of the General Plan update process, but has not yet adopted any formal GHG emission reduction policies in its General Plan or in a Climate Change Action Plan. These goals and policies are not generally directly relevant to the improvement of personal watercraft facilities, but offer some insight into GHG-related consideration in evaluation of a project. The County has adopted a resolution in commitment to reduce GHG emissions, as described above.

Similarly, the City of Arcata General Plan 2020 Air Quality Element (2008) does not directly address GHG emissions but does include several relevant policies. The City of Eureka General Plan (1999) includes some general air quality guidance in the Natural Resources section, and does not specifically address GHG emissions.

Although the project would produce a minor amount of construction-related emissions, the project would not conflict with these plans and policies and there would be no impact.

5.8 Hazardous Materials

5.8.1 Hazardous Materials Thresholds of Significance

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

a) Transport, Use, and Disposal of Hazardous Materials – Less than Significant Impact

Project construction would require the use of hazardous materials such as fuels, lubricants, paints, and solvents. Following construction, the Project would not cause the storage or transport of hazardous materials. Numerous laws and regulations ensure the safe transportation, use, storage and disposal of hazardous materials. Worker safety regulations cover hazards related to exposure to hazardous materials. Regulations and criteria for the disposal of hazardous materials mandate

disposal at appropriate landfills. Because the HBHRCD, contractors, and other construction service providers would be required to comply with hazardous materials laws and regulations for the transport, use, and disposal of hazardous materials, the impacts associated with the potential to create a significant hazard to the public or the environment would be considered less than significant.

b) Upset or Accidents Involving Hazardous Materials – Less than Significant Impact

During construction, routine transport of hazardous materials to and from the Project site could indirectly result in an incremental increase in the potential for accidents. Caltrans and the California Highway Patrol (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. Because the HBHRCD, contractors, and other construction service providers would be required to comply with existing and future hazardous materials laws and regulations for the transport of hazardous materials, the impacts associated with the potential to create a significant hazard to the public or the environment would be less than significant.

Following construction, use would be limited to non-motorized watercraft and transport of watercraft to and from facilities typically by passenger vehicles. This would not create a significant hazard to the public or the environment. The impact would be less than significant.

c) Emit Hazardous Materials within 0.25 Mile of a School – No Impact

No schools are located within 1/4 mile of the Project sites. The closest school is Alder Grove Charter School approximately 0.5 miles south of the Woodley Island site. No impact would occur.

d) Included on a List of Hazardous Materials Sites – Less than Significant Impact

The Hazardous Waste and Substances Sites List (Cortese List) is a planning document used to comply with CEQA requirements for providing information about the location of hazardous materials release sites. A search of the Cortese List was completed to determine if any known hazardous waste facilities exist on or adjacent to the Project site. No hazardous materials cases were recorded for the Project site; the only listed site for the Project vicinity is Mcnamara and Peepe Lumber Mill in Arcata, at 1619 Glendale Drive. This is more than five miles from the nearest Project site.

It should be noted that Geotracker lists Arcata Marsh South I Street site as a Leaking Underground Storage Tank (LUST) site, over 1,000 feet from the Project site. Also listed on Geotracker is the Woodley Island Marina at 601 Startare Drive as a closed case. The Samoa site is within 1,000 feet of a former U.S. Army Air Base. It is listed as an open case, inactive.

Although groundwater contamination is recorded beneath the sites identified above, the contamination is confined to the sites themselves or immediately adjacent properties. None of the open sites is adjacent to the Project sites. These sites are not considered to have impacted the groundwater to the extent of creating a regional groundwater plume that would extend to the area underlying the Project sites. The potential to encounter contaminated soil or groundwater at the Project site from these off-site facilities during construction is considered less than significant.

e) & f) Safety Hazard for People Residing or Working Within 2 Miles of an Airport – Less than Significant Impact

The nearest public airport, Eureka Municipal Airport, is located approximately 0.5 mile north of the Samoa site and 2.9 miles southwest of the Woodley Island Project site. A second airport, Murray Field, is about 2.3 miles east of the Woodley Island site and much further from the other two sites.

Eureka Municipal Airport is a general aviation public-use airport maintained by the City of Eureka. The airport has an average of 48 flight operations per week with 60 percent of local origin, and 40 percent transient aircraft. Approximately 12 aircraft are based at the airport (AirNav.com 2012). The airport serves relatively small aircraft and is typically approached from the north or south, more-or-less parallel to the Samoa Peninsula. During landing and takeoff, low over-flight of the Samoa Project area is possible, and that Project site is close to the normal approach or take-off path. The Arcata and Woodley Island sites are well removed from any airport approach path.

The Project would cause heavy equipment, materials, and workers to be positioned within 0.5 miles of the Eureka Municipal Airport during normal airport operations. The project, however, does not include new development for human occupation, and does not include structures or other features which could potentially represent a hazard to aviation. The project would not result in airport-related safety hazards for people residing or working in the project area. A less than significant impact would occur.

g) Impair or Interfere with an Adopted Emergency Response/Evacuation Plan – Less than Significant Impact

The Humboldt County Sheriff's Office of Emergency Services (OES) coordinates county-wide response to disasters. OES is responsible for alerting and notifying appropriate agencies when disaster strikes; coordinating all agencies that respond; ensuring resources are available and mobilized in times of disaster; developing plans and procedures for response to and recovery from disasters; and developing and providing preparedness materials for the public. The OES would coordinate evacuation planning in the event of seismic events, tsunamis, slope failure, floods, storms, fires, and hazardous materials spills.

All three Project sites are located within an area of State of California mapped tsunami inundation projections and may experience a tsunami in the event of a strong earthquake originating over a broad portion of the Pacific Ocean (California Emergency Management Agency 2009). Safe evacuation areas are located on high ground to the north of the Arcata site, to the east of the Woodley Island site in Eureka, and on high dunes 1.5 miles north of the Samoa site.

Tsunami Warnings may also be announced via radio, television, telephone, text message, door-to-door contact by emergency responders, NOAA weather radios, or in some cases by outdoor sirens and announcements from airplanes. The Project would not impair implementation of or physically interfere with implementation of tsunami or other evacuation plans because it would not obstruct evacuation routes and would not necessitate any changes to existing evacuation plans. Furthermore, the project does not include development that would significantly increase the number of people exposed to potential emergencies. The Project would not interfere with any emergency response plans or evacuation plans, and the impact is less than significant.

h) Exposure to Wildland Fires – Less than Significant with Mitigation

The Arcata and Woodley Island sites are primarily aquatic with adjacent paved parking areas and low vegetation largely maintained by mowing, thus are considered to be low fire risk. Some taller

vegetation is present at a greater distance from the Arcata site but is buffered from the actual work area by the above-mentioned parking lot.

Grass fires have been known to occur on the Samoa Peninsula. Due to the low density of flammable biomass associated with the dune habitats and the proximity to the Samoa Peninsula Fire District in Fairhaven, in addition to the Eureka City and Humboldt No. 1 Fire District, the severity of these fires is typically limited. The Samoa site primarily consists of a parking area, sand dunes and beach with low flammable biomass. The vegetative characteristics of the Woodley Island, Arcata March and Samoa sites present only a low fire hazard; therefore, the potential impact of the project on the exposure to people or structures to wildland fires is less than significant.

5.9 Hydrology and Water Quality

5.9.1 Hydrology and Water Quality Thresholds of Significance

Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigationn	Less-Than-Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?			✓	
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?			✓	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off- site?			✓	
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off- site?			✓	
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?			✓	
f) Otherwise substantially degrade water quality?			✓	
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				✓

5.9.1 Hydrology and Water Quality Thresholds of Significance

Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigationn	Less-Than-Significant Impact	No Impact
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?			✓	
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				✓
j) Inundation by seiche, tsunami, or mudflow?			✓	

a) & f) Violate Water Quality Standards or Degrade Water Quality – Less than Significant Impact

Construction activities can introduce pollutants to stormwater runoff, including sediment, paints, solvents, pavement, construction debris and trash, as well as hydrocarbons and other fluids from construction vehicles. The most likely pollutant from the proposed project would be sediment created by soil disturbance during or immediately after construction. Because individual project sites are small, they may not be regulated under the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order Number 2009-0009-DWQ, NPDES Number CAS000002; a.k.a construction general permit). This construction general permit offers NPDES coverage for stormwater discharges with construction activities of more than 1.0 acre. The proposed project includes less than one acre of construction activities and would not be subject to NPDES requirements.

With incorporation of Environmental Protection Action 2, Erosion Control Plan, and Environmental Protection Action 3, Storm Water Pollution Prevention Plan (if impacts approach or exceed one acre) into the Project the project would not violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality. The impact would be less than significant with incorporation of Environmental Protection Actions.

b) Substantially Deplete Groundwater Supplies or Interfere with Groundwater Recharge – Less than Significant Impact

There are no known domestic groundwater wells located in the Project area that would be affected by the Project. Furthermore, no water table draw-down is anticipated during Project construction and thus would not affect the ability of any off-site wells to draw water. There would be no interruption of potable water supplies. As such, there would be no impact on groundwater supplies from construction.

Following construction of the Project, there would be no direct operational effect on the groundwater table or groundwater supplies. Precipitation within the Project areas would continue to infiltrate the substrate with no discernible rate of change from existing infiltration. The sites are not substantial recharge areas for any groundwater recharge basin, there would not be an increase in impervious

surfaces, and the Project would not interfere with groundwater recharge. The impact to groundwater supplies would be less than significant.

c) & d) Alter Drainage Patterns – Less than Significant Impact

Drainage from the Project sites generally infiltrates the substrate or flows directly into Humboldt Bay. Drainage from streets and parking areas generally flows to the roadside where it infiltrates to the substrate. Construction activities such as minor excavation and grading would temporarily disturb the ground surface of the Project area and could result in erosion if not properly controlled and repaired. With incorporation of Environmental Protection Action 2, Erosion Control Plan, and Environmental Protection Action 3, Storm Water Pollution Prevention Plan, into the Project, the potential impact from construction activities would be held to a less-than-significant level by including erosion control measures to reduce soil loss and water pollution. Pursuant to NCRWQCB requirements, Environmental Protection Action 3 would apply only if the Project disturbs more than 1.0 acre of ground surface. Following construction, the drainage patterns at the Project site would remain the same as current patterns. No stream or river courses would be altered. The impact would be less than significant.

e) Increase Runoff Resulting in Flooding or Exceed Capacity of Storm Drain System – Less than Significant Impact

The Project sites currently include paved parking areas and vegetated open space adjacent to Humboldt Bay. Within the vegetated areas, stormwater generally infiltrates or forms ephemeral puddles in low lying areas. Stormwater from streets and parking areas generally flows to the roadside where it infiltrates to the substrate or, in some locations, enters Humboldt Bay. The Project would not be expected to cause on- or off-site flooding given that the project would not increase impervious surface area. Post-construction runoff will continue to infiltrate to the soils and Humboldt Bay in the Project area. There is no storm drain system other than shallow roadside ditches, which would not result in flooding or exceed capacity; therefore, the effects on storm drainage system capacity would be less than significant.

g) & h) Place Housing and Structures within a 100-Year Flood Zone – Less than Significant Impact

The Project sites are all located within the 100-year flood zone according to Humboldt County's GIS (Humboldt County 2012). The project, however, will not place housing within the 100-year flood zone or place structures within the 100-year flood zone that would impede or redirect flood flows. The impact is less than significant.

i) Flooding From a Levee or Dam Failure – No Impact

The Project sites are located in coastal settings but are not located within any levee or dam failure inundation zones. Therefore, there would be no impact from flooding as a result of a levee or dam failure.

j) Inundation by Seiche, Tsunami, or Mudflow – Less than Significant Impact

Based on area characteristics, the Project site is not down-gradient of a debris-flow source and would not be subject to mudflows. The Project sites are located within areas of State of California mapped tsunami inundation projections and may experience a tsunami in the event of a strong earthquake originating over a broad portion of the Pacific Ocean (California Emergency

Management Agency 2009). The Project sites are entirely within the mapped tsunami inundation zone and may be subject to inundation and severe damage in the event of a tsunami or a seismically-generated seiche in Humboldt Bay. The project would not include the development of any occupied structures, but would construct infrastructure components that may be susceptible to damage from a tsunami or seiche. These features would be designed to meet applicable design standards that would minimize or avoid damage. The project area has been subject to past evacuation planning, and established tsunami warning signs and evacuation routes are in place. These tsunami evacuation plans and warning signs would not change as a result of the project. Although the Project is within the potential tsunami inundation zone, because it would not result in occupied structures, because evacuation plans exist, and because the project would not impede any identified evacuation route, the impact would be less than significant.

5.10 Land Use and Planning

5.10.1 Land Use and Planning Thresholds of Significance

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

5.10.2 Discussion

Land Use Designations

The Arcata site has a City of Arcata General Plan land use designation of Natural Resources – Public Trust Zone (NR-PTZ). The Woodley Island site has a Eureka General Plan land use designation of Public/Quasi-public (PQP). The Samoa site has a Humboldt County General Plan land use designation of Open Space/Parks.

Land Use Policies

Because all three of the project sites are presently used as public open space and for recreational purposes, the proposed development of additional water-based recreational activities is consistent with the City of Arcata, City of Eureka, and Humboldt County General Plans.

a) Physically Divide an Established Community – No Impact

The Project would be a series of improvements to existing boating facilities within existing public access areas intended for the proposed use. Due to the nature of the Project, it does not have the capacity to divide any community. Therefore, no impact would occur.

b) Conflict with Applicable Land Use Plans, Policies or Regulations – Less than Significant Impact

Because the Project is proposed for areas already used for water-based recreation and is intended to enhance these activities at locations with appropriate land use designations, it would be in compliance with the City of Arcata, City of Eureka, and Humboldt County General Plans. Various mitigation measures are included in other sections of the Initial Study to ensure that there is no conflict with General Plan policies. This project will not conflict with any of the jurisdictions' General Plans or zoning, and this impact is therefore less than significant.

c) Conflict with any Applicable Habitat Conservation Plan – No Impact

No adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan exists for the Project sites. No impact would occur.

5.11 Mineral Resources

5.11.1 Mineral Resources Thresholds of Significance

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

a) & b) Result in the Loss of Availability of a Known Mineral Resource of Value to the Region or Delineated by a General Plan, Specific Plan or other Land Use Plan – Less than Significant Impact

No known mineral resources or locally-important mineral resources occur at the Project sites or in the immediate Project area. As part of its ongoing General Plan update, Humboldt County has identified sand and gravel extraction sites and mapped rock extraction mines throughout the county. Sand and gravel extraction occurs exclusively on the areas larger river systems and not within the Samoa Peninsula or along the Humboldt Bay shoreline. Rock extraction mines occur throughout the county, but the nearest mapped mine is several miles away (Humboldt County 2002). Because there are no mineral resources available within the project area and the Project would require the use of only small amounts of gravel for some of the sites, the impact would be less than significant.

5.12 Noise

5.12.1 Noise Thresholds of Significance

Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation	Less-Than-Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			✓	
b) Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?			✓	
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				✓
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			✓	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				✓
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				✓

5.12.2 Discussion

The Project sites and surrounding areas are primarily characterized by undeveloped open space adjacent to commercial or industrial uses, with scattered and generally distant single family residential and commercial uses. Noise levels in the Project areas varies depending on the proximity to human activity, transportation facilities, the Fairhaven Power Plant, industrial activities in the two former pulp mill sites, commercial businesses in south Arcata, and the activity of the surf. Public roads in the area are predominantly small two-lane connectors primarily serving industrial, commercial, and recreational traffic and local residential traffic. Additional private roads with on- and off-road industrial traffic are located within adjacent industrial and commercial areas. When in use, the Samoa Drag Strip, operated irregularly and typically on weekends at the nearby Eureka Municipal Airport, can be heard over background noise at the Samoa site. Ambient noise levels in the Project area are generally reduced as distance from the human activates listed above is increased. Noise sensitive receptors and noise-sensitive areas in the project area include residences and beach

The Humboldt County General Plan specifies that noise levels of 45 dB Ldn indoors and 55 dB Ldn outdoors are the maximum noise level below which there are no effects on public health and welfare. However, higher outdoor levels are identified as “normally acceptable” (60 dB to 70 dB

Ldn) and "normally unacceptable" (70 dB to 80 dB Ldn). The Noise Element of the Arcata General Plan (2008) identifies noise standards ranging, depending on time of day or night, from 55 dB to 45 dB hourly Leq (with higher transient maximums) for residential areas.

a) c) & d) Exposure to Noise in Excess of Established Standards or Substantially Increase Existing Levels – Less than Significant Impact

Construction

The construction phase of the Project would require the use of heavy equipment for pile installation and construction of footings and dock structures at Arcata, for installation of new dock facilities at Woodley Island, and for parking and staging area improvements at Samoa and would temporarily increase ambient noise levels for the duration of the Project. Construction activities would also involve the use of smaller power tools, generators, and other sources of noise. During construction, noise levels would vary based on the amount of equipment in operation and the location of the activity. Noise levels would be consistent with the reference noise levels in Table 5.12-1, below.

Table 5.12-1 Construction Equipment Reference Noise Levels as Measured at 50 Feet

Equipment	Noise Level (dBA[1])	Equipment	Noise Level (dBA)
Drill rig truck	84	Jackhammer	85
Pile driver (vibratory)	87	Large Generator	82
Front end loader or Backhoe	80	Paver or Roller	85
Excavator	85	Dump truck	84

Source: FHWA 2006

Sound from a point source is known to attenuate at a rate of -6 dBA for each doubling of distance. For example, a noise level of 84 dBA L_{eq}[2] as measured at 50 feet from the noise source would attenuate to 78 dBA L_{eq} at 100 feet from the source and to 72 dBA L_{eq} at 200 feet from the source to the receptor. Based on the reference noise levels above, the noise levels generated by construction equipment at the Project site may reach a maximum of approximately 87 dBA L_{eq} at 50 feet during pile driving at Arcata, and 85 dBA L_{eq} at the other two sites.

At the Arcata site, the closest residential receptors are homes approximately 0.62 mile northeast from construction activities. At the Woodley island site, the nearest residences are in Old Town Eureka about 0.20 mile to the south. At the Samoa site, the nearest residences are about 0.90 mile to the northeast. It is unlikely that any of these residences would experience noise levels near the full reference levels listed in Table 5.12-1 above, because of the distance from construction activity. Based on the estimated 87 dBA L_{eq} maximum and the natural noise attenuation over distance described herein, the estimated construction noise level outside the closest homes to Woodley Island would be less than 60 dBA Leq and even less at the other two sites. A typical building can reduce noise levels by 25 dBA with the windows closed, thereby reducing interior noise levels within the closest homes to less than 35 dBA Leq and to even less at more distant homes. These levels would be below the General Plan maximum recommended interior noise levels for residential use and in some cases may be below existing ambient noise levels. Noise and vibration effects on wildlife are addressed in the Biological Resources section above.

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[1] "dBA" is a weighted decibel measurement for assessing hearing risk and, therefore, is used by most regulatory compliance.

[2] Equivalent sound level (L_{eq}) is a steady-state sound that has the same energy and A-weighted level as the community noise over a given time interval

Interior and exterior construction noise levels would not be readily noticeable at the nearest residences as construction progresses. However, visitors to the recreational facilities may encounter significant noise levels. Thus, Environmental Protection Action 4, Noise Reduction Actions, has been incorporated into the Project to reduce potentially significant construction noise impacts to a less-than-significant level.

Operation

Noise at the Project site during operation and maintenance will not measurably exceed the existing background noise levels because only infrequent vehicular access, minor repairs, and maintenance would be required. No impact would occur.

b) Exposure to Ground Borne Vibration or Noise – Less Than Significant Impact

Based upon the types of anticipated construction equipment, and because no blasting is needed, ground-borne vibration levels produced during Project construction are not expected to have an impact at off-site sensitive receptor locations. The Project would require piledriving, probably with a vibratory hammer, at the Arcata site, but because of the distance (0.62 mile) to the nearest sensitive receptors this is not anticipated to result in substantial ground borne vibration or noise. Therefore, a less than significant impact would occur related to ground borne vibration or ground borne noise levels.

e) & f) Exposure of People Residing or Working Near a Private or Public Airport to Excessive Noise Levels – No Impact

The nearest public airport, Eureka Municipal Airport, is located approximately 0.5 miles north of the Samoa site and 2.9 miles southwest of the Woodley Island Project site. A second airport, Murray Field, is about 2.3 miles east of the Woodley Island site and much further from the other two sites.

Eureka Municipal Airport is a general aviation public-use airport maintained by the City of Eureka. The airport has an average of 48 flight operations per week with 60 percent of local origin, and 40 percent transient aircraft. Approximately 12 aircraft are based at the airport (AirNav.com 2012). The airport serves relatively small aircraft and is typically approached from the north or south, more-or-less parallel to the Samoa Peninsula. During landing and takeoff, low over-flight of the Project area is possible, and the Samoa Project site is close to the direct final approach or takeoff path. The Project would cause heavy equipment, materials, and workers to be positioned within 0.5 miles of the airport during normal airport operations. The project, however, would not result in any changes to the noise levels related to the airport and would not expose people residing or working in the area to excessive noise levels. No impact would occur.

5.13 Population and Housing

5.13.1 Population and Housing Thresholds of Significance

Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation	Less-Than-Significant Impact	No Impact
a) Induce substantial 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)?				✓
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				✓
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				✓

a) Induce Substantial Population Growth – No Impact

The Project would require up to approximately 10 temporary workers during Project construction, an estimated period of one to four weeks per site. While a few workers may temporarily relocate from other areas, the Project will not induce substantial population growth.

b) Displace Substantial Numbers of Existing Housing – No Impact

The Project would not create any housing nor necessitate the development of housing. It would not result in the extension of utilities or roads into exurban areas and would not directly or indirectly lead to the development of new sites. Therefore, no impacts associated with growth-inducement would result from the Project.

c) Displace Housing or People – No Impact

The Project site is limited to three existing boat launch facilities on the Humboldt Bay shoreline. All three are well removed from existing residential developments. No existing housing or places of employment would be displaced. No impact would occur.

5.14 Public Services

5.14.1 Public Services Thresholds of Significance

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

5.14.2 Discussion

The Samoa Peninsula Fire District station is located in the northern portion of Fairhaven immediately adjacent to a portion of the Project alignment. The Humboldt County Sherriff Department is located at the Humboldt County Courthouse, approximately six road miles from the Project site. The closest school is Alder Grove Charter School in Eureka, 0.5 mile south of the Woodley Island Project sites. The area is further served by the Eureka City and Arcata School Districts. All three of the Project sites include public recreational access, and several additional beaches and dune areas on the Samoa Peninsula are open to the public parks, including beach access points along New Navy Base Road and an off-road vehicle park at the southern end of the peninsula.

a) b) c) d) & e) Substantial Adverse Physical Impacts Associated with New or Altered Fire or Police Protection, Schools, Parks, or other public facilities – No Impact

The Project would not directly or indirectly induce substantial population growth nor create substantial new demand for services. The Project would enhance existing parklands, making their use more efficient for watercraft entry to Humboldt Bay. Therefore, the Project would have no impact on the service ratios, response times, or other performance objectives of schools, parks, and other public facilities that are based on population growth. The Project would not require a new or physically altered government facility to serve the Project sites. No impact would occur.

5.15 Recreation

5.15.1 Recreation Thresholds of Significance

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

a) Increase in the Use of Existing Facilities Resulting in Substantial Physical Deterioration – No Impact

The Project would not directly or indirectly induce substantial population growth. Therefore, the Project would not 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 would occur.

b) Development of Recreation Facilities that Could Result in Adverse Physical Effects on the Environment – Less Than Significant Impact

The Project includes enhancements to existing recreational facilities and would benefit the public by providing new and upgraded infrastructure facilitating improved access to recreational activities on Humboldt Bay. Although this might increase usage, at present the facilities are underutilized by recreational human-powered watercraft. The Project would not directly or indirectly induce substantial population growth. Therefore, the Project would not require the construction or expansion of additional recreational facilities, which might have an adverse physical effect on the environment. A less than significant impact would occur.

5.16 Transportation and Traffic

5.16.1 Transportation and Traffic Thresholds of Significance

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

a) Conflict with an Applicable Plan, Ordinance, Policy, or Program Establishing Measures of Effectiveness for the Performance of the Circulation System – Less than Significant

Following are descriptions of the primary roadways in the vicinity of the Project.

New Navy Base Road

New Navy Base Road is a predominantly two-lane rural arterial road posted at 55 miles per hour with passing lanes, acceleration lanes, and center medians incorporated intermittently. The road provides primary access to Highway 255 and Highway 101 to the north. All other streets accessing New Navy Base Road are controlled with one-way stop sign intersections, while New Navy Base

Road itself is not controlled until its intersection with Highway 255. This road provides the entry to the Samoa Project site.

State Route 255

SR 255 is a two-lane road connecting downtown Eureka to the Samoa Peninsula, and includes three bridge segments over Humboldt Bay. SR 255 crosses Woodley Island, turns north at the Samoa Peninsula, passes through the community of Manila, and follows the west and north shores of Arcata Bay before rejoining Hwy 101 in Arcata. Within the Arcata city limits SR 255 provides access to the Arcata Marsh site via smaller roads The speed limit is primarily 55 miles per hour (less at either end within Eureka and Arcata), and traffic levels are moderate.

Startare Drive

Startare Drive is a small public road that provides access from SR 255 to the docks and buildings on Woodley Island, including the project site. Traffic is typically very light.

I Street

I Street is a public local street within Arcata, running south from SR 255 and terminating at the Arcata Marsh site. This road also provides access to several commercial and industrial facilities. The street receives a low level of traffic.

Existing Conditions

Under existing conditions, all roads and intersections within the Project area appear operate acceptably with little or no traffic delays even at peak hours.

Construction Project Trip Generation

Minor temporary changes in traffic volumes or patterns would result from construction of the Project. The estimated trip generation for the construction of each Project is 20 new daily trips. Project construction would require deliveries of equipment and materials to the site, as well as daily commute trips by construction employees. Most of the construction traffic, particularly trucks and equipment delivery vehicles, would be expected to travel via SR 255 and New Navy Base Road, I Street, or Startare Drive depending on the individual site. This routing would predominantly avoid residential neighborhoods.

Project construction activities may result in some temporary parking closures within the existing parking lots at the three facilities. All of these lots usually carry low traffic volumes. The combination of these temporary closures and addition of construction-related traffic on nearby streets would create minor changes in traffic patterns on SR 255, I Street, New Navy base Road, and Startare Drive. The project would not encroach on any municipal, County or Caltrans right of ways. Except for infrequent and short parking closures within the lots and minor traffic delays nearby, intersection level of service (LOS) in the Project area is anticipated to remain within acceptable levels during construction.

Given the small amount of construction traffic, the lack of street closures, and availability of adequate parking in existing lots, the potential impacts to motor vehicles, pedestrians, and bicyclists would to be less than significant. The project will not conflict with any plans, ordinances, or policies establishing measures of effectiveness for the performance of the circulation system.

b) Conflict with an Applicable Congestion Management Program – No Impact

The Project area is not subject to a Congestion Management Program (CMP) and does not have a traffic congestion problem, with all area streets and roads below capacity. There would be no impact.

c) Result in a Change in Air Traffic Patterns – No Impact

The nearest public airport, Eureka Municipal Airport, is located approximately 0.5 miles north of the Samoa site and 2.9 miles southwest of the Woodley Island Project site. A second airport, Murray Field, is about 2.3 miles east of the Woodley Island site and much further from the other two sites. The Project would upgrade existing dock and recreational access facilities with no resulting change in or impact to air traffic patterns, resulting in no impact.

d) Substantially Increase Hazards due to a Design Feature or Incompatible Use – Less than Significant

The Project would not change the geometry of any street or roadway network; the only changes to paved areas would be a minor reconfiguration of the County Park parking lot at the Samoa site. Therefore, no potentially hazardous roadway design features would be introduced by the Project.

As discussed above, the presence of construction vehicles and equipment on nearby roadways could increase the normal traffic hazard in the Project area. The Project would require traffic safety control procedures to accommodate traffic during construction. Construction equipment and delivery trucks would access the Project area from SR 255 and New Navy Base Road, I Street, or Startare Drive depending on the individual Project site. Construction vehicles would generally not be parked to block public rights-of-way, although portions of existing parking lots could be used as staging areas. As the Project will not block or encroach on roadways, impacts to emergency access and/or potential conflict with traffic operations are less-than-significant.

e) Result in Inadequate Emergency Access – Less than Significant

The Project is located within existing public access areas along the Humboldt Bay shoreline and at the terminus of roadways. There would be no lane closures on major or through highways or streets. The Project will not substantially alter the existing emergency access. Even in the event of a need for emergency access within one of the Project sites, emergency vehicles would be able to reach the parking lots. Emergency vehicles would not be impaired on SR 255 or other through routes at any given time. Construction staging shall be coordinated such that emergency access is maintained at all times, thus this potential impact would be considered less than significant.

f) Conflict with Adopted Policies, Plans, or Programs Regarding Public Transit, Bicycle, or Pedestrian Facilities, or Otherwise Decrease the Performance or Safety of Such Facilities – No Impact

There are no plans or policies regarding public transit or alternative transportation that apply specifically to the Project area. The streets serve as adequate bicycle and pedestrian routes, though for the most part they are not designated or signed as such. There is no public transportation service to any part of the Project area. The Project would not conflict with policies nor adversely affect facilities for public transit, bicycles, or pedestrians. There would be no impact.

5.17 Utilities and Service Systems

5.17.1 Utilities and Service Systems Thresholds of Significance

Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation	Less-Than-Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				✓
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				✓
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				✓
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?				✓
e) 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?				✓
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			✓	
g) Comply with federal, state, and local statutes and regulations related to solid waste?			✓	

a) Exceed Applicable Wastewater Treatment Requirements or Wastewater Treatment Capacity – No Impact

The Project would enhance existing watercraft facilities and recreational access. The Project would not cause any increase or change in wastewater and would, therefore not have an impact on wastewater treatment requirements or capacity. No impact would occur.

b) c) & e) Require Construction or Expansion of New Water, Wastewater, or Stormwater Facilities – Less than Significant Impact

The Project would enhance existing watercraft facilities and recreational access. No new infrastructure beyond that described in the project description would be needed. No impact would occur.

d) Have Sufficient Water Supplies to Serve the Project – No Impact

The Project would enhance existing watercraft facilities and recreational access. No additional water supply is necessary to serve the upgraded facilities. Therefore, no impact would occur.

f) & g) Have Sufficient Landfill Capacity and Comply with Statutes Related to Solid Waste – Less than Significant Impact

The Project would generate a small volume of construction waste that would be hauled by the construction contractor to an approved disposal site. Waste would include construction materials remnants, replaced materials, and worker-generated trash. Portions of existing structures would remain in place and would not generate additional waste. A small amount of additional waste may be generated during operation of the project by new users. This would be a less-than-significant impact on the implementation of federal, State, and local statutes and regulations related to solid waste.

5.18 Mandatory Findings of Significance

5.18.1 Thresholds for Mandatory Findings of Significance

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

a) & c) Degrade Environmental Quality or Adversely Affect Human Beings – Less than Significant with Mitigation

With implementation of the Environmental Protection Actions and Mitigation Measures presented herein, the Project as a whole does not have the potential to degrade the quality of the environment, including air quality, fish or wildlife species or their habitat, plant or animal communities, important examples of the major periods of California history or prehistory, geologic resources, hazards, water resources, land use compatibility, noise, traffic movement, or other adverse effects on human beings.

b) Cumulatively-Considerable Impacts – Less than Significant Impact

The Project's impacts would not add appreciably to any existing or foreseeable future significant cumulative impact, such as visual quality, historic resources, traffic impacts, or air quality degradation. Incremental impacts, if any, would be negligible and undetectable. As reported throughout the document, any applicable cumulative impacts to which this Project would contribute would be mitigated to the less-than-significant level.

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7. Preparers

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Appendices

Appendix A – Figures

Humboldt Bay Water Trails Project Figures

Figure 1: Vicinity Map
Humboldt Bay Water Trails Project
Humboldt Bay Harbor and Conservation District
Proposed Mitigated Negative Declaration/Initial Study
March 2014

SITE PLAN

65% DESIGN

SIGNATURE	CITY APPROVAL	DATE	

moffatt & nichol
2185 N. California Blvd., Suite 500
Walnut Creek, California 94596
925.944.5411

DSGN	DR	CHK
BP	NN	JFJ

JOB NO.	SUBMITTED BY	TITLE
7558		

HUMBOLDT BAY HARBOR, RECREATION, AND CONSERVATION DISTRICT
WATER TRAILS IMPLEMENTATION PROGRAM

SITE PLAN

DATE 7/2/12

SHEET 2 OF 8

C1

P:\7558 Humboldt Water Trail\7558CADD\7558 C1 SITE PLAN.dwg Jul 03, 2012 - 1:49pm

1 C2 PLAN – ARCATA MARSH

SCALE: AS SHOWN

20' 0' 20' 40'

SCALE: 1"=20'

Figure 2: Arcata Boat Dock
Humboldt Bay Water Trails Project
Humboldt Bay Harbor and Conservation District
Proposed Mitigated Negative Declaration/Initial Study
March 2014

SIGNATURE	CITY APPROVAL	DATE

65% DESIGN

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JOB NO.	SUBMITTED BY	TITLE
7558		

HUMBOLDT BAY HARBOR, RECREATION, AND CONSERVATION DISTRICT
WATER TRAILS IMPLEMENTATION PROGRAM

ARCATA MARSH BOAT LAUNCH FACILITY

DATE 5/1/12

SHEET 3 OF 8

C2

P:\7558 Humboldt Water Trail\7558CADD\7558 C2 ARCATA_MARSH_BOAT_LAUNCH_FACILITY.dwg May 04, 2012 – 4:53pm

1 C3 PLAN – WOODLEY ISLAND MARINA
SCALE: AS SHOWN

65% DESIGN

Figure 3: Woodly Island Boat Dock
Humboldt Bay Water Trails Project
Humboldt Bay Harbor and Conservation District
Proposed Mitigated Negative Declaration/Initial Study
March 2014

SIGNATURE	CITY APPROVAL	DATE

moffatt & nichol
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DSGN	DR	CHK
BP	NN	JFJ
JOB NO. 7558	SUBMITTED BY	TITLE

HUMBOLDT BAY HARBOR, RECREATION, AND CONSERVATION DISTRICT
WATER TRAILS IMPLEMENTATION PROGRAM

WOODLEY ISLAND MARINA

DATE 7/2/12
SHEET 7 OF 8
C5

P:\7558 Humboldt Water Trail\7558CADD\7558 C5 WOODLEY_ISLAND_MARINA.dwg Jul 03, 2012 - 1:57pm

1 C6 PLAN – SAMOA BOAT RAMP COUNTY PARK
SCALE: AS SHOWN

65% DESIGN

Figure 4: Samoa Parking Lot
Humboldt Bay Water Trails Project
Humboldt Bay Harbor and Conservation District
Proposed Mitigated Negative Declaration/Initial Study
March 2014

SIGNATURE	CITY APPROVAL	DATE

moffatt & nichol
2185 N. California Blvd., Suite 500
Walnut Creek, California 94596
925.944.5411

DSGN	DR	CHK
BP	NN	JFJ

JOB NO.	SUBMITTED BY	TITLE
7558		

HUMBOLDT BAY HARBOR, RECREATION, AND CONSERVATION DISTRICT
WATER TRAILS IMPLEMENTATION PROGRAM

SAMOA BOAT RAMP COUNTY PARK

DATE 7/2/12

SHEET 8 OF 8

C6

P:\7558 Humboldt Water Trail\7558CADD\7558 C6 SAMOA_BOAT_RAMP.dwg Jul 03, 2012 - 2:00pm

Appendix B – Botanical Survey

Botanical Surveys for Humboldt Bay Water Trails Project

Memorandum

August 17, 2012

To	Dan Berman (HBHRCD); Brad Porter (Moffatt & Nichol)		
Copy(ies) to	Ken Mierzwa (GHD Biologist); Misha Schwarz (GHD Project Manager)		
From	Lia Webb (GHD Ecologist)	Tel	(707) 443-8326
Subject	Botanical Surveys for Humboldt Water Trails Project	Job no.	12526-11001-11031

INTRODUCTION

Between February 23, and June 20, 2012 GHD Ecologist performed three site visits to conduct seasonally-appropriate special-status plant surveys at several sites being considered for use for the Humboldt Water Trails Project (the project). This memo provides documentation for the California Environmental Quality Act (CEQA) review of the project.

LOCATION

The potential project sites are scattered around Humboldt Bay margin. Projects will vary from site to site and consist of providing water access or improving existing access for kayakers and boaters. One site under evaluation is at the Samoa Boat Ramp County Park in Fairhaven, on the Samoa peninsula near Eureka, California. Additionally, two areas at the Arcata marsh near the parking area at Klopp Lake were surveyed. A third site at the Woodley Island Marina is under consideration for use and consists of an existing developed boat dock and thus botanical surveys were not deemed necessary at this site as no land surface disturbance is proposed.

METHODS

The initial analysis of the project sites consisted of review of existing environmental literature and data, including: *A Manual of California Vegetation Second Edition* (Sawyer et al 2009); the *California Natural Diversity Database* (CNDDB) [CDFG 2012]; the California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Vascular Plants* (CNPS 2012); and lists of special-status species that may occur in the project area as provided by the U.S. Fish and Wildlife Service (USFWS) [USFWS 2012], NOAA Fisheries, and the California Department of Fish and Game (CDFG) [CDFG 2012a]. The project area topographic maps, aerial photography maps, and the Eureka and Arcata South Quads CNDDB, and CNPS *Rare Plant Inventory* were consulted prior to and during the survey to determine potential sensitive species occurrence.

Seasonally-appropriate botanical surveys to determine the presence of special-status plant species (listed as rare, threatened, endangered, or candidate for rare, threatened, or endangered species listing under the state or federal Endangered Species Acts, or of local importance) were conducted at the appropriate blooming or active period for each resource. Fish & Wildlife Service (FWS) and/or other resources agencies were contacted to verify that botanical surveys were being conducted at an appropriate time of year to allow for the micro-variations that occur in climate and bloom period for specific species on a year-

to-year basis. Additionally, reference site(s) were viewed where target plant species are known to occur in the project area to verify the species was visible and blooming at the time of surveys.

The surveys were conducted following protocol developed by California Department of Fish and Game (CDFG 2000). An intuitively controlled, seasonally appropriate survey was conducted that sampled the identified potential habitat. The survey was high in coverage (95-100%). Plants were identified to the lowest taxonomic level (genus or species) necessary for rare plant identification. The scientific nomenclature follows the Jepson Manual (Hickman 1993).

General observations of presence/absence of eel grass presence at or near the sites was conducted at negative low tides during the times when rare plant surveys were conducted. Quantification and mapping of eel grass beds was not deemed appropriate at this time, as project components and site selection are in the planning phase and actual implementation could occur well into the future.

RESULTS

Rare plant surveys of the project areas were conducted on February 23, May 14, and June 19, 2012, when the target plant species were determined to be flowering and identifiable. GHD Ecologist Lia Webb conducted the botanical surveys. Ms. Webb is qualified to conduct rare plant surveys and has training in recognition of the local flora, in rare plant identification, and survey protocols.

Plant species included on List 1 and 2 (herein referred to as sensitive species) of the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Vascular Plants of California (Tibor 2001) were reviewed to determine potential presence in the vicinity of the project area. The CNPS inventory includes species listed as rare or endangered by the Federal and State governments.

The California Natural Diversity Database (CNDDB) includes historical records for several salt marsh and dune species known to occur within the Eureka and/or Arcata South 7.5 minute USGS quadrangles. The absence of salt marsh and coastal dunes for most of the project area reduces likelihood that some sensitive species would be present based on absence of specific types of habitats. The Samoa project site includes some sandy substrate adjacent to the paved parking lot, yet not typical of coastal dune habitat due to modified and altered nature of the area and over 80% coverage of non-native and invasive species (mostly ice plant). The Arcata site in general includes very marginal and limited natural salt marsh with the exception of a created bench installed for salt marsh establishment that contains pioneer salt marsh species at low coverage. The Arcata site does not have coastal dune habitat.

Based on the species identified in the CNDDB records, the range of habitats present, and the geographical range of the various sensitive species, the species considered likely to occur in the vicinity of the project are listed in Table 1.

Table 1. Species Potentially Present at Project Sites

Scientific Name	Common Name	Status	Description / Habitat	EUREKA SITE Potential Habitat Present	Occurance at Eureka Project Sites	ARCATA SITE Potential Habitat Present	Occurance at Arcata Project Sites	Bloom Period
Habitats								
Northern Coastal Salt Marsh	Northern Coastal Salt Marsh	State	Marsh and swamp | Wetland	Yes	**Not Present.** Mostly ice plant and non-native species.	Yes	In general, marginal salt marsh present, with the exception of a created bench where habitat creation is underrway. Jurisdictional line will be based on HTL (and/or MHHW) elevation as salt marsh wetland unlikely to occur landward of this jurisdict	NA
Plants								
Abronia umbellata var. breviflora	pink sand-verbena	CNPS (1B.1)	Sandy soils, coastal scrub, lees of dunes near strand; open sandy beaches, typically at or below the zone of driftwood accumulation.	Yes	**Not Present.** Seasonally appropriate survey conducted in June 2012.	Not likely	**Not Present.** Suitable habitat not present in project vicinity. Not listed for Arcata quad.	Jun-Oct
Astragalus pycnostachyus var. *pycnostachyus*	coastal marsh milk-vetch	CNPS (1B.2)	Coastal Prairie, Coastal Strand, wetland-riparian	Not likely	**Not Present.** Reported historically near the town of Samoa, but has not been recorded in the region for decades.	Not likely	**Not Present.** Suitable habitat not present in project vicinity. Not listed for Arcata quad.	April – October
Cardamine angulata	seaside bittercress	CNPS (2.1)	Wet areas, streambanks; Lower montane coniferous forest; North Coast coniferous forest	No	**Not Present.** Suitable habitat not present in project vicinity.	No	**Not Present.** Suitable habitat not present in project vicinity.	Mar-July
Carex arcta	northern clustered sedge	CNPS (2.2)	North Coast, Outer North Coast Ranges; to w Canada; also Canada, United States. Wet places, especially sphagnum bogs;	Not likely	**Not Present.** Suitable habitat not present in project vicinity.	Not likely	**Not Present.** Suitable habitat not present in project vicinity. Not listed for Arcata quad.	Jun–Aug
Carex lyngbyei	Lyngbye's sedge	CNPS (2.2)	Estuaries, coastal salt marsh, brackish marshes. Flowers May-Aug.	Not likely	**Not Present.** Suitable habitat not present.	Yes	**Not Present.** Suitable habitat not present. Possible in nearby saltmarsh/brackish areas; surveys did not identify any present.	May-Aug
Carex praticola	northern meadow sedge	CNPS (2.2)	Meadow and seep | Wetland	Not likely	**Not Present.** Suitable habitat not present.	Not likely	**Not Present.** Suitable habitat not present in project vicinity. Not listed for Arcata quad.	May-Jul
Castilleja affinis ssp. *litoralis*	Oregon coast paintbrush	CNPS (2.2)	Dry areas along bluffs, chaparral near coast.	Yes	**Not Present.** Seasonally appropriate survey conducted in June 2012.	Not likely	**Not Present.** Suitable habitat not present in project vicinity. Not listed for Arcata quad.	Jun
Castilleja ambigua ssp. *humboldtiensis*	Humboldt Bay owl's-clover	CNPS (1B.2)	Salt marsh. Occurs near Mad River Slough, and other salt marsh habitats throughout Humboldt Bay.	Yes	**Not Present.** Suitable habitat not present.	Yes	**Present Near Site.** Approximately 300 individuals mapped scattered along edge of bare mud, and not currently within proposed project footprint.	Apr-Aug
Chloropyron maritimum ssp. *palustre*	Point Reyes bird's-beak	CNPS (1B.2)	Salt marsh. Widespread in coastal salt marsh habitats in Humboldt Bay. The species is known from nearby Manila.	Yes	**Not Present.** Seasonally appropriate survey conducted in June 2012.	Yes	**Present Near Site.** Approximately 20 individuals mapped scattered along edge of bare mud and not currently within proposed project footprint.	Jun-Oct
Erythronium revolutum	coast fawn lily	CNPS (2.2)	Redwood Forest, Mixed Evergreen Forest, wetland-riparian; North Coast, Klamath Ranges, Outer North Coast Ranges. Streambanks, wet places in woodland;	Not likely	**Not Present.** Suitable habitat not present in project vicinity.	Not likely	**Not Present.** Suitable habitat not present in project vicinity. Not listed for Arcata quad.	Feb-May
Erysimum menziesii ssp. *eurekense*	Humboldt Bay wallflower	E (Fed/State)	Dune mat	Yes	**Not Present.** Known from North and South Spit coastal dune habitats.	Not likely	**Not Present.** Suitable habitat not present in project vicinity. Not listed for Arcata quad.	Feb-May
Fissidens pauperculus	minute pocket moss	CNPS (1B.2)	North Coast coniferous forest (damp coastal soil)	not listed for quad	**Not Present.** Suitable habitat not present.	No	**Not Present.** Suitable habitat not present.	NA
Gilia capitata ssp. *pacifica*	Pacific gilia	CNPS (1B.1)	Coastal bluff scrub | Coastal prairie | Valley and foothill grassland	Yes	**Not Present** Suitable habitat in project vicinity. Seasonally appropriate survey conducted in June 2012.	Not likely	**Not Present.** Suitable habitat not present in project vicinity. Not listed for Arcata quad.	Apr-Aug
Gilia millefoliata	dark-eyed gilia	CNPS (1B.2)	Coastal dunes	Yes	**Not Present** Suitable habitat in project vicinity. Seasonally appropriate survey conducted in June 2012.	Not likely	**Not Present.** Suitable habitat not present in project vicinity. Not listed for Arcata quad.	Apr-Jul

Table 1 (cont.). Species Potentially Present at Project Sites

Scientific Name	Common Name	Status	Description / Habitat	EUREKA SITE Potential Habitat Present	Occurance at Eureka Project Sites	ARCATA SITE Potential Habitat Present	Occurance at Arcata Project Sites	Bloom Period
Hesperevax sparsiflora var. *brevifolia*	short-leaved evax	CNPS (1B.2)	Coastal bluff scrub | Coastal dunes	Yes	**Not Present.** Suitable habitat present and surveys conducted and no individuals were observed.	Yes	**Not Present.** Suitable habitat not present in project vicinity. Not listed for Arcata quad.	Mar-Jun
Lathyrus japonicus	seaside pea	CNPS (2.1)	Coastal dunes from Humboldt to Del Norte counties	Yes	**Not Present.** Suitable habitat present and surveys conducted and no individuals were observed.	Yes	**Not Present.** Suitable habitat present and surveys conducted and no individuals were observed.	May-Aug
Lathyrus palustris	marsh pea	CNPS (2.2)	Bog, fen, marsh, swamp wetland, Coastal prairie, Coastal scrub, Lower montane and north coast coniferous forest	No	**Not Present.** Suitable habitat not present.	No	**Not Present.** Suitable habitat not present in project vicinity. Not listed for Arcata quad.	Mar-Aug
Layia carnosa	beach layia	CNPS (1B.1)	Coastal dunes, Coastal scrub (sandy)	Yes	**Not Present** Suitable habitat in project vicinity. Seasonally appropriate survey conducted in June 2012.	Not likely	**Not Present** Suitable habitat in project vicinity. Not listed for Arcata quad. Seasonally appropriate survey conducted in June 2012.	Mar-Jul
Lilium occidentale	western lily	Fed/State (E); CNPS (1B.1)	Bogs with poorly drained, slightly acidic organic soils. sea level to 320 feet asl.	No	**Not Present.** Suitable habitat not present.	No	**Not Present.** Suitable habitat not present.	June-July.
Monotropa uniflora	ghost-pipe	CNPS (2.2)	Broadleaved upland forest | North coast coniferous forest	No	**Not Present.** Suitable habitat not present.	No	**Not Present.** Suitable habitat not present in project vicinity. Not listed for Arcata quad.	May-Oct
Montia howellii	Howell's montia	CNPS (2.2)	Vernally mesic, sometimes roadsides; Meadows and seeps; North Coast coniferous forest; Vernal pools	No	**Not Present.** Suitable habitat not present.	No	**Not Present.** Suitable habitat not present.	Feb-May
Oenothera wolfii	Wolf's evening-primrose	CNPS (1B.1)	Grasslands, coastal strand, roadsides, bluffs. Sandy soils, well drained but adequate moisture. Areas protected from NW exposure, south of a headland, promontory, or near river mouth.	Yes	**Not Present** Suitable habitat in project vicinity. Seasonally appropriate survey conducted in June 2012.	Yes	**Not Present** Suitable habitat in project vicinity. Seasonally appropriate survey conducted in June 2012.	May-Oct
Sidalcea malviflora ssp. *patula*	Siskiyou checkerbloom	CNPS (1B.2)	Broadleaved upland forest | Coastal prairie	Yes	**Not Present** Suitable habitat in project vicinity. Seasonally appropriate survey conducted in June 2012.	Yes	**Not Present** Suitable habitat in project vicinity. Seasonally appropriate survey conducted in June 2012.	May-Aug
Sidalcea oregana ssp. *eximia*	coast sidalcea	CNPS (1B.2)	Lower montane and north coast coniferous forest | Meadow and seep, Wetland	Not listed for quad	**Not Present** Suitable habitat in project vicinity. Seasonally appropriate survey conducted in June 2012.	No	**Not Present** Suitable habitat in project vicinity. Seasonally appropriate survey conducted in June 2012.	Jun-Aug
Spergularia canadensis var. *occidentalis*	western sand-spurrey	CNPS (2.1)	Coastal, salt-marsh; prefers prime saltmarsh habitat between 0 and 10 feet elevation	yes/low	**Not Present** Suitable habitat in project vicinity. Seasonally appropriate survey conducted in June 2012.	Yes/low	**Present Near Site.** Has not been reported occuring naturally along the east shore of Humboldt Bay. Yet approximately 50 plants are present adjacent to the project area within a created bench for habitat establishment; and not currently within proposed project footprint.	Jun-Aug
Viola palustris	alpine marsh violet	CNPS (2.2)	Bog and fen | Coastal scrub | Wetland	Low	**Not Present.** Suitable habitat not present.	Low	**Not Present.** Suitable habitat not present.	Mar-Aug

Source: CNDDB/FWS/CNPS, 2012. Eureka and Arcata South Quads
CNPS = Special-status plant listing by California Native Plant Society

State Key:
E= State and/or Federally Endangered
T = Threatened
SSC = State DFG Species of Special Concern

Federal Key:
(PE) Proposed Endangered Proposed in the Federal Register as being in danger of extinction
(PT) Proposed Threatened Proposed as likely to become endangered within the foreseeable future
(E) Endangered Listed in the Federal Register as being in danger of extinction
(T) Threatened Listed as likely to become endangered within the foreseeable future
(C) Candidate Candidate which may become a proposed species

Klopp Lake Site(s), Arcata
The Arcata site consists of non-native grasses within the mowed area adjacent to the parking lot. Within and below the existing RSP, scattered saltmarsh species were noted, namely salt grass (*Distichlis spicata*), spartina (*Spartina densiflora*) [invasive], pickleweed (*Salicornia virginica*), plantain (*Plantago coronopus*), brass buttons (*Cotula coronopifolia*). Additionally, western sand-spurrey (*Spergularia canadensis* var. *occidentalis*) [~50 plants], Humboldt Bay owls clover (*Castilleja ambigua* ssp. *humboldtiensis*) [~300 plants], and Point Reyes birds beak (*Chloropyron maritimum* ssp. *palustre*) [~20 plants] were mapped within a created bench installed for saltmarsh establishment adjacent to the proposed project site. The bench area where salt marsh establishment activities have occurred and where sensitive plant species were mapped begins at the southern end of the parking lot approximately 30 feet downslope of the picnic area, and extends to the north where it ends at the rip rap associated with the existing boat dock. The southern end of this area is approximately 25 feet from the area being considered for the proposed project.

The field effort additionally focused on providing a general description of eel grass beds if present. There is presence of some eel grass at the Arcata site, yet beyond the existing pier on the mudflats and near where either pier extension might be considered (approximately 15 feet beyond where either pier would occur). The patches appear to be rooted, and at this time are approximately 2-3 square feet each, with approximately 5-10% coverage over the adjacent area.

Samoa Boat Ramp County Park Site, Fairhaven
The Samoa site consists of red clover (*Trifolium pretense*), burr clover (*Medicago polymorpha*), annual bluegrass (*Poa annua*), ice plant (*Carpobrutus edulis*, invasive, and greater than 80% coverage of the area), vetch (*Vicea* sp.), chickweed (*Stellaria media*), yellow sand-verbena (*Verbena latifolia*), beach morning glory (*Calystegia soldanella*), geranium (*Geranium dissectum)*, oat grass (*Avena* sp.), rattlesnake grass (*Briza maxima*), common chickweed (*Stellaria media*), and black mustard (*Brassica nigra*). The area consists of sandy substrate, with greater than 80% non-native species, namely invasive ice plant makes up at least 80% of the vegetated area. Remnant native species component was observed at approximately 1% coverage in the project vicinity.

Eel grass is not present in the project area or adjacent to the site although it is known to occur in the vicinity.

Woodley Island Site, Eureka
A site at the Woodley Island Marina is under consideration for use and consists of an existing developed boat dock and thus botanical surveys were not deemed necessary at this site. There is eel grass present adjacent to and under the proposed project area (the existing dock), and any expansion would need to take into considerations potential impacts, particularly shading, to this sensitive habitat (State regulated by California Department of Fish and Game).

RECOMMENDATIONS

The following are actions that are recommended based on observations of existing conditions at the project site:

- Avoidance, minimization, and/or mitigation will be developed for project areas that have potential to impact rare or sensitive plant species. It is highly likely that avoidance can be utilized for the identified plant species.
- During construction, it is advised that temporary flagging be installed around identified populations of special-status plant species to ensure avoidance of areas. The area should be identified so that workers avoid trampling the area, avoid stockpiling and staging, material storage, and area is not used for temporary access to project implementation area.
- There is eel grass present adjacent to the existing dock at the Woodley Island site, and expansion of facilities would need to take into considerations potential impacts, particularly shading, to this habitat (State regulated by CDFG).
- If new and/or expanded docks are planned within 30 feet of suspected eel grass beds (for Woodley Island, Eureka, or Klopp Lake, Arcata, sites) preconstruction surveys should be conducted to quantify species presence.
- If the project is not implemented within the next two years, then additional pre-construction botanical surveys for rare plant species should be conducted.

CONCLUSION

This report documented presence/absence of rare plant species and eel grass beds within the vicinity of proposed project elements. The rare plant surveys were conducted at seasonally appropriate times for plant species with potential to occur in the project vicinity.

REPORT PREPARE(S)

This technical memorandum was prepared and reviewed by the following individual(s):

GHD Inc.

Lia Webb
Ecologist

Reviewed by:

GHD Inc.

Misha Schwarz
Project Manager

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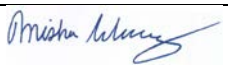
Document Status

Rev No.	Compiled by	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
1	Scott Harris	Misha Schwarz		Misha Schwarz		5/15/14

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