

D. Biological Resources

Environmental Setting

Information used in preparation of this section is from recent ecological and wetland investigative reports of the project site and the project site vicinity prepared on behalf of the project applicant (Huffman-Broadway Group, 2006a; 2006b; and 2007), an independent wetland investigative report (Zentner and Zentner, 2007), the California Natural Diversity Database (CDFG, 2007), California Native Plant Society Electronic Inventory (CNPS, 2007), and U.S. Fish and Wildlife Service (USFWS, 2007). Environmental impact reports prepared for previous projects (City of Eureka, 1998; 2002) in the project site vicinity were reviewed, as were applicable federal, state and local regulations relating to biological resources. A reconnaissance-level survey was conducted in May 2006 by an ESA biologist for this analysis. Habitat quality and species distribution were considered in evaluating the likelihood of special-status species to occur in the project area. Protocol level special-status rare plant surveys were conducted by the Huffman-Broadway Group (“HBG”).

Regional Setting

The project site is located along Humboldt Bay within the central western area of Humboldt County. Humboldt Bay consists of two bays, South Bay and Arcata Bay. A narrow peninsula separates Humboldt Bay from the Pacific Ocean. The project site is located at the northern end of the narrow waters between South Bay and Arcata Bay. Cool, wet winters and cool summers with frequent fog and wind characterize the coastal climate of the bay. Natural communities occurring along Humboldt Bay include beach, coastal prairie, marine and estuarine wetlands, and coniferous forests. Several creeks, such as Elk River and Freshwater Creek, flow into Humboldt Bay and are subject to daily tidal fluctuations. Intertidal mudflat and salt marsh wetlands occur along the shore of Humboldt Bay and provide habitat for over 100 species of birds associated with marine and estuarine wetlands. Great blue heron (*Ardea herodias*), willet (*Catoptrophorus semipalmatus*), marbled godwit (*Limosa fedoa*), and herring gull (*Larus argentata*) are dominant and common predators in estuarine tidal flats. The narrow and rocky shoreline provides limited shorebird feeding opportunities. The bay serves as a migration corridor for commonly occurring surfperch and flatfish as well as special-status adult and juvenile chinook salmon (*Oncorhynchus tshawytscha*) and coho salmon (*Oncorhynchus kisutch*). Eelgrass (*Zostera marina*) can provide food and cover for migrating juvenile and adult chinook salmon and coho salmon, and nursery habitat for dungeness crab (*Cancer magister*) and pacific herring (*Clupea harengus pallasii*).

Existing Biological Resources

Vegetation Communities

Vegetation communities are assemblages of plant species growing in an area of similar biological and environmental factors. Huffman-Broadway Group (HBG) biologists conducted field surveys and botanical inventories onsite between August 2005 and October 2007, and assessed the project

site for communities that might potentially support special-status species. The surveys and inventories revealed that the heavily disturbed site contains no such suitable habitat. A list of plant species inventoried on the property is included in the appendices. The following vegetation communities were found at the project site:

Disturbed Grassland

Much of the project site is dominated by ruderal, weedy, non-native vegetation. Ruderal vegetation within the railyard and industrial areas occurs in waste areas such as scraped shallow soils, mounds of fill and debris, concrete structures, utility infrastructure consisting of metal pipes and wire, railroad tracks, and the compacted gravel roads currently used to access the site that were constructed during railyard and industrial operations. A large number of potholes have formed within the compacted roadbase materials on these roadways as a result of years of vehicular use and lack of maintenance. Although the potholes fill with water periodically during the rainy season, any sparse vegetation that may form is crushed or otherwise heavily impacted by continued vehicle use. Vehicle tracks and ruts within upland and wetland areas adjacent to the larger potholes on the roadways indicate that the potholes are bypassed by vehicles on occasion, likely when the deeper potholes are completely filled with water.

The vegetation associated with ruderal areas on the site is dominated by mostly weedy introduced (non-native) grasses such as rip-gut brome (*Bromus diandrus*), sweet vernal grass (*Anthoxanthum odoratum*), quaking grass (*Briza maxima*), and herbs such as rough cat's ear (*Hypochaeris radicata*). Shallow soils were sometimes found to be carpeted with yellow owl's clover (*Triphysaria versicolor*), rose clover (*Trifolium hirtum*) or English plantain (*Plantago lanceolata*). Mounded areas were covered in introduced non-native tall grasses, wild fennel (*Foeniculum vulgare*), field mustard (*Brassica rapa*), or wild radish (*Raphanus sativus*) or supporting occasional shrubby coyote brush (*Baccharis pilularis*).

Seasonal Ponds

This type of vegetation community appears on the project site in low-lying depressions resulting from soil compaction or scraping. These areas pond water periodically during the rainy season. Characteristic species found in these areas are diminutive annuals such as toad rush (*Juncus bufonius*), annual tule (*Scirpus cernuus*), and annual bluegrass (*Poa annua*). Where water ponds for long durations of time, taller-growing plants such as water foxtail (*Alopecurus geniculatus*), western mannagrass (*Glyceria occidentalis*), spikerush (*Eleocharis macrostachya*), penny royal (*Mentha pulegium*) and tall flatsedge (*Cyperus eragrostis*) are established. The invasive non-native Common reed (*Phragmites australis*) was commonly found associated with depressions in fill areas adjacent to and within several hundred feet east of the remnant Clark Slough channel.

Herbaceous Riparian

Several internal freshwater drainage ditches occur on the site. These drainages support and are identified by patches of Himalayan blackberry (*Rubus discolor*), cattail (*Typha latifolia*), and fringes of waterloving herbs such as Bloomer's beaked buttercup (*Ranunculus orthorhyncus* var. *bloomeri*), Pacific oenanthe (*Oenanthe sarmentosa*), hoary nettle (*Urtica dioica* ssp. *holosericea*),

wild teasel (*Dipsacus fullonum*), and giant horsetail (*Equisetum telmateia* ssp. *braunii*). Individual willows (*Salix drummondii*) are found along the drainage ditches but there is not a continuous riparian corridor of willows or other perennial or structurally diverse cover.

Tidally Affected Drainage

Two remnants of Clark Slough in the western portion of the property are connected to the bay by culverts under the railroad track. Tidal exchange within these slough remnants was verified based on field observations in 2005, 2006 and 2007 that indicate a daily rise and fall of water elevations. The tidal impact is muted by a gate at the end of the slough remnants. These Clark Slough remnants are excavated into the local landscape with steep banks and rip-rapped vertical walls that are affected by tidal action. This estuarine emergent wetland¹ is dominated by the invasive non-native common reed (*Phragmites australis*). A border of thickspike non-native invasive cordgrass (*Spartina densiflora*) forms a nearly continuous ring to the exclusion of other intertidal plants within this zone. Individuals of silver weed (*Potentilla anserina*) and arrow-grass (*Triglochin maritima*) and tussocks of salt grass (*Distichlis spicata*) are interspersed in the rock revetment of the channel and the dominant introduced cordgrass. A natural mixed intertidal community is not present.

Animal Populations

A list of all wildlife species either observed on the project site or that might possibly utilize the site was prepared through habitat reconnaissance, field observation, and review of literature sources, such as the California Natural Diversity Database (CNDDDB). The list is contained in the appendices.

Species of raptors observed by HBG during a field review on December 29, 2005, include red-shouldered hawk, Cooper's hawk, peregrine falcon, and American kestrel. Other birds observed at the site included great blue heron, killdeer, Wilson's snipe, red phalarope, Western gull, glaucous-winged gull, rock pigeon, belted kingfisher, black phoebe, common raven, ruby-crowned kinglet, marsh wren, hermit thrush, European starling, white-crowned sparrow, golden-crowned sparrow, Lincoln's sparrow, song sparrow, fox sparrow, savannah sparrow, yellow-rumped warbler, Western meadowlark and Brewer's blackbird. Several of these species, including great blue heron, Wilson's snipe, red phalarope, belted Kingfisher, black phoebe, marsh wren, and Lincoln's sparrow would be expected to use the on-site wetlands as foraging area. Also observed flying over the site was a flock of Canada geese. All avian species observed at the site are common to and abundant in the region with the exception of the peregrine falcon, which is state-listed as an endangered species (see section on special-status species below), and red phalarope. At the time of the survey a series of storms along the West Coast forced many red phalarope individuals to seek refuge on land and resulted in large numbers of red phalaropes being seen at many coastal locations. Three red phalaropes were observed in a rain puddle at the project site on the morning of December 29, 2005. These birds normally occur at sea and are rarely seen on shore. The peregrine falcon was perched on a transmission tower in the center of the project site and seems to have been using the project site as a foraging area.

¹ An emergent wetland is one that contains vegetation tall enough to emerge from the body of water.

A summer season field review by a wildlife biologist was conducted on July 9, 2006. Avian and other wildlife use of the site during this time of year was less extensive than during the winter. Birds commonly seen during this survey were rock pigeon, barn swallow, European starling, white-crowned sparrow, and house sparrow. Other birds observed in lesser numbers included violet-green, tree, and cliff swallows, black phoebe, common raven, song sparrow, American goldfinch, and purple finch. Although nests of these species were not observed at the site, all of these species could potentially nest at the site or in the immediate site vicinity. Birds seen flying over the site included black-crowned night-heron, great blue heron, great egret, and snowy egret, most likely birds associated with the rookery located on nearby Indian Island, approximately ½ mile away. A peregrine falcon was also sighted on the site by an HBG wetland scientist on July 31, 2007.

No mammals were observed at the site during the surveys, although several species could potentially occur at the site, including striped skunk, raccoon, Virginia opossum, and California ground squirrel.

Despite looking under boards and other objects, the only amphibian or reptile observed was the Pacific treefrog during the July 9, 2006, summer survey. Other reptiles that could potentially use the site include Western fence lizard, common garter snake, and gopher snake.

Special-Status Species

Rare, endangered, or threatened species are protected by the federal Endangered Species Act of 1973 (16 U.S.C. § 1531 et seq., as amended), the California Native Plant Protection Act of 1977 (California Fish and Game Code § 1900 et seq.), and the California Endangered Species Act of 1984 (California Fish & Game Code § 2050 et seq.). For purposes of conducting environmental analysis, CEQA treats certain unlisted species as rare or endangered if the species meets the criteria in Section 15380 of the CEQA Guidelines.

The California Department of Fish and Game (CDFG) maintains records for the distribution and known occurrences of sensitive species and habitats in the California Natural Diversity Data Base (CNDDDB). Sensitive species include those species listed by the federal and state governments as endangered, threatened, or rare, or as candidate species for these lists. The CNDDDB is organized into map areas based on 7.5-minute topographic quadrangle maps produced by the U.S. Geological Survey. Occurrences of sensitive species and important natural communities reported to the CDFG are mapped on the quadrangle maps. The database gives further detailed information on each occurrence, including the specific location the individual, population, or habitat was observed (if known) and the presumed current state of the population or habitat.

The project site is in the Eureka 7.5-minute quadrangle. The CNDDDB records search included adjacent quadrangles to the north (Tyee City), northeast (Arcata North), east (Arcata South), southeast (McWhinney Creek), south (Field's Landing), and southwest (Cannibal Island). The CNDDDB review, which included six USGS quadrangles surrounding the project site, indicated that several special-status animal and plant species are known to occur within 5 to 10 miles of the site. These species are discussed in more detail below. The lists of special-status plants and

animals, respectively, that have been reported in the Eureka and adjacent 7.5-minute quadrangles or that are known to occur in the vicinity of the site based on knowledge of the Huffman-Broadway Group investigators are included in Appendix D.

Special-Status Plant Species

Special-status plant species listed in the CNDDDB as occurring or having occurred in the Eureka 7.5-minute quadrangle and adjacent quadrangles are listed in the appendices. The CNDDDB includes:

1. Species that are listed or proposed for listing as threatened or endangered under the federal Endangered Species Act;
2. Species that are listed or proposed for listing by the state of California as threatened or endangered under the California Endangered Species Act;
3. Species listed in the California Native Plant Society (CNPS) *Inventory of Rare and Endangered Plants* (updated quarterly);
4. Plant species that meet the definition of rare or endangered under CEQA.

The CNDDDB list of special-status plants and their habitat requirements was used to identify habitats at the project site that might harbor rare species. The CNDDDB did not reveal that any special-status species had occurred on the project site itself. Furthermore, all of the plant species listed require habitat conditions not found at the disturbed and impacted project site.

No special-status plants were found on the project site during the systematic surveys conducted on the project site April 28 and 29, 2006 by a qualified botanist. The timing of the surveys coincided with the flowering periods for some of the target species, and absence of these species is demonstrated. The determination that other special-status plants were absent was based on an assessment of habitat conditions.

The project site is highly disturbed and lacks native soils that could support rare or native species. The special-status species listed in the appendices require habitat conditions not found on the property. An April, 2006 survey of the site was negative for presence of target species or their habitats. For all these reasons, no special-status plants are expected to occur at the project site.

Special-Status Animal Species

HBG consulted the CDFG CNDDDB to ascertain the potential for special-status animal species occurring in the seven 7.5-minute quadrangle map areas. All species found to occur within the general CNDDDB search area, or determined to be potentially present based on the knowledge of the HBG investigators, are listed in the appendices. The project site does not provide habitat suitable to support any of the animal species listed.

The CNDDDB indicates that special status-species known to have occurred within the general vicinity of the property include the rare sandy beach tiger beetle (*Cicindela hirticollis gravida*), the federally listed endangered tidewater goby (*Eucyclogobius newberryi*), the coast cutthroat

trout (*Oncorhynchus clarkii clarkii*, a state species of special concern), the federally listed threatened western snowy plover (*Charadrius alexandrinus nivosus*), and the federally listed endangered California clapper rail (*Rallus longirostris obsoletus*). During field reviews, HBG sighted an American peregrine falcon (*Falco peregrinus*), a state-listed endangered species perched on a transmission tower at the project site. In addition, the rookery on Indian Island is reported as providing a nesting area for black-crowned night-heron (*Nycticorax nycticorax*), snowy egret (*Egretta thula*), great egret (*Ardea alba*) and great blue heron (*Ardea herodias*). The following detailed review of all special-status animal species that have occurred or might occur in the project vicinity reveals that the project site does not provide habitat suitable to support such species.

Sandy Beach Tiger Beetle. The rare sandy beach tiger beetle (*Cicindela hirticollis gravida*) is neither state or federally listed nor designated as a species of special concern by state or federal governments. This beetle inhabits areas adjacent to non-brackish water along the coast of California from San Francisco Bay to northern Mexico. The beetle lives in clean, dry, light-colored sand in the upper beach zone. Larvae have a subterranean existence and prefer moist sand not affected by wave action. According to the CNDDDB, the species was known to occur along the Eureka shoreline from a historical record of an occurrence in 1905. The species is now thought to be extirpated from this area. No impacts to this species would result from development on the project site.

Tidewater Goby. The tidewater goby (*Eucyclogobius newberryi*) is a federally listed fish that is also a state-designated species of special concern. The species is found in brackish water habitats along the California Coast from Agua Hedionda Lagoon in San Diego County north to the mouth of the Smith River. In November 2000, the USFWS designated 9 miles of rivers, streams, and estuaries in Orange and San Diego counties in Southern California as critical habitat for the species. Tidewater goby individuals are found in shallow lagoons and lower stream reaches, with habitat requirements that include fairly still but not stagnant water and high oxygen levels. They are known to occur in the northern portion of Humboldt Bay, from the area of the mouth of Mad River Slough to the mouth of Jacoby Creek, but are not known to occur in the immediate vicinity of the project site.

Coast Cutthroat Trout. Coast cutthroat trout (*Oncorhynchus clarkii clarkii*) is not listed by the state or federal governments but is considered a state designated species of special concern. This anadromous fish species inhabits small coastal streams from the Eel River to the Oregon border. The preferred habitat is small, low gradient coastal streams and estuaries. The species requirements include shaded streams with water temperatures less than 18° C, and small gravels for spawning. In the Humboldt Bay area the species is known to occur within the Elk River and its tributaries (36 miles of occupied or accessible habitat) and Freshwater Creek and its tributaries (15 river miles of stream habitat). Neither Clark Slough nor any other water body on the project site provides appropriate habitat for this species.

Heron and Egret Rookery. According to the CNDDDB, a rookery in Humboldt Bay, approximately ½ mile north of the site, on Indian Island, accommodates five species of nesting

herons and egrets: great blue heron; great egret; snowy egret; black-crowned night-heron; and cattle egret. The rookery is located within a grove of Monterey cypress and eucalyptus planted as ornamentals at the former Gunther Mansion which was destroyed in 1958. The number of active nests varies from year to year, but has totaled as many as 233 great egret nests in 1980, 87 great blue heron nests in 1972, ten snowy egret nests in 1980, and 74 black-crowned night-heron nests in 1993. A pond area bordered by cypress trees on nearby Woodley Island is used by the herons and egrets primarily for roosting. There are no appropriate nesting sites for these species on the project site.

American Peregrine Falcon. American peregrine falcon (*Falco peregrinus*) was recently delisted as an endangered species under the federal Endangered Species Act, but continues to be listed as endangered by the State of California. These falcons nest along the coast north of Santa Barbara, in the Sierra Nevada, and in mountains of northern California. They most often breed in woodland, forest and coastal habitats. The species inhabits open wetlands near cliffs and canyons, and also occurs in some cities where these falcons are known to nest on buildings and bridges.

A peregrine falcon was observed on the project site during a field survey December 29, 2005. A peregrine falcon was also sighted perched on a transmission tower in the center of the project site by an HBG wetland scientist on July 31, 2007. Appropriate nest sites (craggs, cliffs, etc.) do not occur on the project site or in the immediate vicinity. American peregrine falcons are known to winter in the general vicinity of Humboldt Bay, though the CNDDDB has no record of any peregrine nests in the six surrounding quadrangles reviewed. Sporadic use of the undeveloped but disturbed project area as a winter foraging area would be expected. Significant foraging area for this species is also present in the numerous surrounding marshes, mudflats and open water habitats within the greater Humboldt Bay area.

California Clapper Rail. The California clapper rail (*Rallus longirostris obsoletus*), a federally and state listed endangered species, inhabits salt water marshes traversed by tidal sloughs in San Francisco Bay. Critical habitat for the species has not been designated. The California clapper rail requires abundant growths of pickleweed, but does feed away from cover. These rails primarily feed on mollusks from mud-bottomed sloughs. The primary factor affecting California clapper rails has been the loss of tidal marsh bordering the San Francisco Bay. Other factors affecting population numbers include erosion of shorelines, freshwater discharges from wastewater facilities, fragmentation of tidal marshes, and proliferation of mammalian predators (e.g., red fox, raccoons, rats, skunks and domestic pets and feral animals) and avian predators (e.g., raptors).

According to the CNDDDB, a breeding population of California clapper rails existed near the project site, on Indian Island in 1932, but no confirmed breeding records at that location have been reported since and there is no record of clapper rails existing at the project site. The project site does not currently contain the habitat necessary to support this species because Clark Slough is rip rapped and degraded.

Western Snowy Plover. The western snowy plover (*Charadrius alexandrinus nivosus*) is a federally listed species and a California species of special concern. It is present in California in fall and winter, common on sandy marine and estuarine shores, uncommon at saltponds (such as

around San Francisco Bay) and areas at the Salton Sea. In the spring, individuals of this species leave their wintering sites for the areas where they will nest. The species nests in these habitats in the Humboldt Bay area from April through August, but the major nesting habitat now appears to be on salt pond levees, especially in San Francisco Bay. Inland nesting areas occur at the Salton Sea, Mono Lake, and at isolated sites on the shores of alkali lakes in northeastern California, the Central Valley, and southeastern deserts. The species needs sandy, gravelly or friable soils for nesting. Major threats to the species are habitat loss and human disturbance at nest sites. Critical habitat was designated by the USFWS on September 29, 2005, and the nearest critical habitat unit to the project site is on the Humboldt Bay South Spit, over 3 miles away.

According to the CNDDDB, Western snowy plovers were documented as nesting at North Humboldt Bay Spit, across Humboldt Bay from the project area, between 1899 and 1948, and six pairs of these birds were noted as being present there during 1978 nesting season. Nesting was also documented in 1920 at Elk River Spit, just over 2 miles from the project area, and a pair of snowy plovers was observed there during the nesting season in 1977. Nesting has not been documented in the project vicinity for a number of years, and habitat for the species does not occur on the site.

Wetlands

Wetlands found at the project site occur as estuarine emergent wetlands (the remnants of Clark Slough that are subject to muted tidal influence through flap-gates at the end of culverts that connect the slough remnants to Humboldt Bay) and palustrine emergent wetlands (freshwater seasonal wetlands comprising non-tidal drainages and depressions, low-lying areas resulting from soil compaction or scraping, and potholes in roadways). Emergent wetlands are characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants.

The California Coastal Commission uses a single-parameter definition of wetlands. Thus, an area need only display one of three wetland characteristics in order to be defined as a wetland for Coastal Commission purposes. The area is wetland if it supports hydrophytic vegetation, or has a water table high enough to create hydric soils, or merely has the presence of surface water or saturated substrate at some time during each year and is located within, or adjacent to, vegetated wetlands or deep-water habitats. See 14 Cal. Code Regs 13577.

The Army Corps of Engineers defines wetlands more narrowly by requiring the presence of all three parameters. “. . . [T]he [ACOE] technical guideline for wetlands requires that a positive wetland indicator be present for each parameter ([hydrophytic] vegetation, [hydric] soils, and [wetland] hydrology). . .” (ACOE Wetlands Delineation Manual, 1987, p.3).

HBG delineated the wetlands on the project site according to both the ACOE three-parameter method identification and delineation method and the California Coastal Commission (CCC) one-parameter method (see Figure IV.D-1, for the latter). A wetland delineation was also prepared by Zentner and Zentner (Zentner and Zentner, 2007), (see Figure IV.D-2). As mapped, the overall

LEGEND

----- Study Area

CCC Wetlands

Palustrine Emergent Wetland (7.609 ACS.)

Estuarine Emergent Wetland (1.056 ACS.)

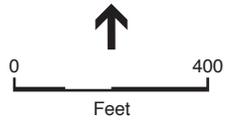


Figure IV.D-1
Location of Areas Subject to Jurisdiction as Wetlands
Under the California Coastal Act

pattern of occurrence of wetlands in both reports is similar. The EIR relies on HBG's mapping and analysis because it involved a more detailed level of mapping on individual wetlands and more extensive field work. The Zentner delineation was based on approximately one field observation day, whereas the HBG fieldwork occurred over several years and was based on over 30 field observation days. HBG updated the delineation in December 2006 and again in 2007 to reflect increased growth of hydrophytic vegetation at the site. HBG's most recent delineation using this method identified 7.61 acres of palustrine emergent wetlands exhibiting hydrophytic vegetation and 1.06 acres of estuarine emergent wetlands in the Clark Slough Channel. Using this delineation method, HBG estimated the total wetland area within the jurisdiction of the CCC under the California Coastal Act to be approximately 8.67 acres. The Zentner report found a total of 8.761 acres of wetlands on the project site.

HBG found that approximately 4.54 acres of the identified palustrine wetlands also meet the Army Corps's definition of a wetland, because they contain or exhibit all three parameters: hydrophytes, hydric soils, *and* wetland hydrology. Although the Army Corps has not yet verified the wetland delineation, it is likely that this 4.54-acre subset of the CCC palustrine emergent wetlands would be subject to Army Corps jurisdiction under Section 404 of the Clean Water Act, along with the 1.06 acres of muted tidal wetlands that constitute the remnants of Clark Slough. Consequently, the total acreage of on-site wetlands likely subject to Corps jurisdiction is 5.60 acres.

Table IV.D-1 lists some wetland functions as adapted from the US Army Corps of Engineers, Highway Methodology Workbook, as "present" in the slough channel and on the project site, but the table notes that those functions are "limited." In this context, the "limited" notation indicates that the potential and/or opportunity to provide wetland functions is constrained due to physical limitations at the site or adjacent to it. For example, while the Clark Slough remnant may contain some fish or shellfish, the muted tidal nature of the existing remnant slough channel (among other physical attributes of the channel) renders the performance of this function as less than what would be expected in a fully-functioning estuarine system. And although the banks of the existing slough channel have some vegetation that protects the remnant slough channel from erosion and downstream impacts of sedimentation, the Sediment/Shoreline Stabilization function in this partially rip-rapped channel is limited. Likewise, the Clark Slough remnant and on-site wetlands might provide some Nutrient Removal, Retention, and Transformation functions, but those functions are significantly constrained due to short contact times between the wetlands and stormwater runoff, the heavy nutrient loads already present, and the potential for pollutants entering the slough in stormwater runoff from the site and adjacent properties. Table IV.D-1 also indicates that there are no wetland "values" present on the project site.

**TABLE IV.D-1
WETLAND FUNCTIONS AND VALUES**

Wetland Function or Value Assessed ¹	Estuarine Emergent Wetlands - Clark Slough Channel- (Current Conditions)	Palustrine Emergent Seasonal Wetlands (Current Conditions)
	Present?	Present?
Wetland Function		
Groundwater Recharge/Discharge	No	No
Flood Flow Alteration	Yes (limited) ²	Yes (limited)
Fish and Shellfish Habitat	Yes (limited)	No
Sediment, Toxicant and/or Pathogen Retention	Yes (limited)	Yes (limited)
Nutrient Removal, Retention, and/or Transformation	Yes (limited)	Yes (limited)
Production Export	Yes (limited)	No
Sediment/Shoreline Stabilization	Yes (limited)	No
Wildlife Habitat	Yes (limited)	Yes (limited)
Wetland Value		
Recreation	No	No
Educational/Scientific	No	No
Uniqueness/Heritage	No	No
Visual Quality/Aesthetics	No	No
Suitable Habitat for Threatened or Endangered Species	No	No

Environmental Analysis

Significance Criteria

For the purposes of this EIR, implementation of the proposed project would have a significant effect on biological resources if, based on Appendix G of the CEQA Guidelines, it would:

1. 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;
2. 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 U.S. Fish and Wildlife Service;

¹ Adapted from: U.S. Army Corps of Engineers, New England Division. November 1995. The Highway Methodology Workbook, Supplement - Wetland Functions and Values: A Descriptive Approach. 32 pp.

² "Limited" indicates that the potential and/or opportunity to provide the identified function is constrained due to physical limits at the site or adjacent to it.

3. 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;
4. 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;
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan;
7. Adverse temporary loss of wetland value and function during construction; or
8. Construction-period disturbance of reproductive effort of species protected by the Migratory Bird Treaty Act.

Regulatory Framework

The following standards and regulations govern biological resources and are used to measure impacts.

Regulation of Special-Status Species

Federal Endangered Species Act

The United States Congress passed the Federal Endangered Species Act (ESA) in 1973 to protect those species that are endangered or threatened with extinction. The ESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend. The ESA establishes an official listing process for plants and animals considered to be in danger of extinction, requires development of specific plans of action for the recovery of listed species, and restricts activities perceived to harm or kill listed species or adversely affect critical habitat (16 U.S.C. 1532, 1536). Section 9 of the ESA prohibits the “take” of endangered or threatened wildlife species. “Take” is defined as harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species, or any attempt to engage in such conduct (16 U.S.C. § 1532, 50 CFR § 17.3). Federal regulation 50 CFR § 17.3 further defines the term “harm” in the take definition to include significant habitat modification or degradation that actually kills or injures a federally listed species. The ESA also requires federal agencies to ensure that their actions do not jeopardize the continued existence of listed species or adversely modify critical habitat (16 U.S.C. § 1536). Therefore, the ESA applies when the property contains a federally listed threatened or endangered species that may be affected by a permit decision. In the event that a project affecting listed species requires a Corps permit for impacts on jurisdictional waters, the Corps must initiate consultation with the USFWS (or the National Marine Fisheries Service, NMFS) pursuant to Section 7 of the ESA (16 U.S.C. § 1536; 40 CFR § 402). Consultation is not required if the Corps determines, as an initial matter, that its activities will not affect any listed species. If formal consultation is required, the

USFWS or NMFS will issue a biological opinion stating whether the permit action is likely to jeopardize the continued existence of the listed species, recommending reasonable and prudent measures to ensure the continued existence of the species, establishing terms and conditions under which the project may proceed, and authorizing incidental take of the species.

In addition to listing endangered and threatened species, the USFWS and NMFS also publish a list of “candidate” species. Species on this list receive “special attention” from federal agencies during environmental review, although they are not otherwise protected under the ESA. Candidate species are taxa for which the ESA administering agency has sufficient biological information to support a proposal to list as endangered or threatened. In addition, the USFWS and NMFS maintain a list of species of concern. Federal species of concern receive no legal protection under the ESA but may meet California Environmental Quality Act (CEQA) criteria for being considered rare or endangered (see below).

California Endangered Species Act

Section 2080 of the California Fish and Game Code prohibits the taking of plants and animals listed under the authority of the California Endangered Species Act of 1984 (CESA). Under CESA, the CDFG maintains a list of threatened species and endangered species (California Fish and Game Code Section 2070). The CDFG maintains a list of candidate species that are species that the CDFG has formally noticed as being under review for addition to either the list of endangered species or the list of threatened species. The CDFG also maintains lists of “species of special concern” that serve as “watch lists.” Pursuant to the requirements of CESA, an agency reviewing a project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present in the project area and whether the proposed project will have a potentially significant impact on such species. If the project will have a potentially significant impact on a listed species, the state agency must consult with the CDFG when preparing CEQA documents to ensure that the state lead agencies do not jeopardize the existence of the listed species.

Other Statutes, Codes, and Policies Affording Limited Species Protection

The federal Migratory Bird Treaty Act (16 U.S.C., Sec. 703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. This act prohibits taking of whole birds, parts of birds, bird nests, or bird eggs. The Migratory Bird Treaty Act protects most bird species in California. It excludes some non-native migratory birds that are considered pests as well as some native migratory birds, such as quail, that are game birds. Birds of prey are afforded additional protection in California under the State Fish and Game Code Section 3503.5, which states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. The CDFG considers disturbance that causes nest abandonment and/or loss of reproductive effort to be “taking” of a bird of prey. Any loss of fertile eggs, nesting raptors, or any activities resulting in nest abandonment would constitute a significant impact.

The legal framework and authority for the state's program to conserve plants are woven from various legislative sources, including CESA, the California Native Plant Protection Act (Fish and Game Code Section 1900 – 1913), the CEQA Guidelines, and the Natural Communities Conservation Planning Act.

The Native Plant Protection Act of 1977 (Fish and Game Code Section 1900 et seq.) gives the CDFG authority to designate state endangered, threatened, and rare plants and provides specific protection measures for identified populations. Sensitive plant and animal species that would qualify for listing but are not currently listed are analyzed as special-status species under CEQA. Section 15065 of the CEQA Guidelines (“Mandatory Findings of Significance”) requires that a reduction in numbers of a rare or endangered species be considered a significant effect. CEQA Guidelines Section 15380 (“Endangered, Rare or Threatened Species”) provides for assessment of unlisted species as endangered, rare, or threatened under CEQA if the species can be shown to meet the criteria for listing.

The California Native Plant Society (CNPS) maintains a list of special-status plant species based on collected scientific information. Designation of these species by the CNPS has no legal status or protection under federal or state endangered species legislation. CNPS designations are defined as List 1A (plants presumed extinct); List 1B (plants rare, threatened, or endangered in California and elsewhere); List 2 (plants rare, threatened, or endangered in California, but more numerous elsewhere); List 3 (plants about which more information is needed – a review list); and List 4 (plants of limited distribution – a watch list). In general, plants appearing on CNPS List 1A, 1B, or 2 meet the criteria of Section 15380 of the CEQA Guidelines; thus, substantial adverse effects on these species would be considered significant. Additionally, plants constituting CNPS List 1A, 1B, or 2 meet the definitions of California Fish and Game Code Section 1901 (Native Plant Protection Act) or Sections 2062 and 2067 of CESA.

Regulation of Wetlands

U.S. Army Corps of Engineers

Wetlands and other waters, e.g., rivers, streams, and natural ponds, are a subset of “waters of the United States” and receive protection under Section 404 of the Clean Water Act. The Corps has primary federal responsibility for administering regulations that concern waters of the United States. In this regard, the Corps acts under two statutory authorities: the Rivers and Harbors Act (Sections 9 and 10), which governs specified activities in “navigable waters,” and the Clean Water Act (Section 404), which governs specified activities in “waters of the United States,” including wetlands. Navigable waters of the United States are defined as those waters that are subject to the ebb and flow of the tide or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

The term “waters of the United States.” as defined in the Code of Federal Regulations (33 CFR 328.3[a]; 40 CFR 230.3[s]) includes (1) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (2) All interstate waters including interstate wetlands;

(3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mud flats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters which are or could be used by interstate or foreign travelers for recreational or other purposes; or from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or which are used or could be used for industrial purposes by industries in interstate commerce; (4) All impoundments of waters otherwise defined as waters of the U.S. under the definition; (5) Tributaries of waters identified in paragraphs (1) through (4); (6) Territorial seas; and (7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (1) through (6). The Corps requires a permit for any project proposing to place structures or fill material within navigable waters and/or to alter waters of the U.S.³

California Department of Fish and Game

Under Sections 1600 - 1616 of the California Fish and Game Code, the California Department of Fish and Game (CDFG) regulates activities that would substantially divert, obstruct, or substantially change the natural flow of rivers, streams and lakes. The limits of CDFG jurisdiction are defined in Section 1602 of the California Fish and Game Code as, “bed, channel, or bank of any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake...”

California Wetlands Conservation Policy

The goal of the California Wetlands Conservation Policy (1993) is “to ensure no overall net loss and achieve a long-term net gain in the quantity, quality, and permanence of wetlands acreage and values in California in a manner that fosters creativity, stewardship and respect for private property.” Executive Order W-59-93 incorporates the goals and objectives contained in the policy.

California Coastal Commission

The project area is located within the coastal zone under both state legislation (California Coastal Act of 1976, Public Resources Code § 30000 et seq.) and federal legislation (Coastal Zone Management Act, 16 U.S.C. § 1451 et seq.). The project site is thus subject to the jurisdiction of the California Coastal Commission (CCC).

³ Based on the Supreme Court ruling in *Solid Waste Agency of Northern Cook County v. US Army Corps of Engineers*, 531 U.S. 159 (2001), which concerned Clean Water Act jurisdiction over isolated waters, non-navigable, isolated, intrastate waters based solely on the use of such waters by migratory birds are no longer defined as waters of the U.S. Jurisdiction of non-navigable, isolated, intrastate waters may be possible if their use, degradation, or destruction could affect other waters of the United States, or interstate or foreign commerce. Jurisdiction over such other waters should be analyzed on a case-by-case basis. Impoundments of waters, tributaries of waters, and wetlands adjacent to waters should be analyzed on a case-by-case basis.

The mission of the Coastal Commission is to protect, conserve, restore, and enhance environmental and human-based resources of the California coast and ocean for environmentally sustainable and prudent use by current and future generations (Public Resources Code Section 30001.5). The California Coastal Act contains provisions that: protect water quality and the biological productivity of coastal waters (Public Resources Code Section 30231); avoid and minimize dredging, diking and filling of wetlands and other waters (Public Resources Code Section 30233); protect environmentally sensitive habitat areas (Public Resources Code Sections 30107.5, 30240); and prevent and mitigate wetland impacts (Public Resources Code Section 30607.1).

Applicants for Corps Section 404 permits must obtain a Coastal Commission determination that their permitted project is consistent with the California Coastal Zone Management Program under 33 CFR § 325.2[b][2][iii].

Regional Water Quality Control Board

The Regional Water Quality Control Board (RWQCB), North Coast Region, regulates waters of the state under the Porter-Cologne Act. Under Section 401 of the Clean Water Act, the RWQCB has review authority over Section 404 permits.

General Plan and Local Coastal Program

The City of Eureka's adopted General Plan and adopted Local Coastal Program together formalize a long-term vision for the physical evolution of Eureka and they outline the policies, standards, and programs that guide day-to-day decisions concerning Eureka's development in the coastal zone. The Policy Consistency Analysis, found in Section IV.I, *Land Use and Planning*, provides an evaluation of the Marina Center project's conformity with the policies of the adopted General Plan and Land Use Plan portion of the adopted Local Coastal Program.

Coastal Zoning Regulations

The Coastal Zoning regulations which implement the policies of the Land Use Plan portion of the adopted Local Coastal Program are codified in Chapter 156 of the Eureka Municipal Code (EMC), and are also referenced as Article 29, Part 1, Section 10-5.29 et. seq. of the zoning regulations of the City for the coastal zone.

Zoning Regulations

The Zoning Regulations of the City of Eureka are found in Chapter 155 of the EMC and are adopted pursuant to the City Charter to protect the public health, safety, peace, comfort, convenience, prosperity and general welfare.

Project Impacts

Impact D-1: Would the Marina Center project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Special-Status Plants

No special-status plants are expected to occur at the project site given:

1. The lack of native soils that could support rare native botanical species;
2. The highly disturbed nature of the project area;
3. The fact that special-status plant species found within the region require habitat conditions not found on the property; and
4. The fact that an April 2005 protocol-level survey of the site was negative for presence of special-status plant species or their habitats.

Therefore, the proposed project would not result in any significant adverse impacts on special-status plant species. Instead, the proposed project would create habitat available to special-status species by improving estuarine function and soil conditions; the project would re-introduce special-status native plant species in the course of restoring the wetland preserve area and would create an environment in which native and special-status plant species may better compete and thrive.

Special-Status Animals

As discussed above, no special-status animal species are expected to occur at the project site, except occasionally for foraging. Although two federally-listed bird species – western snowy plover and California clapper rail – have been known to historically occur in the vicinity of the project site, neither species has been documented in recent years and neither has ever been documented on the project site. Habitat at the project site is not suitable to support either of these species. Development of the project could thus occur without causing adverse impacts on these species. There would also be no impacts to critical habitat for the western snowy plover, because the nearest such habitat is located over 3 miles away on Humboldt Bay South Spit.

Although a peregrine falcon was observed perched on a transmission tower on-site during the December 29, 2005 and July 31, 2007 field surveys, appropriate nest sites do not occur in the project site. The CNDDDB shows no peregrine falcon nest sites within any of the six nearby USGS 7.5-minute quadrangle maps. American peregrine falcons are known to winter in the general vicinity of Humboldt Bay, and sporadic use of the undeveloped but disturbed project area as a winter foraging area would be expected. Significant foraging area for this species is present in the marshes, mudflats and open water habitats within the greater Humboldt Bay area and development of the project would increase the quality and quantity of appropriate wetland

foraging habitat available to this species. Thus, the project would not result in significant adverse impacts on this species.

Development of the project would not affect the heron and egret rookery approximately ½ mile away on Indian Island. Construction noise would be unlikely to affect the rookery given its distance and direction from the site and intervening noise sources. While the heavily disturbed project site may provide some limited foraging habitat for herons and egrets nesting nearby, development of the project would increase the quality and quantity of appropriate wetland foraging habitat available to this species. Thus, the project would not result in significant adverse impacts on this species.

The project would result in improved foraging opportunities for the birds observed or believed to be in the vicinity of the project site as well as other wildlife species that may potentially wish to use the project site. According to the California Wetlands Conservation Policy, there would be no net loss of wetlands. Instead, there would be at least a 1:1 replacement of wetland acreage on the site, improvement of wetland quality, and creation of a buffer zone surrounding that wetland (see Impact D-3 below). The project would therefore have no foreseeable adverse impacts on special-status avian or terrestrial species.

The tidewater goby and Coast cutthroat trout are not known to occur on or near the site; the nearest critical habitat for the tidewater goby is in Southern California. However, migrating trout individuals could pass by the site in their travels within Humboldt Bay. In addition, migrating adult and juvenile salmonid species are likely present in Humboldt Bay between December 1 and June 30 and could be adversely affected by construction activities on the site during this period. Construction activities, such as excavation, grading, soil stockpiling, and placement of engineered fill in Clark Slough could disturb aquatic species by creating increased sedimentation in the water or by causing vibration effects. Mitigation measures are recommended that would avoid and minimize this potential impact on special-status species, including Mitigation Measure H-3a (see Section IV.H, *Hydrology and Water Quality*) which requires the preparation of the Stormwater Pollution Prevention Plan (SWPPP), and Mitigation Measure K-2a, which requires the preparation of site-specific vibration attenuation measures (see Section IV.K, *Noise*).

Mitigation

Mitigation Measure D-1a: The project applicant shall install exclusionary fencing material or other barrier to contain dust and grading materials from construction activities and avoid any discharges to Clark Slough and surrounding waters.

Mitigation Measure D-1b: Construction activities that cause vibration, such as pile-driving, shall be restricted to daylight hours between July 1 and November 30 unless this requirement is waived by NOAA Fisheries and/or CDFG based on a finding that no adverse impacts would occur (because, for example, the fish are not present during the proposed pile-driving time). This would eliminate significant vibration impacts during the salmonid migrations period: December 1 through June 30. Even during the non-migratory period the project applicant shall use the fewest number and smallest size of piles feasible and shall use a cushioning block between hammer and piles, unless these measures are waived by NOAA Fisheries and/or CDFG because the agency determines there would be no adverse

impact. See also Mitigation Measure K-2a, which provides for other practices that would be employed to minimize any adverse effects of pile-driving.

See also recommended Mitigation Measures H-3a and K-2a.

Finding of Significance

The recommended mitigation measures would avoid or minimize potential impacts of the Marina Center project on candidate, sensitive, or special-status species, reducing the impact to a *less-than-significant* level.

Impact D-2: Would the Marina Center project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

There is no “sensitive natural community” identified in any local or regional plan, policy, or regulation within the project site, and the existing riparian habitat is proposed to be substantially improved as a result of the project. The CNDDDB identifies no sensitive habitat areas within the project site.

The project site likewise does not contain the essential elements of an “environmentally sensitive area” as those areas are defined by the Coastal Act. The Coastal Act defines environmentally sensitive areas as “any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments” (California Public Resources Code Section 30107.5). The project site does not satisfy these criteria. Neither the plant nor the animal species under existing conditions at the project site are rare or valuable; there is no potentially suitable habitat for special-status species on the project site; and much of the existing vegetation is non-native and invasive. The existing scattered palustrine wetlands on the site are formed in depressions created by industrial use of the site in imported soils. These wetlands offer only minimal habitat value and perform only marginal wetland functions (see Table IV.D-1 Wetland Functions and Values). The existing remnant of Clark Slough – the only potential existing riparian habitat on-site – has been rip-rapped and disturbed so extensively that it also provides only minimal habitat value and performs limited wetland functions (see Impact D-3 below).

The City of Eureka Local Coastal Plan applies the Coastal Act locally by designating some wetlands and sloughs as “environmentally sensitive habitat areas.” But not all wetlands contain “sensitive natural communities.” While a portion of the site may be designated as ESHA under the Coastal Act, the project site does not provide the sort of sensitive natural features and sensitive species dependent on those features that would render the site a sensitive natural community under CEQA. In addition, as outlined in more detail in the Impact D-3 discussion below, the project site wetlands are highly degraded and largely created from past industrial use of the project site. The site is dominated by invasive, non-native plant species and lacks suitable

habitat for sensitive or special-status species. Through the proposed wetland preserve, the project would improve the quantity and quality of on-site wetlands and wetland functions and values. Consequently, the project is not anticipated to have any substantial adverse effect on sensitive natural communities identified in any local plans or policies.

Generally, the project's effects on riparian habitat or other natural communities would be beneficial rather than adverse. The project proposes to replace the existing degraded wetlands and restore the Clark Slough remnant. This would create a revitalized, protected Clark Slough and healthier, functional estuarine wetlands (see Table IV.D-2, Wetland Functions and Values to Result from Implementing the Wetlands Restoration/Mitigation Plan). Rather than having any substantial adverse effect on riparian habitat or other sensitive natural community, the proposed project would improve habitats and provide opportunities for establishment of sensitive natural communities on the site in the future. The project would also implement Mitigation Measures D-1a through D-1b and D-3a through D-3f, which would enhance and preserve the riparian habitat on site in perpetuity and protect sensitive natural communities from any potential effects on those communities from the project itself.

Mitigation

See recommended Mitigation Measures D-1a and D-1b, and D-3a through D-3f.

Finding of Significance

The recommended mitigation measures would avoid, minimize, restore, eliminate, or compensate for the potential impacts of the Marina Center project on riparian habitat or other sensitive natural communities, reducing the impact to a *less-than-significant* level.

Impact D-3: Would the Marina Center project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means?

The project site contains both upland and wetland areas. Upland areas consist of the former railyard and industrial areas and include railroad tracks, access roads, concrete structures, underground utility lines, and mounds of debris. Wetland areas meeting the Coastal Act's definition of wetlands were found within the Clark Slough muted tidal drainage, non-tidal drainages and depressions, and compacted low-lying areas within the railyard and industrial areas. Following the Coastal Commission's one-parameter wetland identification and delineation approach, which assumes the presence of wetlands based on evidence indicating a predominance of hydrophytic vegetation, HBG delineated 1.06 acres of estuarine emergent wetlands (Clark Slough remnants), together with 7.61 acres of palustrine emergent wetlands (a total of 8.67 acres).

A portion of the wetlands identified under the Coastal Commission's one-parameter approach also contain hydrophytes, hydric soils, and wetland hydrology indicative of wetlands subject to the jurisdiction of the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act.

The wetlands areas subject to Corps jurisdiction would be limited to a total of approximately 5.60 acres, including 4.54 acres of mostly seasonal freshwater wetlands, as well as the 1.06 acres of muted tidal wetlands in the Clark Slough remnant. The 5.60 acres of jurisdictional wetlands are wholly contained within, and are therefore a subset of, the areas delineated as wetlands under the Coastal Commission's one-parameter approach.

The project proposes to permanently fill approximately 5.54 acres of existing palustrine emergent wetlands (as delineated under the Coastal Act), which are scattered over the site. The project proposes to permanently fill approximately 3.86 acres of wetlands or waters of the United States, which are wholly contained within, and thus are a subset of the 5.54 acres of wetlands delineated under the Coastal Act. The filling of wetlands may generally be considered potentially significant, but here, given that the existing wetlands provide few to none of the functions and values commonly associated with wetlands, the filling of those wetlands correspondingly would have little or no impact on wetland functions and values. Nonetheless, even if the filling were considered to have a significant effect, the project includes measures that would offset that effect. The characteristics of the project (including the restoration component) along with the recommended mitigation measures, would thus render this impact less-than-significant.

In place of the 5.54 acres of scattered palustrine wetlands, the proposed project would reserve the southwest corner of the project site for restoration of the existing remnants of Clark Slough and the creation of an 8.98-acre estuarine wetland preserve, along with 2.91 acres of associated upland buffer. As discussed with respect to Impact D-1 above, the project would have a net positive effect on the quality of wetlands at the site. Unlike the existing wetlands, the restored wetlands would be designed to perform all the functions of a healthy wetland (see Table IV.D-2, Wetland Functions and Values to Result from Implementing the Wetlands Restoration/Mitigation Plan). In addition, the preserve would increase the total quantity of wetlands on the site from 8.67 acres to 8.98 acres, thus replacing the wetlands at a ratio of slightly more than 1:1.

In 2002, the Army Corps and EPA published Regulatory Guidance Letter 02-2, which "clarif[ie]d and support[ed] the national policy for 'no-overall-net-loss' of wetlands." This policy remains in effect and mandates that the acreage of wetlands lost as a result of a project must be replaced at a minimum 1:1 ratio, preferably on-site, and preferably in-kind (i.e., with the same type of wetland). The agencies have since proposed regulatory amendments that refine that policy by establishing performance criteria and focusing on establishment of wetlands with improved functions and values. (See 71 Fed. Reg. 15520 (March 28, 2006) and 71 Fed. Reg. 29604 (May 23, 2006).)

The permitting agencies strive to maintain both quantity and quality of wetlands. Creation of a functional wetland can be a difficult endeavor, so the agencies sometimes require a replacement ratio of greater than 1:1 in order to ensure continuation of existing wetland values and functions. Such concerns are not applicable here. First, the site is well-located for creation of a high-quality estuarine reserve, requiring only enhancement of existing estuarine wetland resources (Clark Slough). Second, opportunities for creating functional estuarine wetlands are rare, and therefore particularly valuable; here, the site is uniquely suitable for estuarine wetland creation. Third, the

**TABLE IV.D-2
WETLAND FUNCTIONS AND VALUES TO RESULT FROM IMPLEMENTING THE WETLANDS
RESTORATION / MITIGATION PLAN**

Wetland Function or Value Assessed ¹	Estuarine Emergent Wetlands Clark Slough Channel- (Current Conditions)	Palustrine Emergent Seasonal Wetlands (Current Conditions)	Estuarine Emergent Wetlands Clark Slough Channel- (Restored Conditions)	Palustrine Emergent Seasonal Wetlands (Restored Conditions)
	Present?	Present?	Expected to be Present?	Expected to be Present?
Wetland Function				
Groundwater Recharge/Discharge	No	No	No	No
Flood Flow Alteration	Yes (limited)	Yes (limited)	Yes	Yes
Fish and Shellfish Habitat	Yes (limited)	No	Yes	Yes
Sediment, Toxicant and/or Pathogen Retention	Yes (limited)	Yes (limited)	Yes	Yes
Nutrient Removal, Retention, and/or Transformation	Yes (limited)	Yes (limited)	Yes	Yes
Production Export	Yes (limited)	No	Yes	Yes
Sediment/Shoreline Stabilization	Yes (limited)	No	Yes	Yes
Wildlife Habitat	Yes (limited)	Yes (limited)	Yes	Yes
Wetland Value				
Recreation	No	No	Yes	Yes
Educational/Scientific	No	No	Yes	Yes
Uniqueness/Heritage	No	No	Yes	Yes
Visual Quality/Aesthetics	No	No	Yes	Yes
Suitable Habitat for Threatened or Endangered Species	No	No	Yes	Yes

¹ Adapted from: U.S. Army Corps of Engineers, New England Division. November 1995. The Highway Methodology Workbook, Supplement - Wetland Functions and Values: A Descriptive Approach. 32 pp.

existing palustrine wetlands are of such poor quality that the restored wetlands are anticipated to be of much higher quality (and thus offer enhanced functions and values) than those currently on-site (see Tables IV.D-2 and IV.D-3). For example, as set forth in Table IV.D-2, the existing wetlands do not contain any suitable habitat for threatened or endangered species, whereas the restored wetlands would be designed to provide that habitat. Likewise, the existing wetlands provide limited sediment, toxicant, and pathogen retention or nutrient removal, whereas the restored wetlands would be designed to enhance these functions. Because the new wetlands would be of better quality than the existing wetlands, the proposed replacement ratio would adequately mitigate the environmental impact of the filled or disturbed wetlands.

Regulatory Guidance Letter 02-2 provides further that:

Districts may require in-kind, out-of-kind, or a combination of in-kind and out-of-kind, compensatory mitigation to achieve functional replacement within surrounding watersheds. In-kind compensation for a wetland loss involves replacement of a wetland area by

establishing, restoring, enhancing, or protecting and maintaining a wetland area of the same physical and functional type. In-kind replacement generally is required when the impacted resource is locally important. Out-of-kind compensation for a wetland loss involves replacement of a wetland area by establishing, restoring, enhancing, or protecting and maintaining an aquatic resource of different physical and functional type. *Out-of-kind mitigation is appropriate when it is practicable and provides more environmental or watershed benefit than in-kind compensation (e.g., of greater ecological importance to the region of impact).*

Army Corps of Engineers Regulatory Guidance Letter 02-2, p. 5 (Dec. 24, 2002) (emphasis added).

Here, the project applicant proposes to replace palustrine wetlands with estuarine wetlands. This out-of-kind mitigation is, in this instance, the most appropriate, practicable, and protective of regional coastal wetland resources. Estuarine wetlands can only be established within tidally influenced coastal areas, and therefore opportunities to create estuarine wetlands are rare and particularly valuable. The existing palustrine wetlands are a relatively recent human creation offering little to no wetland value or function. By contrast, creation of an estuarine wetland reserve would provide the following significant water quality and habitat benefits to the coastal ecosystem:

1. An increase in the geographic extent of tidal marsh, thus increasing the size of, as well as rehabilitating and restoring, the Humboldt Bay coastal wetlands and estuary ecosystem;
2. Reintroduction of freshwater flows from the Clark Slough watershed drainage and muted-tidal flows from Humboldt Bay onto the restored wetlands;
3. Removal and mitigation of contaminated soils in the Humboldt Bay watershed;
4. Removal of non-native invasive plant species;
5. Reintroduction of native marsh vegetation and restoration of natural estuarine wetland conditions; and
6. Restoration of potential habitat for native and special-status species.

Table IV.D-3 shows that the wetland restoration portion of the proposed project would increase the total acreage of wetlands on the site. Table IV.D-2 shows how implementation of the project would improve overall wetland functions and values. Figures IV-D.1 and IV-D.3 show the location of existing and proposed wetlands, respectively. Figures IV-D.4 and IV-D.5 shows a concept view of the proposed wetlands.

Soils disturbed by grading and other project construction activities are particularly vulnerable to invasive, non-native plant species, which are often adapted to establishment of disturbed soils. Invasive species may be transported on construction equipment arriving from other areas, through straw bales and similar materials brought on-site for erosion control or other purposes, or through revegetation with inappropriate species. Although much of the existing vegetation on the project site is non-native and invasive, introduction of new invasives could be of ecological detriment to the site, vicinity, and/or region. Mitigation measures recommended below would ensure that the new wetland reserve would foster the reintroduction of native plant species.

**TABLE IV.D-3
SUMMARY OF PROJECT WETLAND IMPACTS AND MITIGATION REQUIREMENTS**

Habitat Type	Total Existing Potential CCC Wetlands (Acres)	Existing Potential CCC Wetlands Within Future Wetland Preserve Area in Southwest Corner of Project Site (Acres)	Existing Potential CCC Wetlands Within Area of Project Site that will be Proposed for Development (Acres)	Proposed Replacement Mitigation (Acres)	Mitigation Ratio
Palustrine Emergent Wetland	7.61	2.07	5.54	0	NA
Estuarine Emergent Wetland (includes Clark Slough Channel)	1.06	1.06	0	0	NA
Restored Clark Slough Channel with adjacent muted tidal wetlands	NA	NA	NA	2.68	NA
Restored Muted tidal wetlands	NA	NA	NA	6.30	NA
Wetlands Subtotal	8.67	3.13	5.54	8.98	1.1
Upland Buffer habitat	0	NA	NA	2.91	NA
Total Wetland + Upland Buffer	8.67	3.13	NA	11.89	1.4

NOTE: CCC = California Coastal Commission (i.e., wetlands delineated using CCC method); NA = not applicable

As demonstrated above, the project would have a positive long-term effect by improving the quantity and quality of on-site wetlands, replenishing estuarine wetlands within Humboldt Bay, and enhancing wetland functions and values. In addition, the following recommended mitigation measures would ensure that permanent loss of the existing wetlands would remain less-than-significant.

Mitigation

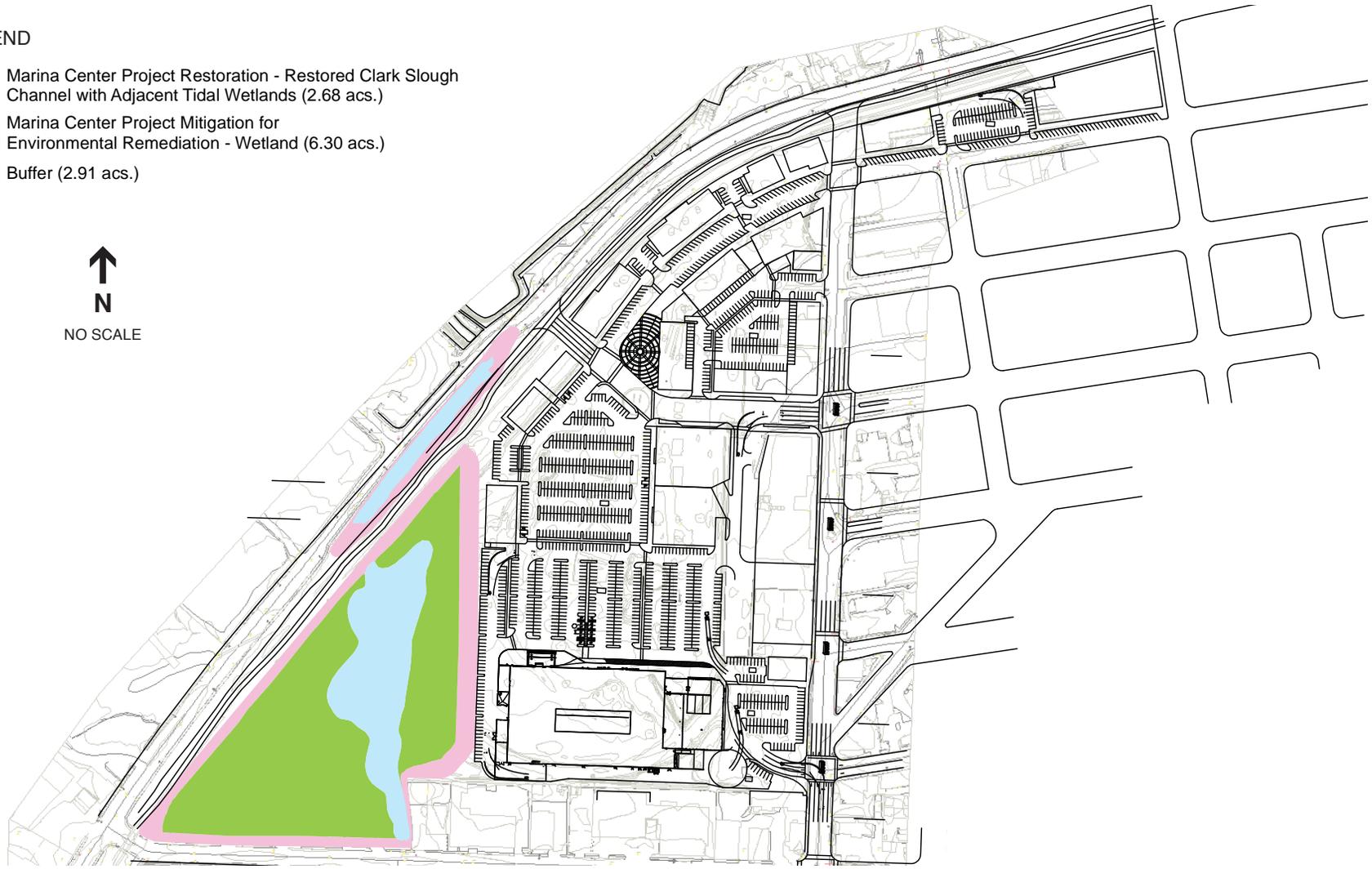
Mitigation Measure D-3a: The project applicant shall obtain the requisite 404 permit and 401 certification from the Corps and RWQCB, which shall, at a minimum, require the project applicant to:

1. Replace or restore the affected wetlands on-site at a minimum 1:1 ratio as necessary to ensure that the wetland functions and values shall be equal to or greater than the affected wetlands; and/or
2. Provide wetlands replacement off-site but within the same watershed as the affected wetlands at a minimum 1:1 ratio at a location and of a wetland type approved by the Corps and RWQCB; and/or
3. Contribute in-lieu funds for restoration, enhancement, or preservation of off-site wetlands, subject to approval by the Corps and RWQCB.

LEGEND

- Marina Center Project Restoration - Restored Clark Slough Channel with Adjacent Tidal Wetlands (2.68 acs.)
- Marina Center Project Mitigation for Environmental Remediation - Wetland (6.30 acs.)
- Buffer (2.91 acs.)

↑
N
NO SCALE



IV.D-26

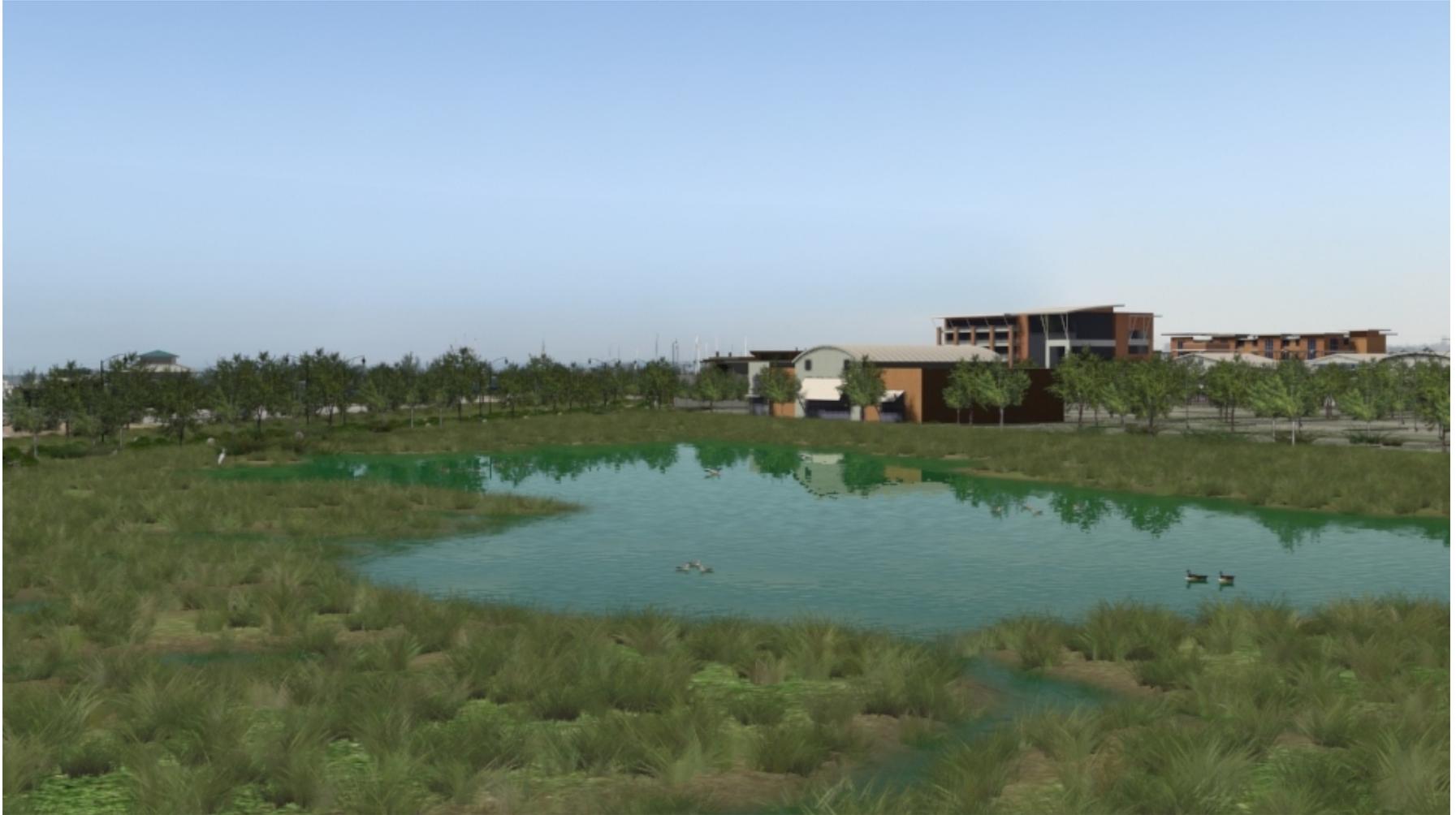


SOURCE: Baysinger Partners Architecture PC

Marina Center Mixed-Use Project EIR . 205513

Figure IV.D-4
Wetland Restoration Plan – Aerial
Simulated View (Looking West)

IV.D-28



SOURCE: Baysinger Partners Architecture PC

Marina Center Mixed-Use Development Project . 205513

Figure IV.D-5
Wetland Restoration Plan – Ground Level
Simulated View (Looking Northeast)

Mitigation Measure D-3b: Prior to site grading, the applicant shall prepare a detailed Restoration Plan in accordance with the U.S. Army Corps of Engineers (Corps) *Habitat Mitigation and Monitoring Proposal Guidelines* and Regulatory Guidance letters 02-02 and 06-03 as well as the California Coastal Commission's *Procedural Guidance for the Review of Wetland Projects in California's Coastal Zone: Chapter 2 Enhancement and Restoration*. The plan shall include, at a minimum: details of methods for site selection, preparation, and remediation; exotic plant removal; excavation, grading, and rip-rap removal; establishment of hydrological function; planting materials and methods; establishment of native species; creation of an effective buffer; maintenance; monitoring; contingency plans; and plans for long-term funding for wetland monitoring and maintenance.

For 5 years following completion of the restoration project, a qualified biologist hired by the project applicant shall monitor the site biannually on the first and last month of the growing season to ensure ongoing success. Upon completion of the restoration, a qualified biologist shall confirm the success of the Restoration Plan and recommend contingency measures, if necessary, to meet the no-net-loss performance requirement.

Mitigation Measure D-3c: The project applicant shall create a buffer zone surrounding the restored wetland area. The buffer shall be adequate to avoid or minimize effects on wetland and slough resources from direct and indirect disturbances such as entry of sediment, oil, or grease into the preserve; trampling of vegetation; and movement, light, or noise impacts that might interfere with habitat values or wildlife use of the slough and marsh. The buffer shall consist of earthen berms sloped toward any road or other source of runoff pollution, fencing, symbolic fencing (split rails), native vegetation such as blackberries that act as a barrier, and signs warning against intrusion.

Mitigation Measure D-3d: An open space wetland preserve consisting of the restored estuarine wetland and the upland protective buffer area shall be established and protected by a conservation easement in accordance with California Civil Code Sections 815-816, deed restriction, or other means of preservation approved by the City of Eureka, RWQCB, and the Corps. In the event of a conservation easement, the easement holder shall be a public agency or non-profit organization (i) approved by the City of Eureka, RWQCB, and the Corps; and (ii) qualified and authorized to administer conservation lands within the State of California. The conservation easement, deed restriction, or other means of preservation shall protect against land use changes for other than conservation purposes in perpetuity and shall include an endowment for long-term management and protection of the wetland preserve.

Mitigation Measure D-3e: To minimize the potentially adverse effect of night lighting on habitat use in the restored remnant of Clark Slough, the project applicant shall, within 300 feet of the preserve, use low-intensity street lamps, low elevation lighting poles, and internal silvering of the globe or external opaque reflectors to direct light away from the slough and buffer area. See also Mitigation Measure A-4a.

Mitigation Measure D-3f: The applicant shall implement a non-native invasive species control program for areas disturbed as a result of construction and landscaping activities. Prior to construction, plants considered by the State of California to be exotic pest plants shall be destroyed using environmentally suitable methods, which may include the application of an herbicide approved by the United States Environmental Protection

Agency for use near and within aquatic environments. During construction, the project applicant shall:

1. Educate construction workers about invasive species and control measures;
2. Ensure construction-related equipment arrives on-site free of mud or seed-bearing material by, for example, requiring wheel washing upon entry;
3. Use native seeds and straw material to the extent feasible;
4. Revegetate with appropriate native species; and
5. Prohibit the use of the following non-native invasive plants for landscaping or other planting purposes:

Pampas grass (<i>Cortaderia jubata</i> , <i>C. selloana</i>)	Mattress vine (<i>Muehlenbeckia complexa</i>)
Tree-of-heaven (<i>Ailanthus altissima</i>)	Tree tobacco (<i>Nicotiana glauca</i>)
Giant reed (<i>Arundo donax</i>)	Fountain grass (<i>Pennisetum setaceum</i>)
Bamboo (<i>Bambusa</i> spp., <i>et al</i>)	Pyracantha (<i>Pyracantha angustifolia</i>)
Cotoneaster (<i>Cotoneaster pannosa</i>)	Castor bean (<i>Ricinus communis</i>)
French broom (<i>Genista monspessulana</i> = <i>Cytisus monspessulanus</i>)	Black locust (<i>Robinia pseudoacacia</i>)
Scotch broom (<i>Cytisus scoparius</i>)	German ivy (<i>Delairia odorata</i> = <i>Senecio mikianoides</i>)
Blue gum (<i>Eucalyptus globulus</i>)	Spanish broom (<i>Spartium junceum</i>)
English ivy (<i>Hedera helix</i>)	Tamarisk (<i>Tamarix</i> spp.)
Fig-marigold family members (<i>Conicosia</i> , <i>Carpobrotus</i> and <i>Mesembryanthemum</i>)	Gorse (<i>Ulex europaeus</i>)
Tall fescue (<i>Festuca arundinacea</i>)	Periwinkle (<i>Vinca major</i>)
	Purple fountain grass (<i>Pennisetum setaceum</i>)

Finding of Significance

The recommended mitigation measures would avoid, minimize, restore, eliminate or compensate for the potential impact of the Marina Center project on federally protected wetlands, reducing the impact to a *less-than-significant* level.

Impact D-4: Would the Marina Center project substantially interfere with the movement of native resident or migratory fish or with established native resident or migratory wildlife corridors?

Construction activities causing considerable vibrations, particularly installation of piles using a pile-driver, can generate intense underwater sound pressure waves that can injure or kill fish. While no pile-driving activities for the proposed project would occur in bay waters, the project area is in close proximity to a relatively narrow passage of Humboldt Bay. Salmonid species are likely to occur in Humboldt Bay at times during the migratory period (December 1-June 30). While the dry land area between the project site and the waters of Humboldt Bay would provide some level of buffering, the project construction activities could adversely affect migrating salmonid species. Construction activities could also increase sedimentation in Clark Slough and

surrounding waters. The mitigation measures recommended for Impact D-1 would minimize the impacts of the project on migratory salmonids or other fish species.

There are no established resident or migratory wildlife corridors on the project site.

Mitigation

See recommended Mitigation Measures D-1a and D-1b.

Finding of Significance

The recommended mitigation measures would avoid or minimize the potential impact of the Marina Center project on the movement of native resident or migratory fish or established native resident or migratory wildlife corridors, reducing the impact to a *less-than-significant* level.

Impact D-5: Would the Marina Center project conflict with any local policies or ordinances protecting biological resources?

The City of Eureka's adopted Local Coastal Program contains policies (in particular, Policies 6.A.1 through 6.A.24) that protect biological resources in the coastal zone.

The wetland restoration component of the project would "protect and enhance the natural qualities of the Eureka area's aquatic resources and preserve the area's valuable . . . wetland . . . habitat," Consistent with Goal 6.A. As discussed with respect to Impacts D-1 through D-3, the project would expand both the quantity and quality of wetlands on the site, which would be consistent with Policies 6.A.1 and 6.A.3.

Policies 6.A.4 and 6.A.7 protect against significant disruption of habitat in the coastal zone. The project would be consistent with these policies, because it would not significantly disrupt habitat values in any portion of the project site, including in Clark Slough or in the wetlands; instead the project would improve and create new habitat values. The existing slough and wetlands offer meager and highly disturbed habitat. The proposed wetland reserve would provide much higher quality habitat and foraging areas. Also, the buffer area surrounding the proposed wetland preserve would be developed in a manner designed to protect the wetland reserve over the long term.

The proposed project would fill wetlands. Because the proposed project would create a net positive impact on the environment, however, there would be no need to seek a feasible "less environmentally damaging" alternative. The proposed project would undertake all feasible mitigation measures to minimize adverse environmental effects, and would enhance the functional capacity of the wetland. (See discussion of Impact D-1 and D-3.)

Consistent with Policy 6.A.13., the proposed project would provide detailed restoration plans and open the restored wetlands to tidal action to maintain functional capacity. Some palustrine

wetlands would be replaced with estuarine wetlands because in-kind mitigation is neither feasible nor environmentally preferable.

Consistent with Policies 6.A.19. and 6.A.20, the proposed project would establish a buffer around the wetland preserve area that would be adequate to protect the resources of the habitat area and would incorporate attractively designed and strategically located barriers and informational signs to prevent intrusion into the wetland. (See Mitigation Measure D-3c.)

The proposed project would provide the course of action most protective of coastal resources. In fact, the proposed project would significantly enhance and protect those resources. As a result, the project would be consistent with the General Plan/Local Coastal Program policies protecting biological resources and with the City's Coastal Zoning Regulations, which implement those policies.

Mitigation

See recommended Mitigation Measures D-1a and D-1b and D-3a through D-3f.

Finding of Significance

The recommended mitigation measures would avoid, minimize, restore, eliminate or compensate for the project's potential conflict with local policies protecting biological resources, reducing the impact to a *less-than-significant* level.

Impact D-6: Would the Marina Center project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

There is no adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan applicable to the project site.

Mitigation

None recommended.

Finding of Significance

Since no adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan applies to the project site, the project would have *no impact* in relation to this criterion.

Impact D-7: Would the Marina Center project result in an adverse temporary loss of wetland value and function during construction?

Prior to implementing the project, the project applicant would undertake work to remediate contamination from prior industrial uses. (See Section IV.G, *Hazards and Hazardous Materials*, for further discussion.) Following remediation, site preparation activities, including removal of existing vegetation, removal of the riprap currently lining Clark Slough, and excavation and grading would begin. During site remediation and preparation, the limited wetland functions of Clark Slough and the adjacent wetlands would be adversely affected. The temporal loss of wetland function may generally be considered a significant adverse impact. In this case, however, the existing wetland functions and values are minimal, the loss would be temporary, and the resulting wetland preserve would improve on-site wetland functions and values, so the impact would be less-than-significant. Nevertheless, even assuming the temporary loss of the existing minimal wetland function to be potentially significant, the project's characteristics and recommended mitigation measures would reduce the impact to a less-than-significant level.

Mitigation

Mitigation Measure D-7a: Phasing of project construction shall minimize the amount of time that both the existing degraded wetlands and the wetlands in the southwest corner of the site (slated for restoration) are non-functional. Wetlands restoration work shall begin and shall continue concurrently with the remediation work. Timely completion of the restoration shall be the highest priority and shall be performed, to the extent possible, during the dry season.

See also recommended Mitigation Measures D-3a through D-3f and H-3a.

Finding of Significance

The recommended mitigation measures would avoid, minimize, restore, eliminate or compensate for the potential adverse temporary loss of wetland value and function during project construction, reducing the impact to a *less-than-significant* level.

Impact D-8: Would the Marina Center project's construction activities and vegetation removal destroy nests or eggs, or otherwise disturb the reproductive effort of species protected by the Migratory Bird Treaty Act?

Construction activities could interfere with the use of the site by birds protected under the Migratory Bird Treaty Act. Because birds can nest in different locations each year, there could be a protected nest on the project site during proposed construction.

Mitigation

Mitigation Measure D-8a: The project applicant shall implement one of the following mitigation measures to reduce the potential impact on breeding birds or their nests or eggs:

1. Refrain from performing vegetation clearing/initial grading activities during the avian breeding season (February 1 to August 31); or
2. Perform pre-construction surveys to locate nesting birds in the area and establish 100 to 250-foot-wide exclusion zones around any identified active nest, depending on site conditions and nature of the work being performed.

Finding of Significance

The recommended mitigation measures would avoid or minimize the potential for project construction activities and vegetation removal to destroy nests or eggs or otherwise disturb the reproductive effort of species protected by the Migratory Bird Treaty Act, reducing the impact to a *less-than-significant* level.

Cumulative Impacts

Impact D-9: Would the Marina Center project, together with other developments in the immediate vicinity, contribute to potential cumulative impacts on biological resources, particularly wetlands?

The proposed project would have a beneficial impact on wetland and other biological resources. Mitigation measures described in this section would reduce any potential adverse impacts to less-than-significant levels. Future development anticipated in Eureka would be required to adhere to all applicable federal, state, and local requirements described in this section. Provided all future projects comply with the permit requirements and mitigation measures that regulating agencies will require, the cumulative impacts associated with the proposed project, together with other existing and reasonably foreseeable future development in the surrounding area, would be less-than-significant. Even if there were cumulative impacts on biological resources, the wetland restoration and above-listed mitigation measures would ensure that the project's contribution would remain less than cumulatively considerable.

Mitigation

See above mitigation measures.

Finding of Significance

The recommended mitigation measures would reduce the potential impacts of the Marina Center project on biological resources to *less-than-significant* levels, and the project would not make a cumulatively considerable contribution to cumulative biological resources impacts.

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