

INITIAL STUDY / ENVIRONMENTAL CHECKLIST

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**I. BACKGROUND AND PROJECT DESCRIPTION**

1. **Application No.:** CP20-0088
2. **Project Title:** Neary Lagoon Vegetation Management and Sediment Removal Project
3. **Lead Agency Name and Address:**  
City of Santa Cruz Public Works Department  
809 Center Street, Room 201  
Santa Cruz, CA 95060
4. **Contact Person and Phone Number:**  
Suzanne Healy, (831) 420-5131
5. **Project Location:**  
Neary Lagoon located approximately one-half mile southwest of downtown Santa Cruz between Laurel and Bay Streets and southeast of California Street (see **Figure 1**).
6. **Project Applicant's/Sponsor's Name and Address:**  
  
City of Santa Cruz Public Works Department  
809 Center Street, Room 201  
Santa Cruz, CA 95060
7. **General Plan Designation:** Natural Area
8. **Zoning:** Parks/Floodplain
9. **Project Background:** The proposed project is routine maintenance consisting of vegetation management and sediment dredging at Neary Lagoon consistent with **Neary Lagoon Management Plan (NLMP)**, which was completed in 1992 and was approved by the Santa Cruz City Council and the California Coastal Commission (CCC).

The proposed project is to conduct tule/cattail removal and sediment dredging in Neary Lagoon. These actions are taken to: 1) improve water circulation and flow rates; 2) improve water quality; 3) reduce the proliferation of vegetative (tule) growth; 4) improve habitat; 5) provide access for the tule removal equipment and 6) to prevent the lagoon from “filling” up. Depending upon the accumulation of sediment over the winter months and resulting lagoon depths, up to 2,000 cubic yards of sediment may be removed each year that dredging is conducted. Both vegetation removal and dredging may be conducted annually, if necessary, for the duration of all applicable permits.

The project goals are to improve water circulation and water quality conditions at Neary Lagoon by reducing lagoon sedimentation and to prevent the lagoon from “filling” up as discussed in the *Lagoon-Specific Sedimentation Management Plan*. The removal of sediment in shallow areas enhances lagoon circulation and improves flow rates, which in turn helps to improve dissolved oxygen levels. Increasing lagoon depths to greater than 3-4 feet curtails the spread of tules and cattails, which reduces the frequency of required vegetation clearing. In addition, sediment removal is critical to providing access for the Aquamog equipment which is barge-mounted and paddle wheel driven.

The 2006 *Lagoon-Specific Sedimentation Management Plan* by Balance Hydrologics concluded that if the City did not take regular measures to remove sediment from the lagoon and control sedimentation rates, the lagoon would fill up in approximately twenty years.

In 2015, 2017 and 2019 sediment and vegetation removal efforts were continued under CDFW LSA (No. 1600-2014-0251-R3), RWQCB 401 WQ Certification (#34415WQ01), and the US Army Corps of Engineers Nation-Wide Permit 27, which is re-authorized every 2 years. The most recent maintenance operations were done under Local Coast Permit #CP14-0052.

11. **Public Agencies Whose Approval or Review Is Required:** Coastal Commission, CDFW, RWQCB, US Army Corps of Engineers
12. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.31?**

No

## II. ENVIRONMENTAL SETTING

Neary Lagoon is a freshwater marsh and riparian system that formed in a prehistoric oxbow of the San Lorenzo River within the 100-year flood plain, although it is now cut off from the river by urban development and flood control levees. Water depths in the lagoon vary with location and range from roughly 1.0 to 3.0 feet (when lagoon water level is roughly 5.5 feet amsl). Upland habitats in the vicinity of the project are predominantly oak woodland, annual grasses, developed parkland and landscaped residential properties.

The Neary Lagoon Preserve is approximately 44 acres in total and supports a diverse assemblage of wetland and riparian wildlife, most notably small but persistent populations of western pond turtle (*Actinemys marmorata*) and wood duck (*Aix sponsa*). With its complex of wetland, open water and riparian thickets, Neary Lagoon is best known for its native bird habitat. The aquatic habitat of Neary Lagoon, however, is dominated by introduced warm water fish species and non-native bullfrogs.

The lagoon has approximately 15 acres of open-water and freshwater marsh habitat, depending on the annual level of vegetation management. Marsh vegetation is primarily tule (*Scirpus californicus*), cattail (*Typha latifolia* and *T. angustifolia*) and yellow iris (*Iris pseudacorus*). Willow riparian woodland (*Salix lasiolepis*, *S. lasiandra* and *S. laevigata*) occupies approximately 16 acres of the preserve. Other notable riparian tree species present are sycamore (*Platanus racemosa*), box elder (*Acer negundo*), black cottonwood (*Populus trichocarpa*) and green wattle acacia (*Acacia longifolia* sp.). Understory vegetation in the riparian thickets are predominantly coastal shrubs like California blackberry (*Rubus ursinus*), Himalaya blackberry (*Rubus discolor*), stinging nettle (*Urtica dioica*), and poison oak (*Toxicodendron diversilobum*). Ruderal vegetation and non-native annual grasses occupy approximately 3 acres. Mixed oak woodland (*Quercus californicus*) comprises about 1 acre on the slopes above Laurel Creek. The remaining acreage is a mix of developed park facilities, pathways, and turf grasses.

The Neary Lagoon watershed is highly urbanized within the City of Santa Cruz with a drainage area of 1.27 square miles. The watershed can be broken into three sub-watersheds: the Bay Creek, Laurel Creek and Chestnut sub-basins. Sub-basin boundaries are generally defined by the City's storm-drainage network. Laurel Creek is the largest of the three sub-basins with a watershed area of just under 0.60 square miles. The Bay Creek sub-basin measures 0.39 square miles while the Chestnut sub-basin measures 0.29 square miles. Laurel Creek discharges to the northwest corner of Neary Lagoon at the Cypress Point/Shelter Cove Apartments. Bay Creek discharges to the southwest corner of Neary Lagoon below the upper Park parking lot. Chestnut

discharges to Neary Lagoon via a 66-inch storm drain which is located downstream of the lagoon's concrete weir and just upstream of the railway crossing.

From the upper lagoon area, the lagoon is drained by two main vegetation-lined channels, which converge to a single channel at the concrete footbridge crossing. Downstream of the concrete bridge, Neary Lagoon is confined to a single channel that flows over a concrete weir and then passes through two slide-gate equipped 72" culverts under the Santa Cruz Branch Rail Road grade (now owned by the Santa Cruz Regional Transportation Commission). Beyond the confines of the preserve, the lagoon drains via a pump station to Cowell Beach next to the Municipal Wharf, approximately 0.25 miles downstream of the concrete weir. The pump station features one 66-inch reinforced concrete gravity flow main and one 66-inch low-pressure force main operated by a pump station with pumping capacity of 150 cfs (provided by two 120 hp pumps). Pump station operations are done on an as-needed basis for flood control and all discharges at Cowell Beach are reported to the Central Coast Regional Water Quality Control Board annually (C. Cave, Pers. communications).

Typically, the gravity flow main and force main are closed during the dry season (typically April 1–October 31), and the lagoon is drained by a 12-inch gravity flow line to the WWTF. This enables the City to divert the lagoon water for treatment prior to discharge to the Pacific Ocean. Occasionally, flow is also diverted to the WWTF during periods of dry weather within the rainy season so that lagoon water levels may be dropped for flood protection and to reduce untreated discharges at Cowell Beach (S. Wolfman and C. Cave, Pers. communication).

The area directly affected by the proposed project is principally open water edged by emergent marsh habitat. These areas are regularly disturbed by permitted vegetation clearing operations. No riparian, oak woodland or other sensitive habitats will be impacted.

Because of its location and mix of habitats, Neary Lagoon is well regarded as a local birding hotspot. To date 225 bird species have been recorded at the Lagoon (Ebird, 2020). Table 1 lists wildlife species known to regularly occur at Neary Lagoon. Table 2 lists bird species observed at the site between 2002 and 2020 by KEC during vegetation removal efforts and field surveys. Because the regular vegetation clearing operations are done after the waterfowl and songbird nesting season, none of these bird species appears to be significantly adversely impacted by typical late summer/fall season vegetation removal operations.

**Table 1. Fish and Wildlife Species observed at Neary Lagoon**

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<u>Reptiles</u>	
Western pond turtle	( <i>Actinemys marmorata</i> )
Red-eared slider	( <i>Trachemys scripta elegans</i> )
Southern alligator lizard	( <i>Elgaria multicarinata</i> )
Gopher snake	( <i>Pituophis catenifer catenifer</i> )
Western terrestrial garter snake	( <i>Thamnophis elegans</i> )
Santa Cruz aquatic garter snake	( <i>Thamnophis atratus atratus</i> )
Snapping turtle*	( <i>Chelydra serpentine</i> )
 <u>Amphibians</u>	
Bullfrog	( <i>Rana catesbeiana</i> )
California slender salamander	( <i>Batrachoseps attenuates</i> )
Pacific treefrog	( <i>Pseudacris regilla</i> )
 <u>Fish</u>	
Carp	( <i>Cyprinus carpio</i> ).
Bluegill	( <i>Lepomis macrochirus</i> )
Green sunfish	( <i>Lepomis cyanellus</i> ),
Largemouth bass	( <i>Lepomis macrochirus</i> )
Mosquitofish	( <i>Gambusia affinis</i> )
Threespine stickleback	( <i>Gasterosteus aculeatus</i> )
Brown bullhead	( <i>Ameiurus nebulosis</i> )
Prickly sculpin	( <i>Cottus asper</i> )
Rainbow trout**	( <i>Oncorhynchus mykiss</i> )
Sacramento sucker***	( <i>Catostomus occidentalis</i> )
 <u>Large Invertebrates</u>	
Louisiana swamp crayfish	( <i>Procambarus clarkia</i> )

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\* Single 160 mm turtle trapped on 6/3/2009.

\*\* Listed as present in Lagoon in 1992 Neary Lagoon Management Plan. One 140 mm rainbow trout/steelhead smolt was captured and relocated during KEC monitoring of railroad culvert slide gate installation, on 4/25/2014.

\*\*\* Listed in 1992 Neary Lagoon Management Plan.

**Table 2. Bird species observed at Neary Lagoon during 2005-2020 KEC field surveys**

Allen's Hummingbird	Lesser Goldfinch
Anna's Hummingbird	Lesser Yellowlegs
American Coot	Mallard
American Crow	Marsh Wren
American Goldfinch	Merlin
American Robin	Mourning Dove
Band-tailed Pigeon	Northern Flicker
Barn Swallow	Northern Rough-winged Swallow
Belted Kingfisher	Northern Mockingbird
Bewick's Wren	Northern Shoveler
Black Phoebe	Nuttall's Woodpecker
Black-crowned Night Heron	Orange-crowned Warbler
Black-headed Grosbeak	Osprey
Black Swift	Pacific-slope Flycatcher
Blue Grosbeak	Peregrine Falcon
Brewer's Blackbird	Pied-billed Grebe
Brown-headed Cowbird	Pintail
Bullock's Oriole	Purple Finch
Bushtit	Red-necked Phalarope
California Quail	Red-shouldered Hawk
California Thrasher	Red-tailed Hawk
California Towhee	Red-winged Blackbird
Canada Goose	Rock Pigeon
Cedar Waxwing	Rose-breasted Grosbeak
Chestnut-backed Chickadee	Ruby-crowned Kinglet
Cinnamon Teal	Ruddy Duck
Cliff Swallow	Rufous-sided Towhee
Common Moorhen	Say's Phoebe
Common Raven	Sharp-shinned Hawk
Common Yellowthroat	Song Sparrow
Cooper's Hawk	Sora
Double-crested Cormorant	Stellar's Jay
Downy Woodpecker	Spotted Sandpiper
European Starling	Spotted Towhee
Gadwall	Swainson's Thrush
Golden-crowned Sparrow	Tree Swallow
Great Blue Heron	Tricolored Blackbird
Great Egret	Turkey Vulture
Greater Yellowlegs	Violet-green Swallow
Greater White-fronted Goose	Virginia Rail

Green Heron	Warbling Vireo
Green-winged Teal	Western Scrub-Jay
Hermit Thrush	Western Wood-Pewee
Hooded Oriole	Wilson's Warbler
House Finch	White Pelican
House Sparrow	White-crowned Sparrow
Hutton's Vireo	Wood Duck
Kestrel	Wrentit
Killdeer	Yellow Warbler
Lawrence's Goldfinch	Yellow-rumped Warbler

### *Special Status Plant Species*

No special status plant species have been previously recorded in the project site, either in the 1992 Neary Lagoon Management Plan or during the biotic assessments and project monitoring of previous vegetation maintenance actions. While three listed plant species (robust spineflower, Santa Cruz tarplant, and San Francisco popcornflower) are noted CNDDDB as present on the USGS Santa Cruz Quad, none are known to occur in the wetland or riparian plant communities on site.

### *Special Status Wildlife Species*

Special status wildlife species known to occur within the project area include tricolored blackbird (*Agelaius tricolor*) and western pond turtle, which are California State Species of Special Concern. Due to its relatively high habitat value within the urban environment, 17 species of special status birds have the potential to be found at Neary Lagoon. These species are listed in Table 3. Due to the proposed timing of the work after the breeding season, significant adverse impacts to listed avian species are not anticipated.

California red-legged frog (*Rana draytoni*) and tidewater goby (*Eucyclogobius newberryi*) are also California State Species of Special Concern that have not been observed or recorded at the site, but are known to exist in the San Lorenzo watershed and in the North Coast drainages. Potential impacts to these species are considered less than significant.

**Table 3. Special Status bird species that may occur or are known to occur at Neary Lagoon**

Brown Creeper (ssp. <i>phillipsi</i> )	proposed CSSC (nesting)	rare to uncommon non-breeding visitor
Cooper's Hawk	CSSC (nesting)	non-breeding visitor September to April
Double-crested Cormorant	CSSC (nesting)	non-breeding visitor; occurs all seasons
Merlin	CSSC (wintering)	non-breeding visitor September to early May
Northern Harrier	CSSC (nesting)	non-breeding visitor in fall and winter
Olive-sided Flycatcher	proposed CSSC (nesting)	spring and fall migrant
Osprey	CSSC (nesting)	non-breeding visitor; occurs all seasons
Peregrine Falcon	SE	non-breeding visitor, mostly fall and winter
Sharp-shinned Hawk	CSSC (nesting)	non-breeding visitor September to April
Summer Tanager	CSSC (nesting)	very rare fall migrant; does not nest in region
Swainson's Thrush	proposed CSSC (nesting)	fairly common nesting species, and migrant
Tricolored Blackbird	CSSC (nesting)	occasional non-breeding visitor
Vaux's Swift	CSSC (nesting)	spring and fall migrant; no nesting habitat in project area
White-tailed Kite	DFG Fully Protected	non-breeding visitor, mostly fall and winter
Willow Flycatcher	SE	rare spring and fall migrant
Yellow Warbler	CSSC (nesting)	uncommon nesting species; spring and fall migrant
Yellow-breasted Chat	CSSC (nesting)	rare spring and fall migrant

Source: CDFG California Bird Species of Special Concern 2006

Tri-colored Blackbird. The tricolored blackbird (*Agelaius tricolor*) is a California state species of special concern that nests in freshwater marshes, stock ponds and areas of dense cattails, rushes and tules from April to mid-May. Tricolored blackbirds are regularly seen foraging in North Coast agricultural ponds and local coastal lagoons with abundant emergent marsh vegetation.

Annual tule removal takes place in late summer/early fall, after the tri-colored blackbird breeding season. The proposed sediment removal project will be done in concert with tule removal activities. Based on past observations and current operations, impacts to bird nesting and bird populations from the proposed sediment removal project are considered less than significant.



Steelhead/Rainbow trout. Steelhead and rainbow trout are the same species (*Oncorhynchus mykiss*) with differing life histories. Steelhead are those *O. mykiss* that are anadromous, or ocean-dwelling, fish that return to coastal streams to spawn. Rainbow trout are those fish that remain in local stream and live their entire life cycle in fresh water. In the Coast Range, resident rainbow trout usually occur in hatchery-supplied, isolated lakes and ponds as well as upstream of migratory passage barriers like dams, waterfalls and pump stations.

According to the 1992 Neary Lagoon Management Plan, hatchery rainbow trout were planted in a privately-owned former "duck-pond" feature located adjacent to the Lagoon at the outlet of Bay Creek. The timber and earthen berm that separated the duck pond from the main body of Neary Lagoon breached in 2007 and Bay Creek now flows freely through an alluvial willow forest into the lagoon. In April 2014, one individual juvenile *O. mykiss* was found in the dewatered reach of the lower lagoon during the rail line crossing slide gate installation construction project.

Steelhead/rainbow trout typically inhabit perennial coastal streams and rivers with a gravel substrate for spawning and rearing. In California, juvenile steelhead generally live in fresh water for 1-3 years before departing for the ocean where they remain for 2-3 years before returning to the same stream to breed (Moyle, et al. 1995). Young fish that have physiologically transformed for ocean life ("smolts") typically migrate to the ocean from March to June. Scouring during the winter can negatively affect reproduction, although usually the same deep pools and undercut banks that protect young during the summer provide protection during flood events.

Spawning for steelhead/rainbow trout typically occurs in the upper reaches of accessible creeks on clean gravel that receives good flow. Rearing habitat appears limited by availability of food, cover (woody debris, undercut banks, surface turbulence, large rocks that are not embedded), and sufficient pool and riffle depth. The Central California coast population is recognized as a distinct Evolutionarily Significant Unit (ESU) by the National Marine Fisheries Service (NMFS), which regulates the fishery. The anadromous Central California coast steelhead ESU is listed as threatened by the federal government.

In 2015, KEC conducted a focused biological assessment that detailed potential steelhead habitat in the Neary Lagoon watershed. That report documented significant steelhead passage barriers throughout the lagoon system, including a pump station, 2 slide gates, and culverted storm drain systems on the tributary streams that flow into the lagoon. The limited area of available habitat and the urbanized nature of the contributing watershed substantially limits the potential for a viable *O. mykiss* population in the project area. The 2015 Annual Report Supplement is attached as Appendix C

Tidewater Goby. The tidewater goby (*Eucyclogobius newberryi*) is federally listed as endangered, and is a state species of special concern. The species is found primarily in waters of coastal lagoons, estuaries, and marshes. Tidewater goby is known to occur in the lagoon of San Lorenzo

Lagoon, Lombardi Creek and Wilder Creek Lagoon. Tidewater goby has not been documented in Neary Lagoon.

California Red-legged Frog. The California red-legged frog is a federally listed threatened species, and is a California species of special concern. Historically, the California red-legged frog occurred from northern California to Baja California in Mexico and was found in the Sierra Nevada and Coast Ranges. Its current range is much reduced, and most remaining populations are found in central California along the coast from Marin County south to Ventura County.

The project vicinity is located within the range of the California red-legged frog, and the species may have historically occurred in the vicinity. California red-legged frogs have been observed on UCSC campus within 2 miles northwest of the project area, and Wilder Ranch State Park and north coast agricultural ponds, approximately 3 miles west. Based on previous field surveys and CNDDB records California red-legged frogs are not known to be present in the study area.

Western Pond Turtle. The City obtained CDFG Streambed Alteration Permit (Notification # 1600-2003-0226-3) and conducted vegetation removal operations under the conditions developed in the 2005 Neary Lagoon Turtle Management Plan. This plan was developed by Kittleson Environmental Consulting and Biosearch Associates and is based on a Memorandum of Understanding (MOU) between Biosearch Associates and CDFG that was developed in 2002. Principal CDFG permit conditions and consultant work tasks included (1) preconstruction trapping and temporary offsite containment for western pond turtles, (2) project-period turtle monitoring and trapping, (3) transport and return of captive western pond turtles to capture locations and (4) completion of a summary report.

Since 2002, a total of 15 individual adult western pond turtles have been captured, marked and documented at Neary Lagoon Wildlife Refuge. In 2015 one previously un-marked adult wpt was trapped and held while in 2017 two previously un-marked wpt were trapped and cared for during operations.

In 2019, the most recent year of sediment and vegetation removal, no western pond turtles were trapped and held, despite conducting 2 week-long trapping sessions. Prior to that last maintenance action two adult wpt were observed moving upland, out of the lagoon near Depot Park. One of those turtles was found badly injured and was taken to Native Animal Rescue by volunteers. That individual was healed and released at nearby Schwan Lagoon in Live Oak.

Since the spring of 2019, no wpt were observed at Neary Lagoon during sediment and vegetation removal project monitoring or subsequent bird surveys conducted by KEC. No wpt have been seen in 2020.

No juvenile western pond turtles have been captured at Neary Lagoon during the trapping efforts that have been done from 2002 to 2019, although photographs of a juvenile western pond turtle basking with an adult turtle was taken by local biologist Steve Gerow in June 2008. In those images, marked turtle WPT #807 (136 mm CL) is clearly identifiable, and provides visual scale.

Upland breeding activities by WPT have not been observed by KEC or Biosearch Associates during our field investigations. Upland breeding activities were, however, anecdotally reported to investigators in 2005, with a report that maintenance workers observed a female WPT attempting excavation along the gravel access road next to the WWTP. That turtle was flushed back to open water and was not observed again.

Upland breeding activity by red-eared sliders was observed during July 2009 on three occasions in July and August 2009 by KEC. In those instances adult sliders were observed moving steadily across upland grassy habitats, away from open water. In one case, park visitors informed KEC of a turtle that was “lost” and had been placed by them back into open water. KEC later observed this large female adult slider in the same upland area.

Vegetation removal activities by Aquamog and the associated harvester vessel have been implicated in at least one turtle mortality since 2002. On 9/14/2004 Errol Griffin, a Santa Cruz City Department of Parks and Recreation employee, found a dead red-eared slider floating in main channel during Aquamog operations. The turtle was an unmarked, female with tissue damage on left side of head near mouth. It appeared bloated, possibly dead for a day at least. It was assumed to be hit by tule removal equipment.

Predation of turtles by raccoons has been observed by local docents and reported by Neary Lagoon maintenance staff. Raccoon activity throughout the refuge is observed daily during trapping and project monitoring efforts. Notably, raccoons are frequently observed swimming across open water channels to access the tule/cattail stands and island features on the refuge. Raccoon game trails, defecation piles and two adult red-eared slider carapaces on a raccoon game trail have been documented within the lagoon interior, throughout known WPT territory.

### III. ENVIRONMENTAL CHECKLIST

**Environmental Factors Potentially Affected by the Project:** 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.

X	Aesthetics		Agricultural and Forest Resources	X	Air Quality
X	Biological Resources		Cultural Resources		<u>Energy</u>
X	Geology / Soils		Greenhouse Gas Emissions		Hazards and Hazardous Materials
X	Hydrology / Water Quality		Land Use / Planning		Mineral Resources
X	Noise		Population / Housing		Public Services
	Recreation		Transportation / <del>Traffic</del>		Tribal Cultural Resources
	Utilities/Service Systems		<u>Wildfire</u>		Mandatory Findings of Significance

#### Instructions to Environmental Checklist

1. A brief explanation is required (see VI. "Explanation of Environmental Checklist Responses") for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question (see V. Source List, attached). A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that any effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level.

5. Earlier Analysis may be used where, pursuant to the tiering, program EIR, or other CEQA process, one or more effects have been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case a discussion should identify the following on attached sheets:
  - a) *Earlier Analysis used.* Identify earlier analyses and state where they are available for review.
  - b) *Impacts adequately addressed.* Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
  - c) *Mitigation measures.* For effects that are "Less than Significant with Mitigation Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. The explanation of each issue should identify:
  - a) The significance criteria or threshold, if any, used to evaluate each question; and
  - b) The mitigation measure identified, if any, to reduce the impact to less than significant.

ENVIRONMENTAL IMPACTS Issues (and Supporting Information Sources):	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>1. AESTHETICS. <u>Except as provided in Public Resources Code Section 21099</u>, would the project:</b>				
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) <u>In non-urbanized areas</u> , substantially degrade the existing visual character or quality of <u>public views</u> of the site and its surroundings? ( <u>Public views</u> are those that are experienced from <u>publicly accessible vantage point</u> .) <u>If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?</u>				✓
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				✓
<b>2. AGRICULTURE AND FOREST RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement Methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:</b>				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				✓
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				✓
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined 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))?				✓

<b>ENVIRONMENTAL IMPACTS Issues (and Supporting Information Sources):</b>	<b>Potentially Significant Issues</b>	<b>Potentially Significant Unless Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
d) Result in the loss of forest land or conversion of forest land to non-forest use?				✓
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?				✓
<b>3. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management <u>district</u> or air pollution control district may be relied upon to make the following determinations. Would the project:</b>				
a) Conflict with or obstruct implementation of the applicable air quality plan?				✓
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?			✓	
c) Expose sensitive receptors to substantial pollutant concentrations?				✓
d) <u>Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?</u>			✓	
<b>4. BIOLOGICAL RESOURCES. Would the project:</b>				
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 Wildlife 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 Wildlife or U.S. Fish and Wildlife Service?			✓	
c) Have a substantial adverse effect on <u>state or</u> federally protected wetlands (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		✓		

<b>ENVIRONMENTAL IMPACTS Issues (and Supporting Information Sources):</b>	<b>Potentially Significant Issues</b>	<b>Potentially Significant Unless Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
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?				✓
<b>5. CULTURAL RESOURCES. Would the project:</b>				
a) Cause a substantial adverse change in the significance of a historical resource <u>pursuant to as defined</u> in Section 15064.5?				✓
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?				✓
c) Disturb any human remains, including those interred outside of formal cemeteries?				✓
<b>6. ENERGY. Would the project:</b>				
a) <u>Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?</u>			✓	
b) <u>Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?</u>				✓
<b>7. GEOLOGY AND SOILS. Would the project:</b>				
a) <u>Directly or indirectly cause</u> potential substantial adverse effects, including the risk of loss, injury, or death involving: <ul style="list-style-type: none"> <li>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. (V.1a, V.1b-DEIR)</li> <li>ii. Strong seismic ground shaking?</li> <li>iii. Seismic-related ground failure, including liquefaction?</li> <li>iv. Landslides?</li> </ul>				✓
b) Result in substantial soil erosion or the loss of topsoil?				✓



<b>ENVIRONMENTAL IMPACTS Issues (and Supporting Information Sources):</b>	<b>Potentially Significant Issues</b>	<b>Potentially Significant Unless Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?				✓
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial <u>direct or indirect</u> risks to life or property?				✓
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				✓
f) <u>Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?</u>				✓
<b>8. GREENHOUSE GAS EMISSIONS. Would the project:</b>				
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?				✓
<b>9. HAZARDS AND HAZARDOUS MATERIALS. Would the project:</b>				
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 ¼ miles 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				✓

<b>ENVIRONMENTAL IMPACTS Issues (and Supporting Information Sources):</b>	<b>Potentially Significant Issues</b>	<b>Potentially Significant Unless Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
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) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				✓
g) Expose people or structures, <u>either directly or indirectly</u> , to a significant risk of loss, injury or death involving wildland fires?				✓
<b>10. HYDROLOGY AND WATER QUALITY. Would the project:</b>				
a) Violate any water quality standards or waste discharge requirements <u>or otherwise substantially degrade surface or ground water quality?</u>			✓	
b) Substantially <u>decrease</u> groundwater supplies or interfere substantially with groundwater recharge such that <u>the project may impede sustainable groundwater management of the basin?</u>				✓
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river <u>or through the addition of impervious surfaces</u> , in a manner which would: (i) Result in substantial erosion or siltation on- or off-site; (ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; (iii) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; <u>or</u>			✓	
(iv) Impede or redirect flood flows?				✓
d) <u>In flood hazard, tsunami or seiche zones, risk release of pollutants due to project inundation?</u>				✓
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?				✓
<b>11. LAND USE AND PLANNING. Would the project:</b>				
a) Physically divide an established community?				✓

<b>ENVIRONMENTAL IMPACTS Issues (and Supporting Information Sources):</b>	<b>Potentially Significant Issues</b>	<b>Potentially Significant Unless Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
b) <u>Cause a significant environmental impact due to a</u> conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?				✓
<b>12. MINERAL RESOURCES. Would the project:</b>				
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? (V.1a)				✓
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? (V.1a)				✓
<b>13. NOISE: Would the project result in:</b>				
a) Generation of <u>a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project</u> in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies?			✓	
b) Generation of excessive ground borne vibration or ground borne noise levels?				✓
c) For a project located within <u>the vicinity of a private airstrip or</u> 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?				✓
<b>14. POPULATION AND HOUSING. Would the project:</b>				
a) Induce substantial <u>unplanned</u> 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 <u>people or</u> housing, necessitating the construction of replacement housing elsewhere?				✓
<b>15. PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or need for new or physical 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:</b>				
a) Fire protection?				✓

<b>ENVIRONMENTAL IMPACTS Issues (and Supporting Information Sources):</b>	<b>Potentially Significant Issues</b>	<b>Potentially Significant Unless Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
b) Police protection?				✓
c) Schools?				✓
d) Parks?				✓
e) Other public facilities?				✓
<b>16. RECREATION. Would the project:</b>				
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?				✓
<b>17. TRANSPORTATION/TRAFFIC. Would the project:</b>				
a) Conflict with a <u>program</u> plan, ordinance or policy <u>addressing</u> the circulation system, <u>including transit, roadway, bicycle and pedestrian facilities?</u>				✓
b) <u>Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?</u>				✓
c) Substantially increase hazards due to a <u>geometric</u> design feature (for example, sharp curves or dangerous intersections) or incompatible uses (for example, farm equipment)?				✓
d) Result in inadequate emergency access?				✓
<b>18. Tribal Cultural Resources. Would the project:</b>				
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:  a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or				✓
b) A resource determined by the lead agency, in its discretion and supported by substantial				✓

<b>ENVIRONMENTAL IMPACTS Issues (and Supporting Information Sources):</b>	<b>Potentially Significant Issues</b>	<b>Potentially Significant Unless Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe				
<b>19. UTILITIES AND SERVICE SYSTEMS. Would the project:</b>				
a) Require or result in the <u>relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities</u> , the construction or which could cause significant environmental effects?				✓
b) Have sufficient water supplies available to serve the project <u>and reasonably foreseeable future development during normal, dry and multiple dry years?</u>				✓
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				✓
d) <u>Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?</u>				✓
e) Comply with federal, state, and local <u>management and reduction</u> statutes and regulations related to solid waste?				✓
<b>20. WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:</b>				
a) <u>Substantially impair an adopted emergency response plan or emergency evacuation?</u>				✓
b) <u>Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?</u>				✓
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines				✓

<b>ENVIRONMENTAL IMPACTS Issues (and Supporting Information Sources):</b>	<b>Potentially Significant Issues</b>	<b>Potentially Significant Unless Mitigation Incorporated</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?				
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?				✓
<b>21. MANDATORY FINDINGS OF SIGNIFICANCE. Would the project:</b>				
a) Have the potential to <u>substantially</u> 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, <u>substantially</u> 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) 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 the past projects, the effects of other current projects, and the effects of probable future projects.)				✓
c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?				✓

## DISCUSSION OF ENVIRONMENTAL CHECKLIST

See Section **VI--ENVIRONMENTAL EVALUATION** for discussion.

#### IV. DETERMINATION

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	
I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.	✓
I find that the proposed project MAY have a significant effect on the environment and an ENVIRONMENTAL IMPACT REPORT is required.	
I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.	
I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.	

*Mark R. Dettle*

Mark Dettle, Public Works Director

1/27/2021

Date

## V. REFERENCES AND DATA SOURCE LIST

1. City of Santa Cruz. October 25, 1994. The City of Santa Cruz General Plan and Local Coastal Program 1990-2005.
2. City of Santa Cruz. November 20, 1992. "Neary Lagoon Management Plan." Prepared by Jones & Stokes.
3. City of Santa Cruz. Adopted by City Council on February 28, 2006. *City-wide Creeks and Wetlands Management Plan*.
4. Aquatic Environments, Inc. November 2007. "Best Management Practices (BMPs) to Prevent and Minimize the Impacts Associated with the Maintenance Desilting at Neary Lagoon (Walkway Channel Desilting)."
5. Aquatic Environments, Inc. December 11, 2007. "Neary Lagoon Desilting & Bridge Accessibility Report."
6. Aquatic Environments, Inc. November 12, 2007. "Neary Lagoon Sampling Locations, Sediment Sampling – Pre-Desilting for New Flow Channel."
7. Balance Hydrologics, Inc. February 20, 2008. "Review of Aquatic Environments, Inc. Letter Report regarding desilting of Neary Lagoon, Letter Report dated December 11, 2007."
8. Balance Hydrologics, Inc. June 2006. *Neary Lagoon: Lagoon-Specific Sedimentation Management Plan*. Prepared for City of Santa Cruz Parks and Recreation Department and Public Works Department.
9. Kittleson Environmental Consulting. February 2014. "Neary Lagoon Sediment Removal Project, City of Santa Cruz, Santa Cruz County, CA –Biological Assessment."
10. Monterey Bay Unified Air Pollution Control District. 2008. "CEQA Air Quality Guidelines."

### **Personal Communications:**

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- d. Bryan Mori, Wildlife Biologist
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INITIAL STUDY PREPARATION:

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## VI. ENVIRONMENTAL EVALUATION

### 1. AESTHETICS.

**(a-b) Effects on Vistas, Scenic Resources.** The project site is not identified as containing or being within scenic view areas shown in the City's General Plan (Map CD-3). The *Neary Lagoon Management Plan* (NLMP) identifies "high quality views" of Neary Lagoon from the southern property boundary and from the Shelter Lagoon Condominiums and Cypress Point Apartments along the northern boundary. The Plan seeks to maintain important views and visual features and enhance viewing opportunities.

**Impact Analysis.** The proposed project evaluated in this Initial Study consists of vegetation removal and dredging of up to 2,000 cubic yards of sediment. None of the project components would have a substantial adverse effect on a scenic vista or substantially damage a scenic resource.

The project location is visible from surrounding public and residential sites. The proposed lagoon tule removal and dredging would not be visible from "high quality views" identified in the NLMP nor would these temporary, short-term activities permanently affect such views. Similarly, there would be no damage to adjacent trees or other vegetation that comprise the visual character of the area. Thus, the proposed project will not affect scenic views or resources.

**(c-d) Degradation of Surrounding Visual Character.** The project site location is visible from surrounding public or residential sites, and is visible from the path and walkways in the immediate vicinity of the sites. Neary Lagoon and surrounding area is characterized by the water areas interspersed with islands of land with a variety of riparian, wetland and other vegetation. The only structural development in the lagoon area is the floating walkway that is constructed of wood and visually blends with the surrounding environs. Existing residential development is visible from some points along the lagoon path, as is a portion of the City's fenced wastewater treatment plant.

**Impact Analysis.** As indicated above, the project site location is visible from surrounding public or residential sites. None of the project components would result in substantial degradation of the visual character of the surrounding area. The proposed tule removal; and dredging would not be visible except from the immediate area. While the project would

introduce equipment into the lagoon, it would be of a temporary and short-term nature (about 75 days) and would not be considered a substantial visual degradation. Upon completion of these activities, there would be no permanent alteration in the visual character of the surrounding area. Similarly, these activities would not introduce a new source of light or glare into the area. Thus, project would have no impact upon the surrounding visual character.

### 3. AIR QUALITY.

The proposed project evaluated in this Initial Study consists of vegetation management and site-specific dredging and removal of 2,000 cubic yards of sediment. The project will not result in an increase in population or result in a new source of stationary or ongoing permanent mobile emissions.

**(a) Consistency with Air Quality Plan.** None of the project elements will result in new population or growth or inconsistencies with the existing air quality management plan for the region.

#### **(b-d) Emissions.**

The project study area is located within the NCCAB, which is just south of the San Francisco Bay Area Air Basin, and covers an area of 5,159 square miles. The NCCAB consists of the counties of Santa Cruz, San Benito, and Monterey. Topography and meteorology heavily influence air quality. In the project vicinity, the northwest sector of the basin is dominated by the Santa Cruz Mountains, which exert a strong influence on atmospheric circulation, which results in generally good air quality. Small inland valleys such as Scotts Valley with low mountains on two sides have poorer circulation than at Santa Cruz on the coastal plain (SOURCE V.10).

The semi-permanent high pressure cell in the eastern Pacific is the basic controlling factor in the climate of the NCCAB. In the summer, the high pressure cell is dominant and causes persistent west and northwest winds over the entire California coast. Air descends in the Pacific High, forming a stable temperature inversion of hot air over a cool coastal layer of air. The onshore air currents pass over cool ocean waters to bring fog and relatively cool air into the coastal valleys. The warmer air aloft acts as a lid to inhibit vertical air movement (SOURCE V.10).

The MBUAPCD's CEQA Guidelines(Guidelines) defines a sensitive receptor generically as any residence including private homes, condominiums, apartments, and living quarters; educational facilities such as preschools and kindergarten through grade twelve (K-12) schools; daycare centers; and health care facilities such as hospitals or retirement and nursing homes. Sensitive receptors include long-term care hospitals, hospices, prisons, and dormitories or similar live-in housing. The MBUAPCD's Guidelines indicate that identification of sensitive receptors in the vicinity of a project site should be determined as part of the CEQA review with an analysis of whether a project would expose sensitive receptors to significant amounts of pollution. The sensitive receptors closest to the project study area are residential uses located along the north side of Neary Lagoon.

Vegetation removal and dredging projects generally have the potential to cause short-term increases in exhaust emissions from worker trips to and from the site and heavy equipment that can generate fugitive dust and may increase volatile organic compounds (VOC) or nitrogen oxides (NO<sub>x</sub>), the precursors of ozone. The MBUAPCD does not generally require projects to quantify VOC and NO<sub>x</sub> emissions from typical construction equipment, because these temporary emissions have been accommodated in State and federally required air plans (SOURCE V.10). The proposed project would be of limited duration (up to 75 days). The vegetation and dredged material will be transported to an offsite disposal location in lined or sealed trucks. Thus, short-term emissions from dredging-related equipment and trips would be minor given the short-term duration of work. This would not be considered significant.

**(e) Odors.** None of the project components are expected to result in the creation of objectionable odors. The vegetation and sediments will be offloaded at the staging area adjacent to the Wastewater Treatment Facility as mentioned above. Sediment will be transferred to trucks for hauling offsite, either for disposal or to a temporary dewatering location.

The sediment may be transferred to trucks and directly hauled to a disposal site if the excavated material is dense and can pass the "dry weight" test. This will probably vary from year to year depending upon the location and depth to which is dredging is done. Sediment containing equal to or greater than 50% water will likely need to be dewatered prior to disposal. The preferred dewatering location is the nearby railroad "wye" property owned by Santa Cruz County Regional Transportation Commission (SCCRTC). There are no materials expected in the dredged materials that would be expected to create objectionable odors.

**Impact Analysis.** Proposed operations would not result in a new source of stationary or ongoing permanent mobile emissions. Given the short-duration and the nature of dredging, the project will not significantly contribute to existing or projected air quality violations, and thus, will not result in a cumulatively considerable net increase for ozone or PM<sub>10</sub>, or expose sensitive receptors to substantial pollutant concentrations. Project construction could result in short-term, localized increases in exhaust emissions due to construction activities, but would not exceed construction thresholds. This is considered a less-than-significant impact.

#### 4. BIOLOGICAL RESOURCES.

Neary Lagoon is a freshwater marsh and riparian system. Approximately 75% of the property is dominated by riparian and freshwater marsh habitat, and the remaining 25% is a mix of oak woodland, non-native grassland, developed parkland and landscape areas (SOURCE V.9). The lagoon and open space support a diverse assemblage of wetland and riparian wildlife, most notably small but persistent populations of western pond turtle (*Actinemys marmorata*) and wood duck (*Aix sponsa*). With its complex of wetland, open water and riparian thickets, Neary Lagoon is best known for its native bird habitat. The aquatic habitat of Neary Lagoon, however, is dominated by introduced warm water fish species and non-native bullfrogs (Ibid.).

**(a) Special Status Species.** No special status plant species have been previously recorded in the project site, either in the 1992 Neary Lagoon Management Plan or during the biotic assessments and project monitoring of previous vegetation maintenance actions. While three listed plant species (robust spineflower, Santa Cruz tarplant, and San Francisco popcornflower) are noted CNDDDB as present on the USGS Santa Cruz Quad, none are known to occur in the wetland or riparian plant communities on site (SOURCE V.9).

Two California State Species of Special Concern are known to occur within the project area, the tricolored blackbird (*Agelaius tricolor*) and western pond turtle. Two other California State Species of Special Concern, the California red-legged frog (*Rana aurora draytoni*) and tidewater goby (*Eucyclogobius newberryi*) have not been observed or recorded at the site, but are known to exist in the San Lorenzo watershed and in the North Coast drainages (SOURCE V.9).

Western pond turtle. The western pond turtle (*Emys marmorata*) is a California state species of special concern that inhabits freshwater marshes, stock ponds and slow moving rivers and streams. Pond turtles are known from Neary Lagoon, Wilder Ranch State Park and a reservoir on the GraniteRock Sand Plant in-holding at Wilder Ranch (SOURCE V.9). Neary Lagoon is known to support an isolated population of western pond turtles. Goals and objectives for the long term management of different habitat types in Neary Lagoon are described in the Neary Lagoon Management Plan (SOURCE V.2).

California Department of Fish and Game Streambed Alteration Agreement 2008-0279 (SAA #2008-0279; Expires 12/31/2012) and the 2005 Neary Lagoon Turtle Management Plan developed by Kittleson Environmental Consulting and Biosearch Associates define the current permit conditions and environmental protection measures for western pond turtles for vegetation removal activities undertaken at Neary Lagoon by the City of Santa Cruz. Principal CDFG permit conditions and work tasks include (1) preconstruction trapping and temporary offsite relocation of western pond turtles, (2) project-period turtle monitoring and trapping, and (3) transport and release of captive western pond turtles to previous capture locations. A total of ten (10) western pond turtles have been trapped, tagged and monitored as part of the regular vegetation removal program since 2002. All are mature adults (SOURCE V.9).

Tri-colored blackbird. The tricolored blackbird (*Agelaius tricolor*) is a California state species of special concern that nests in freshwater marshes, stock ponds and areas of dense cattails, rushes and tules from April to mid-May. Tricolored blackbirds are regularly seen foraging in North Coast agricultural ponds and local coastal lagoons with abundant emergent marsh vegetation (SOURCE V.9).

Tidewater goby. The tidewater goby (*Eucyclogobius newberryi*) is federally listed as endangered, and is a state species of special concern. The species is found primarily in waters of coastal lagoons, estuaries, and marshes. Tidewater goby is known to occur in the lagoon of San Lorenzo Lagoon, Lombardi Creek and Wilder Creek Lagoon. Tidewater goby has not been documented in Neary Lagoon (SOURCE V.9).

California red-legged frog. The California red-legged frog is a federally listed threatened species, and is a California species of special concern. Historically, the California red-legged frog occurred from northern California to Baja California in Mexico and was found in the Sierra Nevada and Coast Ranges. Its current range is much reduced, and most remaining

populations are found in central California along the coast from Marin County south to Ventura County.

The project vicinity is located within the range of the California red-legged frog, and the species may have historically occurred in the vicinity. California red-legged frogs have been observed on UCSC campus within 2 miles northwest of the project area, and Wilder Ranch State Park and north coast agricultural ponds, approximately 3 miles west. Based on previous field surveys and CNDDDB records California red-legged frogs are not known to be present in the study area (SOURCE V.9). Non-native bullfrogs are common at Neary Lagoon.

#### Steelhead/Rainbow trout.

Steelhead and rainbow trout are the same species (*Oncorhynchus mykiss*) with differing life histories. Steelhead are those *O. mykiss* that are anadromous, or ocean-dwelling, fish that return to coastal streams to spawn. Rainbow trout are those fish that remain in local stream and live their entire life cycle in fresh water. In the Coast Range, resident rainbow trout usually occur in hatchery-supplied, isolated lakes and ponds as well as upstream of migratory passage barriers like dams, waterfalls and pump stations.

According to the 1992 Neary Lagoon Management Plan, hatchery rainbow trout were planted in a privately-owned former "duck-pond" feature located adjacent to the Lagoon at the outlet of Bay Creek. The timber and earthen berm that separated the duck pond from the main body of Neary Lagoon breached in 2007 and Bay Creek now flows freely through an alluvial willow forest into the lagoon.

Special Status Birds. Due to its relatively high habitat value within the urban environment, 17 species of special status birds have the potential to be found at Neary Lagoon. These species are listed in Table 2. Due to the proposed timing of the work after the breeding season, significant adverse impacts to listed avian species are not anticipated (SOURCE V.9).

**Impact Analysis.** The proposed project that is evaluated in this Initial Study consists of vegetation management throughout the lagoon, consistent with the NLMP, and site-specific dredging and removal of 2,000 cubic yards of sediment. The proposed action could inadvertently harm or result in mortality to western pond turtles if present in the work area. Sedimentation and turbidity releases during tule removal and dredging operations also could have an indirect, adverse effect on the turtles. However, with implementation of existing Streambed Alteration Agreement conditions and proposed BMPs to protect water

quality, the turtle would be protected, and no significant impacts are expected to occur as further discussed below.

Annual tule removal takes place in late summer/early fall, after the tri-colored blackbird and other bird breeding season has ended. The proposed sediment removal efforts will be done in concert with tule removal activities. Based on past experience and current operations, impacts to special status bird populations from the proposed sediment removal project are considered less than significant due to the proposed timing of the work after the breeding season (SOURCE V.9).

**TABLE 2. Special Status Bird Species That Occur or May Occur at Neary Lagoon.**

Brown Creeper ( <i>sspr. phillipsi</i> )	proposed CSSC (nesting)	rare to uncommon non-breeding visitor
Cooper's Hawk	CSSC (nesting)	non-breeding visitor September to April
Double-crested Cormorant	CSSC (nesting)	non-breeding visitor; occurs all seasons
Merlin	CSSC (wintering)	non-breeding visitor September to early May
Northern Harrier	CSSC (nesting)	non-breeding visitor in fall and winter
Olive-sided Flycatcher	proposed CSSC (nesting)	spring and fall migrant
Osprey	CSSC (nesting)	non-breeding visitor; occurs all seasons
Peregrine Falcon	SE	non-breeding visitor, mostly fall and winter
Sharp-shinned Hawk	CSSC (nesting)	non-breeding visitor September to April
Summer Tanager	CSSC (nesting)	very rare fall migrant; does not nest in region
Swainson's Thrush	proposed CSSC (nesting)	fairly common nesting species, and migrant
Tricolored Blackbird	CSSC (nesting)	occasional non-breeding visitor
Vaux's Swift	CSSC (nesting)	spring and fall migrant; no nesting habitat in project area
White-tailed Kite	DFG Fully Protected	non-breeding visitor, mostly fall and winter
Willow Flycatcher	SE	rare spring and fall migrant



Yellow Warbler	CSSC (nesting) migrant	uncommon nesting species; spring and fall
Yellow-breasted Chat	CSSC (nesting)	rare spring and fall migrant

*Source: California Bird Species of Special Concern 2006*

The provisions of the previous California Department of Fish and Game Lake and Streambed Alteration Agreements (#2008-0279/*Sediment Removal*), (#2008-0396-3/*Vegetation Management*) and the approved Neary Lagoon Turtle Management Plan would be implemented. The Turtle Management Plan is designed to temporarily hold the listed species for the duration of the vegetation removal activity and then return them to the location where they were captured. Implementation of these measures would not result in a significant impact to the western pond turtle. The key Neary Lagoon Turtle Management Plan (SOURCE V.9) tasks are outlined below:

1. Worker Education Seminar. Prior to the onset of project activities, the project biologists will conduct a worker education program to familiarize the labor crew with the characteristics, life history and regulatory requirements associated with western pond turtles and other wildlife potentially impacted.
2. Pre-project Trapping and Relocation. A specified trapping system will be placed near the perimeter of the lagoon on the pond bottom with one end of the trap partially exposed to create an air space and tethered to shore. Floats are attached to the traps to ensure an air space if the traps are dislodged into deeper water. They will be set for five consecutive days prior to the onset of dredging or other activity. The turtle management plan specifies provisions for translocation and care of native turtles. Non-native turtles will be removed from the wild or held in captivity. Culvert inlets will be screened with ½" welded wire fabric to prevent the non-native turtles from re-entering the work zone.
3. Project Period Trapping and Relocation. The project biologists will also set traps Sunday-Thursday afternoons during the work period in areas to be dredged. Near the end of each work day, a project biologist will bait and reset each trap.
4. Daily Monitoring During Vegetation Removal. Traps will be checked each morning project biologists. Project biologists will monitor the late afternoon periods, searching for turtles in vegetation piles and open water by kayak and/or canoe.
5. Annual Report. Following completion of the vegetation removal operations, the project biologists will compile trapping and daily monitoring data into a summary report.

**RECOMMENDED CONDITION:** Implement the provisions of the “Neary Lagoon Turtle Management Plan” as part of the proposed vegetation management and dredging activities.

**(b-c) Wetland, Riparian and Sensitive Habitats.** The City’s General Plan (Map EQ-9) identifies mapped wetland and riparian habitat on the Neary Lagoon property. Generally, wetland and riparian communities are considered sensitive habitat due to their value to wildlife, limited distribution, and decreasing acreages statewide. Central Coast Arroyo Willow Riparian Forest is recognized as a sensitive community by the California Department of Fish and Game.

The lagoon has approximately 15 acres of open-water and freshwater marsh habitat, depending on the annual level of vegetation management. Marsh vegetation is primarily tule (*Scirpus californicus*), cattail (*Typha latifolia* and *T. angustifolia*) and yellow iris (*Iris pseudacorus*). Willow riparian woodland (*Salix lasiolepis*, *S. lasiandra* and *S. laevigata*) occupies approximately 16 acres of the preserve. Other notable riparian tree species present are sycamore (*Platanus racemosa*), box elder (*Acer negundo*), black cottonwood (*Populus trichocarpa*) and green wattle acacia (*Acacia longifolia* sp.). Understory vegetation in the riparian thickets are predominantly coastal shrubs like California blackberry (*Rubus ursinus*), Himalaya blackberry (*Rubus discolor*), stinging nettle (*Urtica dioica*), and poison oak (*Toxicodendron diversilobum*). Ruderal vegetation and non-native annual grasses occupy approximately 3 acres. Mixed oak woodland (*Quercus californicus*) comprises about 1 acre on the slopes above Laurel Creek. The remaining acreage is a mix of developed park facilities, pathways, and turf grasses (SOURCE V.9).

The area directly affected by the proposed project is principally open water and emergent marsh habitat. These areas are regularly disturbed by vegetation clearing operations. No riparian, oak woodland or other sensitive habitats will be impacted. Table 3 lists bird species observed at the site between 2002 and 2020 by Kittleson Environmental Consulting during vegetation removal efforts and field surveys. None of these bird species appears to be significantly adversely impacted by typical fall season vegetation removal operations (SOURCE V.9).

**Impact Analysis.** The proposed vegetation management/tule removal and dredging will not result in fill of wetlands. Operations are proposed for late summer and early fall when there would be no disruption to bird breeding. Thus, proposed short-term dredging is considered a less-than-significant impact.

It is estimated that a total of up to seventy-five (75) days will be required to complete the vegetation and sediment removal work within the lagoon habitats. The proposed timing of the sediment removal project will closely follow with the annual vegetation removal efforts to minimize construction impacts to the marsh and the neighborhood. Typically the vegetation management tasks take 4-6 weeks and the work is done in August to the end of September.

All previous vegetation removal activities were permitted under multi-year CDFW Streambed Alteration Permits, which required western pond turtle trapping and temporary relocation during Aquamog operations.

**(d) Wildlife Movement/Breeding.** With its complex of wetland, open water and riparian thickets, Neary Lagoon is best known for its native bird habitat. Due to the proposed timing of the dredging work after the breeding season, significant adverse impacts to listed avian species are not anticipated (SOURCE V.9).

**Impact Analysis.** The proposed vegetation management/tule removal and dredging project will not occur during bird nesting season, and thus, no impacts would result. Operations are proposed for late summer and early fall when there would be no disruption to bird breeding. Thus, proposed short-term dredging is considered a *less-than-significant* impact.

Annual tule removal takes place in late summer/early fall, after the tri-colored blackbird and other birds' breeding season has ended. The proposed sediment removal elements will be done in concert with tule removal activities. Based on past experience and current operations, impacts to bird nesting and bird populations from the proposed vegetation management/tule removal and sediment dredging project are considered less than significant due to the proposed timing of the work after the breeding season (SOURCE V.9).

**MITIGATION MEASURE #1:** Conduct future vegetation management/tule removal and sediment removal activities outside of the bird nesting season, which is generally February through July.

If the vegetation management/tule removal and dredging project commences during the nesting season, require that a pre-dredging project survey for special-status nesting avian species (and other species protected under the Migratory Bird Act) be conducted by a qualified biologist at least 30 days prior to the beginning of dredging activities to assure that this area is not actively being used. If nesting special-status birds are not found, no further action would be necessary. If a nesting special-status bird were found, dredging within 100 feet of the nest site should be postponed until after the bird has fledged or consultation with the California Department of Fish and Wildlife is conducted to determine alternative measures.

**(e) Conflicts with Local Policies/Ordinances.** The proposed project would not result in removal of heritage trees as defined in City regulations.

**(f) Conflicts with Habitat Conservation Plans.** There are no Habitat Conservation or Natural Community Conservation Plans for the project area. Project consistency with the Neary Lagoon Management Plan is discussed below under section 9.

## 5. CULTURAL RESOURCES.

**(b) Archaeological Resources.** Neary Lagoon and the surrounding area are located within a sensitive archaeological area as mapped in the City's General Plan (Map CR-2).

***Impact Analysis.*** The proposed project that is evaluated in this Initial Study consists of vegetation management/tule removal and site-specific dredging and removal of 2,000 cubic yards of sediment. No part of this project includes on-land grading or excavation. However, as prehistoric archaeological sites have been recorded within the vicinity, the following standard recommendation is included in the event that unknown resources are discovered during dredging or future construction of a pedestrian bridge.

**RECOMMENDED CONDITION:** If archaeological resources or human remains are accidentally discovered during operations, work shall be halted within 50 meters (150 feet) of the find until it can be evaluated by a qualified professional archaeologist. If the find is determined to be significant, appropriate mitigation measures shall be formulated and implemented. If deemed appropriate under CEQA, data and artifact recovery shall be conducted during the period when construction work is halted. If human remains are discovered during the construction of the project, an appropriate representative of Native American groups and the County Coroner shall be informed and consulted, as required by law.

## 6. GEOLOGY AND SOILS.

**(a-d, f) Seismic & Geologic Hazards.** The project site is located in a seismically active region of California, and the region is considered to be subject to very intense shaking during a seismic event. The city of Santa Cruz is situated between two major active faults: the San Andreas, approximately 11.5 miles to the northeast and the San Gregorio, approximately 9 miles to the southwest. There are no faults zones or risk of fault rupture

within the city according to the City's General Plan/Local Coastal Plan (Map S-1) (SOURCE V.1).

According to maps in the City General Plan, the project area is located within an area subject to very intense seismic shaking during an earthquake (Map S-5) and is subject to high liquefaction potential (Map S-6) (SOURCE V.1). The project activities (sediment removal and seasonal, temporary bridge section removal) will not be affected by seismic hazards.

**(e, g) Soils and Erosion.** The proposed project does not include excavation or grading activities that would result in erosion or sedimentation.

## 7. GREENHOUSE GAS EMISSIONS.

**(a)Generate greenhouse gas emissions.** The project will result in up to seventy-five days of diesel equipment operations within the urban area of the City of Santa Cruz. Equipment to be used is typically limited to standard dump trucks, outboard motors, and excavator, and the floating Aquamog vehicles. Operations will be temporary in nature, will occur during regular daylight hours, and materials will be transported to the shortest possible disposal site(s).

**(b) Conflict with any applicable adopted plan, policy or regulation.** The proposed project does not conflict with any applicable adopted plan, policy or regulation currently promulgated for greenhouse gases.

## 8. HAZARDS AND HAZARDOUS MATERIALS.

The proposed project that is evaluated in this Initial Study consists of vegetation management/tule removal and dredging of 2,000 cubic yards of sediment. No parts of the project involve the transport, use, or disposal of hazardous materials or wastes and would not result in the creation of a public health hazard. The project site is not located on a hazardous material site.

Prior to conducting the vegetation management/tule removal and sediment dredging operations, sampling of the planned dredge areas will be conducted to assess the pollutant levels in the sediment. The intent is to take enough samples to get a consistent material

make up and cross section of any potential pollutants. For example, in previous years, six to eight samples were taken, to a depth of about 4,' along a transect of the planned dredge area. The samples were then sent to a certified laboratory for analyses. In the past sample analyses included the following testing parameters which will also likely be done for this project:

- CAM 17 metals; Pesticides 8081; THP diesel; Motor oil, & THP gas
- 

Additional sampling of the actual dredged sediment will most likely be conducted as well because this is a typical requirement of disposal sites prior to granting permission to dispose of the sediment (for example, at the Marina landfill).

## 9. HYDROLOGY AND WATER QUALITY.

**(a) Violate Water Quality Standards.** Outflows from Neary Lagoon are discharged via an existing outfall at Cowell Beach during winter months, and divert to the City's wastewater treatment plant during the summer and fall. The rate of outflow from Neary Lagoon is dependent upon several different engineered pipe and pump systems, as well as conditions of the outfall structure at Cowell Beach, and the height of the tide and storm swells during the rainy season. The engineered pipe system includes the following components:

- One 66-inch reinforced concrete gravity flow main which conveys water to and discharges at Cowell Beach;
- One 66-inch low-pressure force main operated by a pump station with a pumping capacity of 150 cfs (provided by two 120 hp pumps) which also discharges at Cowell Beach and parallels the gravity main; and
- One 12-inch gravity flow line, which conveys water to the Wastewater Treatment Facility (WWTF) where it is treated and released to the Pacific Ocean west of Point Santa Cruz (SOURCE V.8).

The 66-inch force main and outfall structure at Cowell Beach were constructed in 1992 to address flooding risks. The force main system was sized to provide a scouring mechanism at the outfall when it becomes buried or blocked with sand – during these times the Lagoon does not drain adequately and flooding risk to residents of the Cypress Point/Shelter Lagoon Apartments increases. The City Public Works Department operates the force-main on an as needed basis for flood control. Discharge at Cowell Beach is regulated by provisions issued by Central Coast Regional Water Quality Control Board (RWQCB) under a NPDES

discharge permit (City Municipal Storm Water Phase II General Permit). The City reports all discharges at Cowell Beach to the RWQCB on an annual basis (SOURCE V.8).

At the start of the rainy season (typically November 1– March 31), the City ceases its diversion of lagoon water to the wastewater treatment plant and opens the gravity flow line which allows water to exit the lagoon at Cowell Beach. During the rainy season, lagoon water levels are also controlled by manual operation of the force main and flood control pumps when necessary for flood control. Sometimes during the rainy season, winter storms cause the gravity flow pipeline opening to be blocked by sand which can contribute to high water levels in the lagoon particularly during periods of rainfall. Operation of the force main also clears the opening of the gravity flow line if it is blocked as mentioned above and thus allows water to exit the lagoon via gravity flow (SOURCE V.8).

During the dry season (typically April 1–October 31), the gravity flow main and force main are closed and the lagoon is drained via the 12-inch gravity flow line to the wastewater treatment plant for treatment prior to discharge to the Pacific Ocean. Occasionally, flow is also diverted to the treatment plant during periods of dry weather within the rainy season so that lagoon water levels may be dropped for flood protection and so that the water may be treated rather than being discharged untreated at Cowell Beach (SOURCE V.8).

***Impact Analysis.*** The proposed project that is evaluated in this Initial Study consists of vegetation management/tule removal and site-specific dredging of 2,000 cubic yards of sediment. Due to the practice of treating Neary Lagoon summer low flows at the wastewater treatment plant, it is not anticipated that the dredging project would potentially result in a violation of water quality standards.

**(c-e) Alteration of Drainage Patterns or Increased Runoff.** Neary Lagoon is a freshwater marsh/wetland that drains into Monterey Bay (near the Wharf) via a pump system operated by the City Public Works Department. It is one of the lowest points in the City, and receives runoff from a significant portion of the City's land area. It is likely the location of a former course of the San Lorenzo River as it meandered across its lower floodplain over the last 10,000 years.

The main tributary to Neary Lagoon is the Laurel Creek drainage area, but the lagoon also receives runoff from smaller drainages, such as Bay Creek, and storm drains. A group of springs, emanating from the High Street area on the west side of the City provides a year-



round base flow to the many tributaries of Laurel Creek. Its watershed likely drains a portion of UCSC as well, although this is uncertain because the campus is underlain by numerous limestone caves, caverns and passageways. Thus, most of the surface drainage goes underground in places and comes back out in other places, making the pathways of underground connections difficult to determine. The Neary Lagoon watershed also drains much of the Westlake area, the Mission and King Street corridor, and the California Street area. The watershed's eastern boundary is the same as the western boundary of the San Lorenzo River watershed described previously. The watershed's western boundary roughly parallels the western edge of the UCSC campus and upper Bay Street (to the west), roughly following Bay Street from California Street to the Dream Inn Hotel (SOURCE V.3).

The Neary Lagoon watershed is highly urbanized within the City with a drainage area of 1.27 square miles. The watershed can be broken into three sub-watersheds: the Bay Creek, Laurel Creek and Chestnut sub-basins. Laurel Creek is the largest of the three sub-basins. Laurel Creek discharges to the northwest corner of Neary Lagoon at the Cypress Point/Shelter Cove Apartments. Bay Creek discharges to the southwest corner of Neary Lagoon below the upper Park parking lot. Chestnut discharges to Neary Lagoon via a 66-inch storm drain which is located downstream of the lagoon's concrete weir and just upstream of the railway crossing (SOURCE V.8).

From the upper lagoon area, the lagoon is drained by two main vegetation-lined channels, which converge to a single channel at the concrete footbridge crossing. Downstream of the concrete bridge, Neary Lagoon is confined to a single channel that flows over a concrete weir and then passes through two 72-inch culverts under the Southern Pacific Rail Road grade. Beyond the confines of the preserve, the lagoon drains via a pump station to Cowell Beach next to the Municipal Wharf, approximately 0.25 miles downstream of the concrete weir. The pump station features one 66-inch reinforced concrete gravity flow main and one 66-inch low-pressure force main operated by a pump station with pumping capacity of 150 cfs (provided by two 120 hp pumps. Pump station operations are done on an as-needed basis for flood control during winter months with discharge at Cowell Beach (SOURCE V.8). As previously indicated, during summer and fall months, water from the lagoon is conveyed to the City's wastewater treatment plant for treatment and disposal.

**Impact Analysis.** The proposed project does not include actions that divert water or change existing drainage patterns. None of the project elements would result in increased

development or impervious surfaces. Thus, the project would have no impact upon existing drainage systems.

**(f) Water Quality.** Neary Lagoon has been found to be high in nutrients, a condition that favors algal growth. Algal growth caused by excess nutrients depletes dissolved oxygen, which lowers water quality and reduces habitat value for many fish and other aquatic organisms (SOURCE V.2). Nitrogen and phosphorus are the main elements controlling the growth of algae in impoundments such as Neary Lagoon. Historically, Neary Lagoon has had relatively low nitrogen levels and high phosphorus levels (as orthophosphate) (Ibid.). Except for high levels of orthophosphates, when the Neary Lagoon Management Plan was prepared in the early 1990s, Neary Lagoon water quality was found to be fair to good as indicated by measurements of electrical conductivity, dissolved oxygen, hardness and suspended solids. Sediment metal concentrations were below hazardous levels, but chromium, lead and zinc concentrations were elevated compared to values expected in natural settings, probably caused by historic discharges of urban runoff to the lagoon and reduced flushing flows during drought periods (Ibid.).

Water quality sampling was conducted as part of the preparation of the 2006 Sedimentation Management Plan. The sampling found similar results for water temperature, electrical conductivity, pH, and dissolved metal constituents as reported in 1991. The pH values were within the ranges recommended by the RWQCB Basin Plan. Dissolved oxygen (DO), however, was found to exceed recommended ranges, although past DO concentrations were higher in 1991 sampling. Results of the recent sampling also suggest that Neary Lagoon may now (at least at times) be phosphorus limited (SOURCE V.8).

The recent water quality testing concluded that lagoon DO concentrations generally decrease from upper lagoon to lower lagoon with a marked change down-lagoon from the floating walkway (SOURCE V.8). The SMP concluded that summertime Lagoon dissolved oxygen concentrations down-lagoon of the floating walkway may be detrimental to certain aquatic species as measured values were below the lower tolerance limit (5.0 mg/L) outlined in the Regional Water Quality Control Board Basin Plan. The spatial variability of dissolved oxygen concentration is likely impacted, to some degree, by lagoon circulation patterns and dynamics. It is also likely that biomass decay on the floor impacts the concentration pattern (SOURCE V.8).

**Impact Analysis.** The proposed project evaluated in this Initial Study consists of vegetation management/tule removal and dredging of 2,000 cubic yards of sediment. The proposed dredging and desilting could adversely affect water quality within Neary Lagoon, as well as that discharged to Cowell Beach, due to improper or inadequate controls during the operations. Typically, the gravity flow main and force main are closed during the dry season (typically April 1–October 31), and the Lagoon is drained by a 12-inch gravity flow line to the WWTF. This enables the city to treat water prior to discharge to the Pacific Ocean. Occasionally, flow is also diverted to the WWTF during periods of dry weather within the rainy season so that Lagoon water levels may be dropped for flood protection and to reduce untreated discharges at Cowell Beach (S. Wolfman and C. Cave, Pers. communication).

Disturbance of bottom sediments will cause localized turbidity and/or release of nutrients and metals that may be contained in the sediments. Improperly managed vegetation management/tule removal, dredging, de-watering and disposal, can cause the discharge of suspended solids and nutrients to surface waters. This, can have an indirect adverse impact upon aquatic species. However, the vegetation management/tule removal and dredging project has identified Best Management Practices (BMPs) to prevent and minimize water quality impacts due to dredge. Implementation of these BMPs (see Attachment A) would result in a less-than-significant impact related to water quality.

**RECOMMENDED CONDITION:** Implement the project dredging “Best Management Practices” (BMPs), include the following:

- Control site runoff to prevent erosion and control sedimentation during operations. Silt-fencing or berms shall be installed around dredge spoil dewatering areas. No erosion control blankets or other material that use nylon netting shall be used.
- A floating silt boom shall be installed downstream of the excavation area and transport routes to the dewatering area.
- Pump station operations shall be ceased during vegetation management/tule removal and sediment removal operations to prevent outflow from Neary Lagoon to Cowell Beach.
- All turbid discharges from Neary Lagoon during the sediment removal operations shall be routed through the wastewater treatment plant for treatment prior to discharge to the ocean via the existing wastewater outfall structure.
- Equipment and materials shall be located in designated staging areas.
- Fueling, cleaning, or maintenance of equipment shall be prohibited except in designated

areas. As a precaution, require contractor to maintain adequate materials onsite for containment and clean-up of any spills.

**(h) Flood Hazards.** According to the City's General Plan (Map S-7), the project site is located within a 100-year floodplain. The U.S. Army Corps of Engineers recently completed flood control improvements along the San Lorenzo River that consisted of raising the existing levees. The proposed project elements would not place structures in the floodplain.

**(i-j) Dam Failure/Tsunami Inundation.** According to General Plan maps (Map S-8 and S-9), the project site is located within a tsunami area and a potential dam failure inundation area, as is most of the downtown and beach areas of Santa Cruz. The proposed project would not result in new development or increased exposure. The National Oceanic and Atmospheric Administration operates a tsunami warning system, giving several hours notice to allow evacuation of threatened areas to prevent injuries. None of the project components would result in construction of habitable structures or increase exposure to inundation from dam failure or tsunamis.

#### 10. LAND USE AND PLANNING.

The proposed project is located within an area that is designated Natural Area in the City's General Plan/Local Coastal Program. Neary Lagoon is identified as a "natural area" in the City's General Plan (Map L-6). Review of project consistency with relevant plans is provided below.

**Neary Lagoon Management Plan.** The proposed project is consistent with the objectives and management objectives identified in the Neary Lagoon Management Plan (NLMP). The Plan indicates that vegetation management/tule removal and dredging may be considered if water quality and flooding conditions deteriorate. Water Quality Action WQ1.1 seeks to maintain water quality, in part, by removing debris, accumulated sediment and other obstructions. Objective WQ-2 seeks to improve water circulation within the lagoon, and Action WQ-2.1 supports deepening or widening existing narrow channels to help increase DO levels, decrease turbidity, maintain channel capacity and allow winter flows to flush the channels.

**Neary Lagoon Sedimentation Management Plan.** Review of the desilting plans by Balance Hydrologics indicates that the proposed action is consistent with the adaptive management

recommendations in the SMP. (SOURCE V.7). In general, the proposed vegetation management/tule removal and dredge project will involve deepening many areas to 4 feet or greater, which is the target depth for reduced tule/cattail encroachment, however in some areas (such as the upper end of the lagoon by the Laurel Creek outlet) the dredging depths may be less.

City-wide Creeks and Wetlands Management Plan. The City-wide Creeks and Wetlands Management Plan (2006) was adopted by the City Council in February 2006 to provide a comprehensive approach to managing all creeks and wetlands within the City. The long-term goals of the Management Plan are to reduce and/or eliminate pollutants discharged to aquatic bodies; improve water quality; improve and restore natural habitat; increase biodiversity; lower water temperatures; and increase public awareness of the value of watershed quality. The Plan indicates that Neary Lagoon is an important natural area within the City's urban setting, and provides important habitat for wildlife, but that the lagoon has been encroached upon by residential development, industrial land uses (i.e., wastewater treatment plant), the introduction of invasive, non-native plant and animal species, the receipt of urban runoff and increased public use (SOURCE V.3).

The Creeks and Wetlands Plan notes that the Neary Lagoon Management Plan (NLMP) was prepared as both a guide and directive for managing the 44-acre lagoon area to ensure its long-term viability as an ecosystem and its value as a unique resource for the community. Goals, objectives and actions described in the NLMP are designed with the purpose of preserving and enhancing the lagoon's environmental integrity and quality while satisfying other purposes for public recreation and safety. The Neary Lagoon Management Plan guides all aspects of operation, maintenance, protection, improvement and monitoring consistent with these purposes. Therefore in accordance with provisions of the Creeks Plan and since Neary Lagoon has an adopted management plan, the proposed project is not subject to conditions in Citywide Creeks and Wetlands Management Plan, but is subject to the provisions of the NLMP (SOURCE V.3).

## 12. NOISE.

The proposed project will not result in new development or generation of a permanent noise source. The project will result in short-term, temporary increases in noise levels due to sediment removal. However, this will result in intermittent increased levels of varying levels throughout the day for a short duration (approximately 60 days). The temporary

noise increases would not be substantial given the limited duration of dredging, the limited amount of equipment, and the distance from the work sites and nearby residents (over 100 feet).

#### 13. POPULATION AND HOUSING.

The proposed project evaluated in this Initial Study consists of vegetation management/tule removal and dredging of up to 2,000 cubic yards of sediment. The project would not result in new habitable development, population growth.

#### 14. PUBLIC SERVICES.

The proposed project evaluated in this Initial Study consists of vegetation management/tule removal and dredging of up to 2,000 cubic yards of sediment. The project would not result in new habitable development, population growth, or an increased demand for public services.

#### 15. RECREATION.

The proposed project evaluated in this Initial Study consists of vegetation management/tule removal and dredging of up to 2,000 cubic yards of sediment. The project would not result in new habitable development, population growth or demand for recreational services

#### 16. TRANSPORTATION/TRAFFIC.

The proposed project evaluated in this Initial Study consists of vegetation management/tule removal and dredging of up to 2,000 cubic yards of sediment. The project would not result in new habitable development, population growth or increased traffic.

The offsite transport of dredged sediment consists of up to 2,000 cubic yards (cy). Truck access to/from the site will be limited to 10-wheelers, or standard three axle dump trucks, as it is assumed that the material will be semi-wet when removed. Using generally accepted production rates, the dredged sediments would be loaded and removed in 45-60 total days. This figure is based on loading four trucks, for an 8 hour period with a 5.5 to 7.5 cy load and a one hour or less cycle time. This would result in a total of 90-153 truckloads during the work week (Monday through Friday operation). If the dredged sediment is sufficiently dry

for immediate trucking to the disposal site, then the trucking route would be the same as it has been for tule removal, using the large wood gates, “King Kong” doors, for transport through the WWTF to California St., and then to Highway 1 for the haul route (SOURCE V.5). If the dredged sediment is considered to be too “wet” for immediate disposal, then the material will be trucked to a temporary dewatering site through the WWTF via the large wood gates and on to California Street. The preferred dewatering location is the nearby railroad “wye” property owned by Santa Cruz County Regional Transportation Commission (SCCRTC). After dewatering, the material will then be transferred by trucks, likely via Highway 1, to the selected disposal site.

#### 17. UTILITIES AND SERVICE SYSTEMS.

The project would not result in new habitable development, population growth or an increased demand for public services.

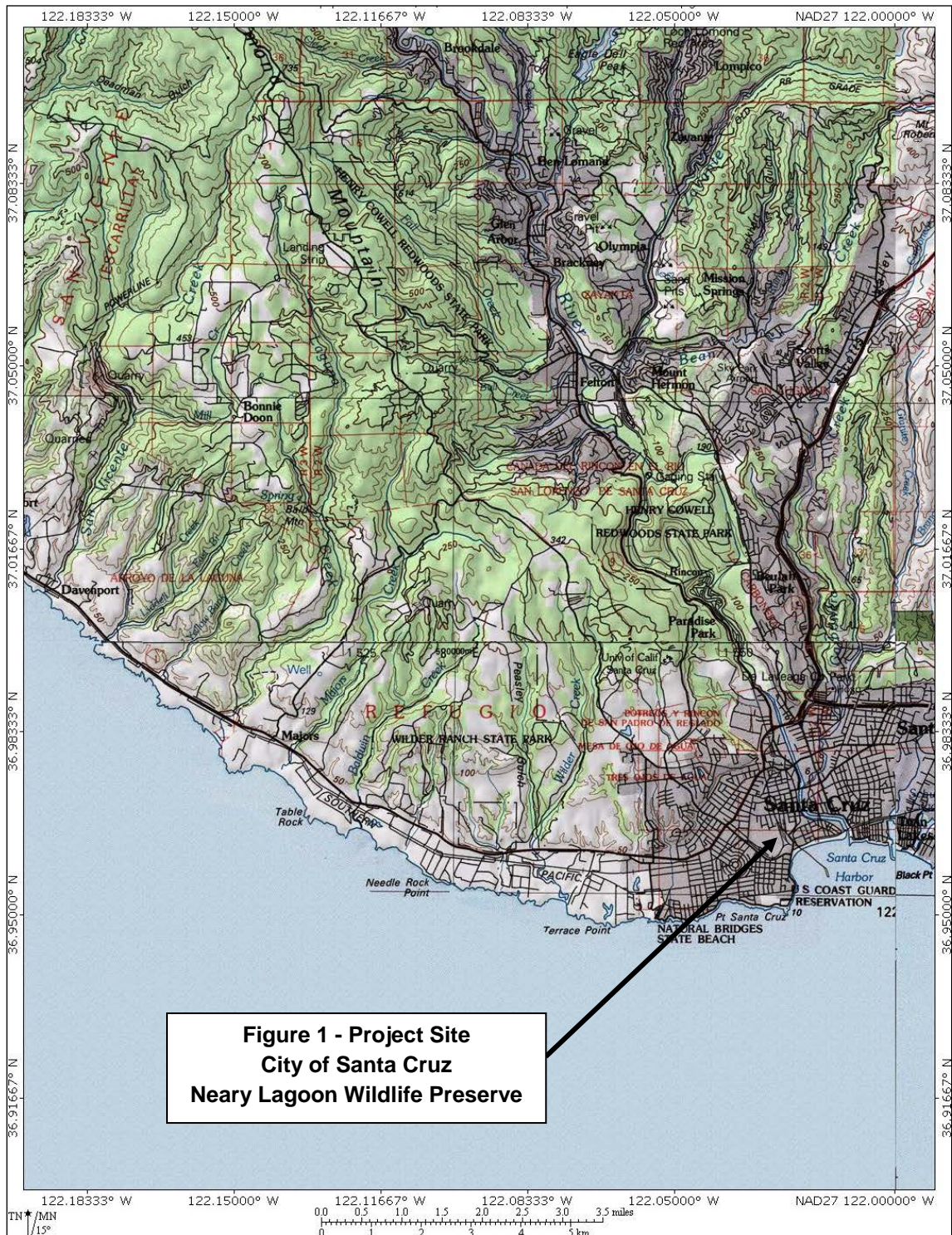
#### 18. MANDATORY FINDINGS OF SIGNIFICANCE

**(a) Degradation of the Environment.** Project operations would not degrade the quality of the environment. Potential significant impacts to biological resources during project operations can be mitigated to a less-than-significant level, and the project would not reduce habitat, cause a fish or wildlife population to drop below self-sustaining levels, eliminate a plant or animal community, or reduce the number or restrict the range of rare or endangered species. The proposed project would have no effects on historical or cultural resources.

**(b) Cumulative Effects.** There are no cumulative impacts to which the project is known to contribute.

**(c) Substantial Adverse Effects on Human Beings.** No environmental effects have been identified that would have direct or indirect adverse effects on human beings.



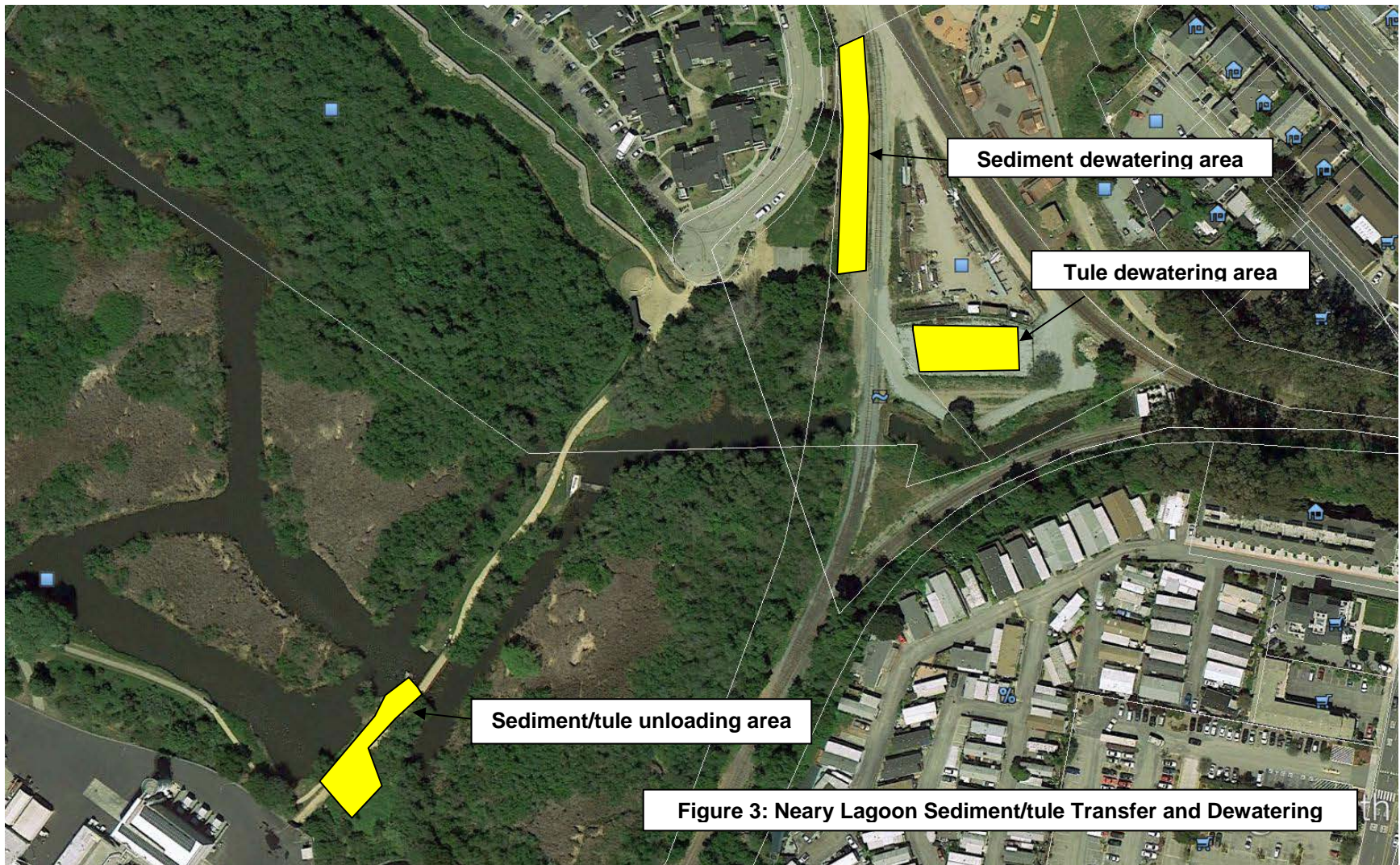




## Figures









## Appendix A: Photos of the Site and Aquamog Operations



LEFT: Aquamog with clamshell and weed harvester in operation during tule removal.  
RIGHT: Aquamog in upper lagoon.



LEFT: Off-loading location between concrete bridge and wastewater treatment plant.  
RIGHT: Vegetation unloading.



LEFT: Off-loading dredge sediments directly to sealed truck.  
RIGHT: Channel survey markers define sediment removal area.