

Item 8b - Exhibit 4
Mitigated Negative Declaration



**NEWPORT BAY WATER WHEEL
PROJECT**

Final Initial Study / Mitigated Negative
Declaration

September 12, 2018

Prepared for:

City of Newport Beach
Public Works Department
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Newport Beach, California 92658

Prepared by:

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Abbreviations

AADT	annual average daily traffic
AB	Assembly Bill
ADT	average daily traffic
AQMP	Air Quality Management Plan
ASBS	Areas of Special Biological Significance
BMPs	Best Management Practices
BP	Before Present
BSA	Biological Survey Area
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CCC	California Coastal Commission
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CGS	California Geological Survey
CH ₄	methane
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
CRPR	California Rare Plant Rank
CWC	California Water Code
DAMP	Drainage Area Management Plan
Db	decibel
dBA	A-weighted sound level
DNL	Day/Night Average Sound Level
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
EO	Executive Order
EOP	Emergency Operations Plan
ESA	Environmental Study Area
ESHA	environmentally sensitive habitat area



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FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
GHG	Greenhouse gases
HCP	Habitat Conservation Plan
HD	High Definition
HFC	hydrofluorocarbons
I	Interstate
IPCC	Intergovernmental Panel on Climate Change
IS/MND	Initial Study/Mitigated Negative Declaration
JWA	John Wayne Airport
LCP	Local Coastal Program
Leq	energy-equivalent sound/noise
LOS	Level of Service
LST	localized significance thresholds
MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendent
MMT	million metric tons
MPO	metropolitan planning organizations
MRZ	Mineral Resource Zones
MT	metric tons
N2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NBC	Newport Bay Conservancy
NBFD	Newport Beach Fire Department
NBPD	Newport Beach Police Department
NCCP	Natural Community Conservation Plan
NMUSD	Newport-Mesa Unified School District
NO2	nitrogen dioxide
NOX	Nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
O3	ozone
OCWR	Orange County Waste and Recycling
OPC	Ocean Protection Council
OS	Open Space
OSHA	Occupational Safety and Health Administration
Pb	lead
PM10	particulate matter with an aerodynamic diameter of less than 10 microns
PM2.5	particulate matter with an aerodynamic diameter of less than 2.5 microns
PPM	parts per million
RHNA	Regional Housing Needs Assessment
RWQCB	Regional Water Quality Control Board



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SAMP	Special Area Management Plan
SARWQCB	Santa Ana Regional Water Quality Control Board
SB	Senate Bill
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SO ₂	sulfur dioxide
SR	State Route
SRA	Source Receptor Area
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TCR	Transportation Concept Reports
TPD	tons per day
TMDL	Total Maximum Daily Load
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
VOC	volatile organic compounds
WQMP	Water Quality Management Plan



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INTRODUCTION

1.0 INTRODUCTION

Each year, pollution in the form of trash, debris, and contaminants enters the Upper Newport Bay, part of the Upper Newport Bay Ecological Reserve, a marine protected area located in Newport Beach, California. In previous years, the amount of physical waste entering Upper Newport Bay has measured in hundreds of tons. The proposed Newport Bay Water Wheel Project (Project) will remove significant quantities of trash and debris that are currently entering Upper Newport Bay via San Diego Creek, and in doing so, will improve water quality and protect marine animals from the physical and chemical hazards associated with trash.

1.1 BACKGROUND HISTORY AND INFORMATION

The City of Newport Beach (also referred to as the City here within) has systematically implemented projects to reduce trash entering the Upper Newport Bay, Newport Harbor, and along the beaches on Balboa Peninsula and along Corona del Mar and Newport Coast since 2002. Currently, the City has the capacity, as well as strong community support, to successfully implement the Project. The Project is being planned in coordination with California Department of Fish and Wildlife (CDFW) and the Newport Bay Conservancy (NBC) who have reviewed and concurred with the proposed site location. The design and anticipated effectiveness of the Project is based on the successful Baltimore Trash Wheel, aka Mr. Trash Wheel (www.baltimorewaterfront.com).

1.2 PROJECT PURPOSE, OBJECTIVES, AND BENEFITS

With this Project and the cleanup that it will provide, the aesthetics of several beaches will also be improved. Removing waste before it enters Upper Newport Bay reduces the threat of trash entangling in marine vegetation on the banks and posing a threat to marine life living in Newport Bay. It also prevents further transport of trash and debris into Newport Harbor and ultimately into the ocean where it accumulates along the coastline and in the sensitive Areas of Special Biological Significance (ASBS) (as designated by the State Water Resources Control Board) along Newport Coast. The Water Wheel would minimize the need to clean up the trash that involves a degree of trampling of native vegetation by volunteer trash collectors. Additionally, the Water Wheel is separate, but supportive of other restoration efforts for Upper Bay which include:

Big Canyon Water Quality and Restoration Project Phase I, completed in 2017. The Big Canyon Habitat Restoration and Water Quality Improvement Project is located in Big Canyon immediately west of Jamboree Road, on a six-acre site in the eastern portion of the 60-acre Big Canyon Nature Park. The Big Canyon Restoration Project will:

- Restore historic riparian habitat by removing non-native vegetation and replace it with native plantings;
- Stabilize the creek and floodplain;
- Improve water quality in Big Canyon Creek and the Newport Bay; and
- Enhance public access within the Big Canyon Nature Park.



NEWPORT BAY WATER WHEEL PROJECT, FINAL INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

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This project is part of extensive planning efforts by the City, in partnership with resource agencies, environmental non-profits, and the community, to improve water quality in Big Canyon including preparation of the 2011 Big Canyon BMP Strategic Plan (revised 2015). In addition, the restoration activities are integrated with larger restoration efforts planned for the Newport Bay (Central Orange County Integrated and Coastal Water Management Plan, 2009).

This project constructs a low-flow diversion and stormwater bioretention treatment wetland to significantly improve water quality in the Big Canyon Wash. The six-acre project will also remove all invasive plant species and restore the watershed with a native plant palette.

Big Canyon Water Quality and Restoration Project Phase II, initiated January 2018. In Phase IIA, the Newport Bay Conservancy will work in collaboration with the City of Newport Beach and the CDFW (property owners) to arrange to remove part of the peppertree forest and replace it with native riparian vegetation. This phase also includes a Feasibility Study to replace the remainder of the peppertree forest and (Phase IIB) to develop the least impactful and most cost-effective approach to restoring or removing the freshwater pond in the lower portion of Big Canyon. The pond is the largest mosquito breeding habitat area in Orange County, and sediments and aquatic vegetation in the pond are contaminated with selenium originating from the upper portion of the watershed. Phase IIC will be the planning phase for restoration of the low-lying area of CDFW property. Several plans have been drawn up for the restoration of Big Canyon, but none has previously been implemented. Phase 1 has been funded and is being managed by the City of Newport Beach in the upper part of the canyon. It includes creek and riparian habitat restoration, the construction of a stormwater treatment bioretention cell and wetlands, as well as dry-weather flow diversions, culvert improvements, and trail planning.

Newport Harbor Underwater Clean-up, 2017. The Newport Harbor Underwater Cleanup is a foundation works with several sponsors and partners to Help Your Harbor by requesting help from registered SCUBA divers and land-based volunteers to help clean-up and preserve Newport's harbor.

Olympia Oyster Habitat Restoration, 2017. Some oyster restoration projects are already underway in Southern California. In Newport Bay, Orange County Coastkeeper has placed biodegradable sacks of old oyster shells along the shore to help Olympia oyster larvae settle and grow. Coastkeeper teams are also planting eelgrass adjacent to the fledgling oyster beds to help retain soil and improve water quality. One of the main discussions at the shellfish forum was how scientists and restoration partners can learn from projects like these to make the most of restoration opportunities in Southern California.

Bayview Heights Erosion Control Project, Spring 2018. The Bayview Heights Erosion Control Project restores a drainage reach subject to erosion and creates a wetland at the end of the reach to benefit environmental water quality in the Back Bay. These projects come out of the 2009 Central Orange County Integrated Regional and Coastal Watershed Management Plan.

The objective of the Water Wheel is to reduce the amount of solid waste and associated pollutants carried from San Diego Creek into Upper Newport Bay. The Project will help to protect Newport Bay and restore coastal resources as well as increase environmental awareness and provide education. Additional benefits of the Project include:

- Improved water quality and increased pollutant removal;
- Improved habitats, watersheds, and ecological health;



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- Improved wildlife by removing significant quantities of trash and debris; and
- Collection of data to improve studies of waste.

1.2.1 OPC Proposition 1 (Water Quality, Supply, and Infrastructure Improvement Action of 2014) Grant Program

The Ocean Protection Council (OPC) was created by law in 2004 via the California Ocean Protection Act. The mission of the OPC is to ensure that California maintains healthy, resilient, and productive ocean and coastal ecosystems for the benefit of current and future generations. Along the entire California coast, the OPC works with state, federal, tribal, and local entities to further the Council's goal of protecting, conserving, and maintaining California's healthy coastal and ocean ecosystems and the economies they support. The role of the OPC is to recommend policy, lead and promote coordination, seek, and leverage funding, inform government decision-making with the best available science, and to operate with transparency and accountability.

The Water Quality, Supply, and Infrastructure Improvement Act of 2014 (Prop 1) was approved by voters in November 2014 (California Water Code (CWC) Division 26.7). Funding from Prop 1 is intended to fund projects that meet the goals of the state Water Action Plan to provide more reliable water supplies, restore important species and habitat, and develop a more resilient and sustainably managed water system – including water supply, water quality, flood protection, and watershed protection - that can better withstand inevitable pressures in the coming decades.

In Prop 1, Chapter 6: "Protecting Rivers, Lakes, Streams, Coastal Waters, and Watersheds," allocates \$30 million to the OPC for a competitive grant program for multi-benefit ecosystem and watershed protection and restoration projects in accordance with statewide priorities, CWC §79730 and §79731(d). Chapter 6 of Prop 1 sets forth 13 specific purposes of the allocation of funds to the OPC ("Chapter 6 purposes"), CWC §79732(a). All Prop 1 grants funded by the OPC must achieve at least one of these Chapter 6 purposes.

There are multiple requirements for the OPC Proposition 1 Grant Program; several of which are of environmental advantage to the Project. This Project meets four of the 13 Purposes:

- Purpose 1:** The Project will protect and increase the economic benefits arising from healthy estuary. Newport Bay is, in part, a destination for visitors coming to visit one of the largest estuaries in Southern California and home to thousands of native and migratory birds, some of which are endangered (e.g., snowy plover, coastal sage gnat catcher, Bell's vireo).
- Purpose 4:** The Project protects and helps to restore the sensitive Marine Protection Area in Upper Bay.
- Purpose 10:** The Project will protect Newport Bay and restore coastal resources along the Balboa Peninsula and Newport Coast.
- Purpose 11:** The Project will significantly reduce trash, and associated pollutants, from entering Newport Bay that pose a physical and chemical hazard to sensitive marine flora and fauna and protect natural system functions that contribute to good water quality.



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1.3 LEAD AGENCY AND PUBLIC ENVIRONMENTAL REVIEW

In accordance with the California Environmental Quality Act (CEQA) (Public Resources Code Sections 21000-21177) and pursuant to Section 15063 of Title 14 of the California Code of Regulations (CCR), the City of Newport Beach, the Lead Agency for this Project, is required to undertake the preparation of an Initial Study to determine if the Project would have a significant environmental impact.

If the Lead Agency finds that there is no evidence that the project, either as proposed or as modified to include the mitigation measures identified in the Initial Study, may cause a significant effect on the environment, the Lead Agency must find that the project would not have a significant effect on the environment and must prepare a Negative Declaration (or Mitigated Negative Declaration) for that project. Such determination can be made only if “there is no substantial evidence in light of the whole record before the Lead Agency” that such impacts may occur (Section 21080(c), Public Resources Code).

The environmental documentation is intended as an informational document undertaken to provide an environmental basis for subsequent discretionary actions upon the project. The resulting documentation is not, however, a policy document and its approval and/or certification neither presupposes nor mandates any actions on the part of those agencies from whom permits, and other discretionary approvals would be required. In accordance with the CEQA Guidelines, an Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared for the proposed Project.

The IS/MND was made available for public review and comment pursuant to CEQA Guidelines Section 15105. The public review commenced on August 3, 2018 and expired on September 2, 2018. The IS/MND and supporting attachments were available for review by the general public at:

- Newport Beach Planning Division, 100 Civic Center Drive P.O. Box 1768, Newport Beach CA, 92658-8915;
- Newport Beach Public Library: Central Library, 1000 Avocado Avenue, Newport Beach CA, 92660;
- Mariner's Branch Library, 1300 Irvine Avenue, Newport Beach CA, 92660;
- Balboa Branch Library, 100 Balboa Boulevard, Newport Beach CA 92661; and
- the City's website at: <https://www.newportbeachca.gov/ceqa>.

The Notice of Intent to adopt the IS/MND that the City noticed in accordance with the CEQA Guidelines also identified that the City Council is tentatively scheduled to consider this item at a regular meeting to be held on September 25th, 2018, at 7:00 p.m., at the City of Newport Beach Civic Center Council Chambers, 100 Civic Center Drive P.O. Box 1768 Newport Beach, CA 92658-8915.

1.4 RESPONSE TO COMMENTS

During the public review period, comments were received on the Draft IS/MND from public agencies and private parties. The following is a list of the persons, firms, or agencies that submitted comments on the IS/MND during the public review period:

- A. Peter J. Bryant, President, Newport Bay Conservancy, letter dated August 20, 2018.



NEWPORT BAY WATER WHEEL PROJECT, FINAL INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

INTRODUCTION

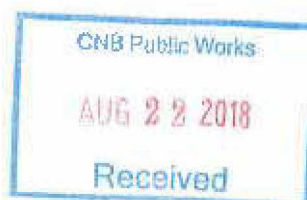
- B. Gail K. Sevrems, Environmental Program Manager, South Coast Region, California Department of Fish and Wildlife, letter dated August 30, 2018.
- C. Dean S. Kirk, Vice President Environmental Affairs, Irvine Company, letter dated August 31, 2018.
- D. Scott Shelley, Brach Chief, District 12, California Department of Transportation, letter dated August 31, 2018.

Although the State CEQA Guidelines do not require a Lead Agency to prepare written responses to comments received on an IS/MND, the City has elected to prepare the following responses with the intent of conducting a comprehensive and meaningful evaluation of the proposed Project. Each comment letter is bracketed and coded, and correlates to the letter assigned to each comment as identified in the list above.



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Newport Bay



August 20, 2018

Board of Directors

Peter Bryant, President

Derrick Ankerstar

Josie Bennett

Kimberly Bick

Jim Brown

Randall English

Donna Flower

Taylor Sals

Ian Swift

Joana Tavares

Pamela Winkler

John Kappeler, Senior Engineer
Public Works Department
City of Newport Beach
100 Civic Center Drive P.O. Box 1768
Newport Beach, CA 92658-8915

Dear John:

Thank you for providing the proposed Mitigated Negative Declaration for the Newport Bay Water Wheel Project (PA2018-153). As you know, the Newport Bay Conservancy was not supportive of constructing this project within the Upper Newport Bay Ecological Preserve. However, the new proposal for constructing the project upstream of Jamboree Road, in San Diego Creek, is a much better solution and we are happy to provide our approval and support for this new design.

On behalf of the NBC Board of Directors and with best wishes

A handwritten signature in black ink, which appears to read "Peter J. Bryant".

Peter J. Bryant
President, Newport Bay Conservancy

Advisory Board

Buck Johns

Callizen Johns

Juan Wall

Ron Yeu

Protecting and Preserving the Upper Newport Bay Since 1968

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State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
South Coast Region
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San Diego, CA 92123
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EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director



August 30, 2018

Mr. John Kappeler
City of Newport Beach Public Works Department
P.O. Box 1768
Newport Beach, CA 92658
JKappeler@newportbeachca.gov

Subject: Comments on the Notice of Intent to Adopt a Mitigated Negative Declaration for the Newport Bay Water Wheel Project, Newport Beach, CA (SCH# 2018081013)

Dear Mr. Kappeler:

The California Department of Fish and Wildlife (Department) has reviewed the above-referenced Newport Bay Water Wheel Project draft Initial Study (IS)/Mitigated Negative Declaration (MND), dated August 3, 2018. The following statements and comments have been prepared pursuant to the Department's authority as Trustee Agency with jurisdiction over natural resources affected by the project (California Environmental Quality Act [CEQA], Guidelines §15386) and pursuant to our authority as a Responsible Agency under CEQA Guidelines section 15381 over those aspects of the proposed project that come under the purview of the California Endangered Species Act (CESA; Fish and Game Code § 2050 *et seq.*) and Fish and Game Code section 1600 *et seq.* The Department also administers the Natural Community Conservation Planning program (NCCP). The City of Newport Beach (City) is a Participating Jurisdiction and the County of Orange (County) is a Participating Landowner under the Central/Coastal Orange County NCCP/Habitat Conservation Plan (HCP). Additionally, the Department owns and manages the Upper Newport Bay Ecological Reserve, which is located immediately downstream from the proposed project.

The project proposes to install a floating water wheel in San Diego Creek immediately upstream from the confluence of San Diego Creek and Upper Newport Bay, between Jamboree Road Bridge and California State Route 73. This 40-foot long, 30-foot wide, 14-foot high floating water wheel will be attached to a conveyor belt and rake system via piles on the north shore of San Diego Creek. Trash will be removed from the water by forks on the wheel, which will be transported via a conveyor belt system into a dumpster. Booms will extend the entire width of the creek (approximately 150 feet) to collect trash. In order to create a service road and a staging area for the dumpster, permanent vegetation clearing will occur on County owned upland areas.

On April 27, 2018, Stantec Consulting Services, Inc. conducted one reconnaissance-level survey of the 4.52-acres Biological Study Area (BSA) for terrestrial and aquatic biological resources. During that survey, a foraging osprey (*Pandion haliaetus*) was detected; no state, federal, or other special-status wildlife species were observed. According to the draft MND, the BSA has the potential to support western pond turtle (*Actinemys marmorata*; a California and federal species of special concern [SCC]), yellow-breasted chat (*Icteria virens*; SSC), least Bell's vireo (*Vireo bellii pusillus*; CESA- and federal Endangered Species Act [ESA]-listed

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endangered), and western mastiff bat (*Eumops perotis*; SCC). Habitats supported by the BSA include quailbrush scrub (0.25 acre), fennel patches (0.13 acre), disturbed (0.12 acre), ice plant mats (0.09 acre), open water (0.07 acre), marsh jaumea mats (0.01 acre), and arroyo willow thicket (0.01 acre). The BSA has the potential to support salt marsh bird's beak (*Chloropyron maritimum* ssp. *maritimum*; CESA- and ESA-listed endangered; California Native Plant Society California Rare Plant Rank [CRPR] 1B.2). Other sensitive plant species that could potentially be supported by the BSA include southern tarplant (*Centromadia parryi* ssp. *australis*; ESA-listed endangered; CRPR 1B.1), Coulter's saltbush (*Atriplex coulteri*; CRPR 1B.2), many-stemmed dudleya (*Dudleya multicaulis*; CRPR 1B.2), San Bernardino aster (*Symphyotrichum defoliatum*; CRPR 1B.2), and Los Angeles sunflower (*Helianthus nuttallii* ssp. *parishii*; CRPR 1A).

Our primary concerns regarding the project include the City's obligations under the Central/Coastal NCCP/HCP, the draft IS/MND's lack of focused species-specific surveys, and the lack of discussion regarding the project's impacts on biological resources. We offer the following comments and recommendations to assist the City in avoiding or minimizing potential project impacts on biological resources.

1. The draft IS/MND incorrectly identifies the Orange County Transportation Authority (OCTA) M2 NCCP/HCP as the applicable conservation plan for the area. Instead, the Orange County Central/Coastal NCCP/HCP (Central/Coastal Plan) is the governing conservation plan since the project occurs on land owned by the County and is included as part of the Central/Coastal Plan Habitat Reserve. Although the OCTA M2 NCCP/HCP planning boundaries overlap the Central/Coastal Plan, the OCTA NCCP/HCP does not apply to this project as it was primarily created to address impacts resulting from 13 identified freeway improvement projects.

Under the Central Coastal NCCP/HCP, the project falls within the boundaries of the City, which is a Participating Jurisdiction, and the project is on land owned by the County, which is a Participating Landowner. As a Participating Landowner, the County is authorized to implement "Planned Activities," which include permitted uses within the Habitat Reserve as outlined in Section 5.3.3 of the NCCP/HCP Implementation Agreement.¹ The proposal to erect a trash collection boom across San Diego Creek and within the Habitat Reserve is consistent with the identified permitted uses of "adaptive management" and "habitat enhancement," given the trash removal will minimize downstream impacts from more invasive trash removal, and should better maintain habitat quality within the Reserve. We therefore recommend the final MND be amended to state that impacts to coastal sage scrub (CSS), Covered Habitats, and Identified Species from project activities and operation will be addressed by the Central/Coastal NCCP/HCP, including a debit of 0.24 acre of the County's CSS take allocation for the permanent loss of quailbrush scrub within the Habitat Reserve.

¹ Meade, R.J., Consulting Inc. (OC NCCP/HCP). 1996. County of Orange Central and Coastal Subregion Parts I and II: NCCP/HCP. Prepared for County of Orange Environmental Management Agency and United States Fish and Wildlife Service/California Department of Fish and Game, pp. 1-567.

2. The draft IS/MND does not provide support for its conclusion that Mitigation Measures BIO-1 through BIO-6 will reduce impacts to candidate, sensitive, or special-status species to less than significant by conducting preconstruction surveys for least Bell's vireo, western pond turtle, yellow-breasted chat, and sensitive plant species (page 3.16). A single reconnaissance-level survey cannot fully assess impacts to these species. Various plants, including sensitive species, are most reliably identified during each species' respective blooming period. It is atypical that a reconnaissance-level biological survey would be specific enough to detect the breadth of sensitive plant species, as surveys conducted outside the focal sensitive plant species' typical blooming period may not detect sensitive plant species presence. We recommend that the final MND's analysis rely on generally accepted survey protocols² to determine presence or support a negative finding of a given species.

Additionally, in compiling data for the environmental baseline, it is unclear how the City determined which special status species could potentially be supported by the BSA. Without a discussion of this analysis, the Department does not have sufficient data to determine whether or not impacts of the project on candidate, sensitive, or special status species is less than significant with the mitigation provided. While we agree that least Bell's vireo, western pond turtle, yellow-breasted chat, and sensitive plant species have the potential to occur within the BSA, we also have concerns that the project may impact coastal California gnatcatcher (gnatcatcher; *Poliophtila californica californica*), a target species under the Central/Coastal NCCP/HCP, an SSC, and an ESA-listed threatened species known to use nearby habitats.³ Potential impacts to gnatcatcher should be addressed in the final MND.

Absent focused surveys utilizing all applicable protocols and temporal considerations, conclusions concerning the significance of the project's impacts on special status species within the BSA is not substantiated in the IS/MND. The IS/MND should not rely on future surveys or speculation when determining whether a project will or will not have a significant effect on biological resources. A qualified biologist (e.g., expert opinion) should complete surveys of habitat and analyze potential impacts to biological resources before the significance of a project's impacts are concluded (Public Resources Code, Section 21082.2 (C)). Therefore, the Department recommends that the Biological Resources section of the final MND be made consistent with CEQA review guidance by incorporating the following elements:

² For protocols for surveying special status and rare species refer to CDFW's recommended, tested, and reviewed survey methods. <https://www.wildlife.ca.gov/conservation/survey-protocols>

³ K. Rice, CDFW, Electronic mail communication with W. Miller, USFWS, August 23, 2018.

- a. a discussion of sources for compiling the environmental baseline;
 - b. focused, species-specific surveys that allow for analysis of impacts to sensitive wildlife and plant species, including: least Bell's vireo, gnatcatcher, western pond turtle, and sensitive plant species;
 - c. a description of the survey methodology or protocol used for general plant and animal species, as well as sensitive or listed species. A discussion of the rationale for any variances from standard survey methodologies or protocols; and
 - d. a mitigation measure or measures that avoid or minimize impacts to gnatcatcher.
3. The final MND should include a mitigation measure avoiding and/or minimizing direct impacts to aquatic species, particularly western pond turtle, from ongoing operation of the water wheel. While the draft IS/MND discusses in detail potential indirect and direct impacts that may occur from construction activities, it does not discuss potential impacts resulting from ongoing operation (implementation). Specifically, the Department has concerns that western pond turtles may be directly adversely impacted (e.g., "collected" and deposited in a dumpster indiscriminate of the trash the project was designed to control) if they are within the vicinity of the proposed water wheel; this concern is exacerbated by the lack of focused species surveys to date and the resultant uncertainty as to their potential presence (see Comment 2 above). Because direct impacts from ongoing operation are potentially substantial and could alter wildlife patterns and behavior within the surrounding habitat, the final MND should include analysis and discussion of potential impacts of ongoing operation of the water wheel (CEQA Guidelines §15064(d)) in its Biological Resources section.
4. With regards to wetland and CESA incidental take permitting processes, the Central/Coastal NCCP/HCP does not address impacts to jurisdictional state and federal wetlands because these impacts are not "covered" by the Central/Coastal NCCP/HCP. Therefore, we concur with the draft IS/MND's assessment to address these impacts through individual state and federal wetland permitting processes; however, ratios for permanent and temporary impacts to sensitive plants and habitat as described in BIO-1 and BIO-7 may not be sufficient. While mitigation ratios to offset temporary and permanent impacts offered by the draft IS/MND may meet minimum requirements pursuant to the City's internal guidance, the Department will evaluate the adequacy of the mitigation proposal once the Department deems a project applicant's streambed alteration notification package complete. If additional take permits are necessary to offset impacts to endangered wildlife or plant species not covered by the Central/Coastal NCCP/HCP (e.g., least Bell's vireo or salt marsh bird's beak), the mitigation ratios as defined may not meet the "fully mitigated standard" required by Fish and Game Code section 2081 *et seq.* pursuant to CESA. Mitigation measure BIO-1 and BIO-7 should, therefore, in the final MND reflect that additional mitigation and/or higher mitigation ratios may be necessary in order for the City to fulfill its obligations under Fish and Game Code sections 1600 *et seq.* or/and section 2050 *et seq.* We recommend that mitigation proposals for wetland and riparian impacts occur on site or within the Coastal Subarea Reserve.

We appreciate the opportunity to comment on the MND for this project and to assist the City in further minimizing and mitigating project impacts to biological resources. The Department requests an opportunity to review and comment on any response that the City has to our comments and to receive notification of the forthcoming hearing date for the project (CEQA

Mr. John Kappeler
City of Newport Beach Public Works Department
August 30, 2018
Page 5 of 5

Guidelines; §15073(e)). If you have any questions or comments regarding this letter, please contact Environmental Scientist Jennifer Turner at (858) 467-2717 or via email at jennifer.turner@wildlife.ca.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Gail K. Sevens', with a stylized, flowing script.

Gail K. Sevens
Environmental Program Manager
South Coast Region

ec: Will Miller (U.S. Fish and Wildlife Service)
Scott Morgan (State Clearinghouse)

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August 31, 2018

City of Newport Beach
Public Works Department
100 Civic Center Drive
P.O. Box 1768
Newport Beach, CA 92658-8915

Attention: John Kappeler, Senior Engineer
jkappeler@newportbeachca.gov

RE: Newport Bay Water Wheel Project (PA2018-153)

Dear Mr. Kappeler,

We appreciate the opportunity to provide comments on the Mitigated Negative Declaration (MND) for the proposed Newport Bay Water Wheel project (Project) located along San Diego Creek between the Jamboree Road Bridge and State Route 73. As described in the MND, the Project entails installing and operating a floating “water wheel” trash removal system secured to pilings in San Diego Creek with landside improvements consisting of a new access road and disposal bin loading/unloading system.

Irvine Company’s commitment to environmental protection and conservation guides our actions in the watershed. We have been a partner with the City of Newport Beach, the Regional Board, the County, and other cities and NGOs within the Newport Bay watershed on many water quality initiatives, including the Trash Amendments adopted by the State Water Resources Control Board (Res. No. 2015-0019) and related implementation efforts by Newport Beach and other cities. We recognize that an ecologically healthy Bay is central to the economic health of the local area and to the appeal of the Bay as a destination for boating and recreation.

While we support the objectives of the Project, we have concerns that its implementation as currently proposed would result in impacts that are not fully considered or addressed in the MND, and we write to request that Newport Beach consider alternatives to the Project that would lessen those impacts.

The Company owns and operates Baypointe Apartment Homes, which are located directly across San Diego Creek from proposed site of the Project. The MND concludes that the Project will not result in any significant impacts, but some of these conclusions do not appear to be supported by any meaningful analysis. The Company is concerned about potential aesthetic impacts as well as the potential for noise and odor from operation of the water wheel (including dumpster servicing) and other nuisance vectors (*e.g.*, birds rats, and other pests) that are likely to result from the operation of a trash collection facility directly across from Baypointe Apartment Homes. We recommend that Newport Beach prepare the following studies to more fully assess potential impacts from the Project:

- a. Aesthetic analysis to determine how much of the water wheel will be visible from Baypointe Apartment Homes and from which portions of the apartment community;
- b. Noise studies that assess impacts at Baypointe Apartment Homes (from wheel and from periodic dumpster servicing); and
- c. Potential for odor or attracting birds/rats/etc. to the dumpster.

We are concerned that the system is designed to work in Baltimore Bay where rainfall occurs throughout the year and averages over 40 inches per year and snows 19 inches while Newport Beach rainfall averages 12 inches per year.

We recommend that the City consider alternative means to remove trash and debris from entering Newport Bay. IRWD operated a trash collection system for a number of years upstream of the proposed location of the Project, north of Campus Drive and adjacent to the Duck Club. Rather than investing in new infrastructure, the City should secure IRWD's information on the operational and maintenance effectiveness of their trash collection system and consider partnering with IRWD and other stakeholders to operate the existing collection system. This alternative will likely be less costly to construct, operate and maintain and avoid sensitive residential uses.

After conducting the studies and analysis described above, if the City decides to move forward with the Project, it should require effective mitigation measures that would lessen potential impacts, including screens to reduce visual impacts from the Baypointe Apartment Homes (*e.g.*, such as vegetation on the south bank of San Diego Creek) and scheduling truck removal of collected waste during times that would minimize noise impacts.

We commend the City for its commitment to keeping Newport Bay clean. We look forward to continuing to work with Newport Beach on its efforts to remove trash and

City of Newport Beach
Public Works Department
August 31, 2018
Page 3

debris and to improve water quality within the watershed. If you have any questions about our comments, please contact me at 949-720-2878 or dkirk@irvinecompany.com.

Sincerely,

A handwritten signature in black ink that reads "Dean S. Kirk". The signature is written in a cursive, flowing style.

Dean S. Kirk
Vice President
Environmental Affairs

cc: Dan Miller, Irvine Company
Susan Paulsen, Exponent
Keith Garner, Esq., Sheppard Mullin

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DEPARTMENT OF TRANSPORTATION**DISTRICT 12**

1750 EAST FOURTH STREET, SUITE 100

SANTA ANA, CA 92705

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www.dot.ca.gov*Making Conservation
a California Way of Life.*

August 31, 2018

John Kappeler
City of Newport Beach
100 Civic Center Drive
Newport Beach, CA 92660

File: IGR/CEQA
SCH#: 2018081013
12-ORA-2018-00940
SR 73, PM 24.602

Dear Mr. Kappeler,

Thank you for including the California Department of Transportation (Caltrans) in the review of the Draft Initial Study/Mitigated Negative Declaration for the Newport Bay Water Wheel project in the City of Newport Beach. The mission of Caltrans is to provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability.

The proposed project consists of a floating trash removal system (Water Wheel) within San Diego Creek. The Water Wheel would generate a portion of its own power from the flowing current of San Diego Creek which would be used to propel a conveyor belt to divert floating trash and place it into a disposal bin prior to the trash entering Newport Bay. The project site is located along San Diego Creek between the Jamboree Road bridge and State Route (SR) 73. Caltrans is a responsible agency on this project and upon review, we have the following comments:

Environmental

Caltrans Environmental Department supports the City of Newport Beach's efforts to reduce trash deposition within the Upper Newport Bay Nature Reserve, a sensitive wetland resource. Project impacts (regarding Biology and Cultural Resources sections in the Draft Initial Study) were properly addressed and proposed mitigation measures appear to be appropriate. This project is located within the Coastal zone, and as such will require either a coastal permit or an exemption.

The City of Newport Beach is a certified Local Coastal Program Provider. As such, the city's project should be in compliance with the California Coastal Act and the Local Coastal Program in order to issue the appropriate permit or exemption(s) necessary to proceed with the project.

Encroachment Permit

Please be advised that any project work proposed in the vicinity of the State Highway System (SHS) will require an Encroachment Permit and all environmental concerns must be adequately addressed. If the environmental documentation for the project does not meet Caltrans' requirements, additional documentation would be required before the approval of the Encroachment Permit. For specific details for Encroachment Permits procedure, please refer to the Caltrans' Encroachment Permits Manual. The latest edition of the Manual is available on the web site: <http://www.dot.ca.gov/hq/traffops/developserv/permits/>

Newport Bay Water Wheel
August 31, 2018
Page 2

Please continue to keep us informed of this project and any future developments which could potentially impact the SHS. If you have any questions, please do not hesitate to contact Joseph Jamoralin, at (657) 328-6276 or Joseph.Jamoralin@dot.ca.gov.

Sincerely,

Handwritten signature in blue ink that reads "Mark Reynolds for".

SCOTT SHELLEY
Branch Chief, Regional-IGR-Transit Planning
District 12

NEWPORT BAY WATER WHEEL PROJECT, FINAL INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

INTRODUCTION

A. Responses to Comment from Peter J. Bryant, President, Newport Bay Conservancy, letter dated August 20, 2018

- A1. The City concurs that more alternative sites were considered for the Project and that the proposed location is outside of the Upper Newport Bay Ecological Preserve. The City appreciates the Newport Bay Conservancy's support of the Project and its location.

B. Responses to Comment from Gail K. Sevrens, Environmental Program Manager, South Coast Region, California Department of Fish and Wildlife, letter dated August 30, 2018

- B1. CDFW notes that the Orange County Central/Coastal NCCP/HCP (Central/Coastal Plan) is the governing conservation plan since the Project occurs on land owned by the County of Orange and is included as part of the Central/Coastal Plan Habitat Reserve (Habitat Reserve). The Final IS/MND has been revised to reference the correct conservation plan.

CDFW states that the proposal to erect a trash collection boom across San Diego Creek and within the Habitat Reserve is consistent with the identified permitted uses of "adaptive management" and "habitat enhancement," given the trash removal will minimize downstream impacts from more invasive trash removal and should better maintain habitat quality within the Reserve. The City concurs with this assessment.

CDFW recommends the following:

The final MND be amended to state that impacts to coastal sage scrub (CSS), Covered Habitats, and Identified Species from project activities and operation will be addressed by the Central/Coastal NCCP/HCP, including a debit of 0.24 acre of the County's CSS take allocation for the permanent loss of quailbush scrub within the Habitat Reserve.

The City does not feel that the quailbush scrub occurring on the Project site meets the description of CSS as defined in the Central/Coastal NCCP/HCP which is based on Holland's (1986) vegetation classifications.

The species composition described under CSS in the Central/Coastal NCCP/HCP does not correlate to the habitat present on the Project site. The only species generally associated with CSS, as described in the Central/Coastal NCCP/HCP that occurs on the Project site is California sagebrush (*Artemisia californica*). This species however occurs infrequently, as individuals, on the site at approximately 7 – 8 locations and are all in the early stages of growth. These occurrences are within areas that may be inundated during high tide or significant rain events which limits the species ability to persist except during years of less than average rainfall.

- B2. CDFW indicates the following:

- *The draft IS/MND does not provide support for its conclusion that Mitigation Measures BIO-1 through BIO-6 will reduce impacts to candidate, sensitive, or special-status species to less than significant by conducting preconstruction surveys for least Bell's vireo, western pond turtle, yellow-breasted chat, and sensitive plant species (page 3.16).*
- *The commenter also states that a single reconnaissance-level survey cannot fully assess impacts to these species. Various plants, including sensitive species, are most reliably identified during each species' respective blooming period. It is atypical that a reconnaissance-level biological survey would be specific enough to detect the breadth of sensitive plant species, as surveys conducted outside the focal sensitive plant species' typical blooming period may not detect sensitive plant species presence.*
- *The commenter recommends that the final MND's analysis rely on generally accepted survey protocols to determine presence or support a negative finding of a given species.*

As part of the preparation of the IS/MND, the City reviewed available databases (e.g., California Natural Diversity Database [CNDDB], eBird, Native Plant Society) as part of the evaluation of the potential of occurrence for special-status species such as those indicated above. While there are several western pond turtle observations in nearby areas, these were all from the late 1980's; no recent observations have been reported to the CNDDB. While this species is well known for its ability to travel over land, the vertical slopes along the banks of San Diego Creek within the Project area preclude or severely limit access to upland habits from the creek itself. The faster moving water and general lack of basking sites also limit use of the Project site by this species. BIO-5 requires



INTRODUCTION

that focused surveys for western pond turtle be conducted between April 1st and September 1st (breeding season) and shall consist of a minimum of four daytime surveys, to be completed prior to ground disturbance or vegetation clearing. If an active western pond turtle nesting area would be adversely impacted by construction activities, the nesting area with an appropriate buffer shall be avoided. A qualified biologist with demonstrated expertise with western pond turtles shall monitor construction activities where pond turtles are present. The qualified biologist will be present full-time during all vegetation removal activities immediately adjacent to, or within, habitat that supports populations of western pond turtles, and part time for all remaining activities. Fencing would also be erected prior to the start of construction activities, after the focused surveys are complete, to prevent access to construction areas. BIO-6 would require the installation of a turbidity curtain prior to in-water construction. While this is intended to reduce impacts to water quality it will also prevent access by western pond turtle to aquatic construction areas. The above measures would reduce impacts to western pond turtle to less than significant levels.

Suitable habitat for yellow-breasted chat (*Icteria virens*) occurs along the southern bank of San Diego Creek; suitable habitat does not occur within the remainder of the Project site. The Project would only impact approximately 0.13 acres of this habitat, which is related to the securing of the trash boom along the southern bank of the creek. Compensatory mitigation, at a ratio of 3:1 (as outlined in BIO-7, would be required for impacts to this sensitive vegetation community. As described in BIO-4, prior to initial site disturbance/issuance of grading permits, seasonally timed presence/absence surveys for nesting birds shall be conducted by a qualified biologist. A minimum of three survey events, three days apart shall be conducted (with the last survey no more than three days prior to the start of site disturbance), if construction is scheduled to begin during avian nesting season (February 15th through September 15th); surveys for raptors shall be conducted from January 1st to August 15th. Surveys shall be conducted within 500 feet of all Project activities. If yellow-breasted chat were found to occur. If breeding birds with active nests are found prior to or during construction, a qualified biological monitor shall establish a 300-foot buffer around the nest and no activities will be allowed within the buffer(s) until the young have fledged from the nest or the nest fails. The prescribed buffers may be adjusted by the qualified biologist based on existing conditions around the nest, planned construction activities, tolerance of the species, and other pertinent factors. The qualified biologist shall conduct regular monitoring of the nest to determine success/failure and to ensure that Project activities are not conducted within the buffer(s) until the nesting cycle is complete or the nest fails. Additionally, as outlined in BIO-1, a qualified biological monitor will be on-site during construction and would implement the same buffers noted above should this species nest within or adjacent to the Project area. Implementation of these measures would reduce impacts to yellow-breasted chat to less than significant levels.

Suitable habitat for least Bell's vireo is limited to 0.13 acres of arroyo willow thickets. Impacts to this habitat are related to the securing of the trash boom along the southern bank of the creek. Compensatory mitigation, at a ratio of 3:1 (as outlined in BIO-7, would be required for impacts to this sensitive vegetation community. This species is known to occur in the general area and has the potential to nest within 300-ft of proposed Project activities. Other than the 0.13 acres of impact to arroyo willow thickets all impacts to this species would indirect in nature. As described above for yellow-breasted chat seasonally timed presence/absence surveys for nesting birds would be conducted prior to the start of construction activities. Section 3.5 of the Final IS/MND has been revised to include a mitigation measure requiring focused protocol surveys for least Bell's vireo the spring/summer prior to the start of construction; these surveys will also serve to document the presence/absence of yellow-breasted chat. The results of these surveys will be used to support the regulatory permitting process. The implementation of mitigation measures, including a new requirement for focused protocol surveys, will reduce impacts to less than significant levels.

Mitigation Measure BIO-1 requires that prior to initial ground disturbance for any areas subject to ground disturbance, the Project proponent shall conduct pre-construction surveys for special-status plant species in all areas subject to ground-disturbing activity, including, but not limited to, slope grading, new access roads, staging areas, and Project construction. Prior to site grading, any populations of special-status plant species identified during the surveys shall be protected by a buffer zone. Although none were detected during the 2018 survey, this measure would provide protection for special-status plant species should they occur within the Project area prior to construction. Additional compensation is proposed should project related impacts result in the loss of 10 percent or more of the local population of non-listed, California Rare Plant Rank species. Mitigation Measure BIO-1 also requires the presence of a biological monitor during construction that will identify any new occurrence of special-status plants and implement the required buffers. With the implantation of this measure impacts to special-status plants are reduced to less than significant levels.



INTRODUCTION

CDFW notes the following:

*It is unclear how the City determined which special status species could potentially be supported by the BSA. Without a discussion of this analysis, the Department does not have sufficient data to determine whether or not impacts of the project on candidate, sensitive, or special status species is less than significant with the mitigation provided. While we agree that least Bell's vireo, western pond turtle, yellow-breasted chat, and sensitive plant species have the potential to occur within the BSA, we also have concerns that the project may impact coastal California gnatcatcher (gnatcatcher; *Poliophtila californica californica*), a target species under the Central/Coastal NCCP/HCP, an SSC, and an ESA-listed threatened species known to use nearby habitats.³ Potential impacts to gnatcatcher should be addressed in the final MND.*

Below please find a detailed description of the methodologies used for the completion of all biological related surveys conducted on the Project site. Section 3.5 of the Final IS/MND was revised to include this information.

Terrestrial Surveys

Qualified biologists conducted a survey for biological resources and habitat assessment within the Project Site on 27 April 2018. This included, but was not limited to, a literature review, reconnaissance-level survey, focused non-protocol surveys for special-status plant and wildlife species, non-protocol focused surveys for listed song birds, and preliminary jurisdictional delineation. Surveys were conducted on foot within the Project site where accessible based on terrain and vegetative cover. A literature search was performed in conjunction with field surveys conducted for the Project site. A search of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) was conducted for this quadrangle in which the project occurs and all adjacent quadrangles to determine special-status plants, wildlife, and vegetation communities that have been documented within the vicinity of the Project Area.

The reconnaissance-level survey was performed by walking meandering transects through the entirety of the Project site at an average pace of approximately 1.5 km/hr while visually searching for and listening to wildlife songs and calls and observing for animal signs. The walking survey was halted approximately every 50 meters to listen for wildlife or as necessary to identify, record, or enumerate any other detected species. Terrestrial insects and other invertebrates were searched for on flowers and leaves, under loose bark, and under stones and logs on the ground throughout the Project site. Randomly selected areas within appropriate micro habitats (e.g., leaf litter, underneath felled logs, etc.) were hand raked or visually inspected to determine the presence/absence of gastropods. Surveys were conducted during daylight hours when temperatures were such that reptiles would be active (i.e., between 75° – 95° Fahrenheit). Visual observations were made to locate basking reptiles, and potential refuge areas, such as debris piles (e.g., woody debris, trash, etc.), were searched. All refugia sites search were returned to their original state upon survey completion.

The entire Project site was assessed by walking “meandering transects” throughout all accessible portions, with particular attention given to areas of suitable habitat for special-status plant species. All plant species observed were identified in the field or collected for later identification.

Aquatic Surveys

The San Diego Creek bottom was surveyed using both video and acoustic methods. Surveys were performed from a kayak. The kayak is fitted with a hull mounted 455 MHz/800 MHz side scan sonar, variable frequency single beam Chirp sonar, and a 10 Hertz (Hz) Global Positioning System (GPS). In total, five in-water survey transects were completed using the Pi-yak. Acoustic coverage was greater than 90 percent in the survey area. Side scan sonar surveys were visually verified using a wifi enabled High Definition (HD) Video camera. The camera was connected to the scientist's smartphone via an Android app that was capable of viewing in real time and recording either HD video or still images. Visibility at the time of survey was poor, less than 1 foot at times. Collectively, the equipment and methodology used on this survey is compliant with NMFS recommendations for a valid survey for both eelgrass and/or *Caulerpa*. Concurrent with in-water acoustic survey transects, a field biologist investigated the water to land interface, and recorded animals observed around the surveyed habitat. Two shoreline transects were completed of the creek edges.

The City acknowledges that the coastal California gnatcatcher is a target species under the Central/Coastal NCCP/HCP. However, the City does not believe that the Project will impact coastal California gnatcatcher. While there are records of the species in nearby areas they are 24 years or older. Suitable breeding/nesting habitat for



NEWPORT BAY WATER WHEEL PROJECT, FINAL INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

INTRODUCTION

this species does not occur on or adjacent to the Project site. If this species were to occur, it would likely only be a transient visitor. In the event that the species was found to nest on-site the biological monitor would implement the required buffers as described under BIO-4.

CDFW notes the following:

Absent focused surveys utilizing all applicable protocols and temporal considerations, conclusions concerning the significance of the project's impacts on special status species within the BSA is not substantiated in the IS/MND. The IS/MND should not rely on future surveys or speculation when determining whether a project will or will not have a significant effect on biological resources. A qualified biologist (e.g., expert opinion) should complete surveys of habitat and analyze potential impacts to biological resources before the significance of a project's impacts are concluded (Public Resources Code, Section 21082.2 (C)). Therefore, the Department recommends that the Biological Resources section of the final MND be made consistent with CEQA review guidance by incorporating the following elements:

- a. *a discussion of sources for compiling the environmental baseline;*
- b. *focused, species-specific surveys that allow for analysis of impacts to sensitive wildlife and plant species, including: least Bell's vireo, gnatcatcher, western pond turtle, and sensitive plant species;*
- c. *a description of the survey methodology or protocol used for general plant and animal species, as well as sensitive or listed species. A discussion of the rationale for any variances from standard survey methodologies or protocols; and*
- d. *a mitigation measure or measures that avoid or minimize impacts to gnatcatcher.*

Bullet's a – c above have been addressed in the responses above. In reference to bullet "d", coastal California gnatcatcher is not expected to occur on the site nor is suitable breeding/nesting habitat present; therefore, a species-specific measure is not included as part of the IS/MND.

B3. CDFW notes the following:

The final MND should include a mitigation measure avoiding and/or minimizing direct impacts to aquatic species, particularly western pond turtle, from ongoing operation of the water wheel. While the draft IS/MND discusses in detail potential indirect and direct impacts that may occur from construction activities, it does not discuss potential impacts resulting from ongoing operation (implementation). Specifically, the Department has concerns that western pond turtles may be directly adversely impacted (e.g., "collected" and deposited in a dumpster indiscriminant of the trash the project was designed to control) if they are within the vicinity of the proposed water wheel; this concern is exacerbated by the lack of focused species surveys to date and the resultant uncertainty as to their potential presence (see Comment 2 above). Because direct impacts from ongoing operation are potentially substantial and could alter wildlife patterns and behavior within the surrounding habitat, the final MND should include analysis and discussion of potential impacts of ongoing operation of the water wheel (CEQA Guidelines §15064(d)) in its Biological Resources section.

The Draft IS/MND does include avoidance measures related to western pond turtle and other aquatic resources (refer to BIO-5 and BIO-6). Mitigation Measure BIO-5 has been revised in the Final IS/MND to require that modification be made, where possible, to the water wheel structure to prevent structure access by western pond turtle. This may include such modifications as to the installation of vertical surfaces on the outer edges of the structure to prevent access. While there are several western pond turtle observations in nearby areas these were all from the late 1980's; no recent observations have been reported to the CNDDB. While this species is well known for its ability to travel over land, the vertical slopes along the banks of San Diego Creek within the Project area preclude or severely limit access to upland habits from the creek itself. The faster moving water and general lack of basking sites also limit use of the Project site by this species. The Project will result in an increase of overall water quality and reduction of trash which will benefit aquatic species such as western pond turtle.

B4. CDFW notes the following:

With regards to wetland and CESA incidental take permitting processes, the Central/Coastal NCCP/HCP does not address impacts to jurisdictional state and federal wetlands because these impacts are not "covered" by the Central/Coastal NCCP/HCP. Therefore, we concur with the draft IS/MND's assessment to address these impacts through individual state and federal wetland permitting processes; however, ratios for permanent and temporary



NEWPORT BAY WATER WHEEL PROJECT, FINAL INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

INTRODUCTION

impacts to sensitive plants and habitat as described in 810-1 and 810-7 may not be sufficient. While mitigation ratios to offset temporary and permanent impacts offered by the draft IS/MND may meet minimum requirements pursuant to the City's internal guidance, the Department will evaluate the adequacy of the mitigation proposal once the Department deems a project applicant's streambed alteration notification package complete. If additional take permits are necessary to offset impacts to endangered wildlife or plant species not covered by the Central/Coastal NCCP/HCP (e.g., least Bell's vireo or salt marsh bird's beak), the mitigation ratios as defined may not meet the "fully mitigated standard" required by Fish and Game Code section 2081 et seq. pursuant to CESA Mitigation measure 810-1 and 810-7 should, therefore, in the final MND reflect that additional mitigation and/or higher mitigation ratios may be necessary in order for the City to fulfill its obligations under Fish and Game Code sections 1600 et seq. or/and section 2050 et seq. We recommend that mitigation proposals for wetland and riparian impacts occur on site or within the Coastal Subarea Reserve.

The City acknowledges the comment and believes the proposed mitigation ratios are sufficient to meet the "fully mitigated" standard.

C. Responses to Comment from Dean S. Kirk, Vice President Environmental Affairs, Irvine Company, letter dated August 31, 2018 sent from Peter J. Bryant, President, Newport Bay Conservancy, letter dated August 20, 2018

- C1. Newport Beach notes that the proposed Project is only one of numerous projects that the City has implemented and continues to plan to implement along with other stakeholders to improve water quality and related habitat value in Newport Bay. The proposed project was determined to best meet the project need and objectives. As part of project planning, Newport Beach evaluated a number of alternative locations and design for the water wheel. The proposed site was determined to be the most suitable and effective due to its proximity to San Diego Creek (a major source of trash entering Newport Bay) as well as its location outside of the Upper Newport Bay Ecological Preserve and on publicly owned lands. The proposed location is supported by the Newport Bay Conservancy, compared to other locations previously considered.
- C2. Irvine Company expressed concern regarding potential aesthetics, noise, odors, and related vectors impacts of the Project.

Aesthetics

CEQA (Pub. Resources Code, §21000 et seq.) case law has established that only public views, not private views, need be analyzed under CEQA. For example, in *Association for Protection etc. Values v. City of Ukiah* (1991) 2 Cal. App. 4th 720 [3 Cal.Rptr.2d 488] the court determined that "We must differentiate between adverse impacts upon particular persons and adverse impacts upon the environment of persons in general. Therefore, the Draft IS/MND appropriately evaluated potential aesthetic impacts as required by CEQA.

Noise

Operation of the solar powered water wheel does not involve components with high noise emitting machinery or nuisance sounds such as high or low frequency noise that would be substantially audible over background traffic noise or increase existing noise levels. It is also important to note that the water wheel would operate intermittently, particularly after storm events. The activity with the highest potential to generate noise from project operation would be associated with disposal bin drop off (empty) and pick-up (full). However, this activity is projected to occur no more than once daily during project operation and would be less than a one-hour duration. The City of Newport Beach's thresholds of significance for noise impacts to sensitive receptors (including residential land uses) is based on the Community Noise Exposure Level, which is a measure of noise over a 24-hour period. As a result, the limited duration of disposal bin pick-up and drop offs would have a negligible contribution to noise averaged over 24 hours. The City of Newport Beach would schedule the drop off and pick-up of disposal bins during daytime hours only.

Odors and Related Vectors

The types of floating trash that the water wheel will predominantly remove is plastic, Styrofoam and similar inorganics. The South Coast Air Quality Management District lists project types and land uses that are commonly associated with odor concerns. These projects and land uses include agriculture, wastewater treatment, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. While the



NEWPORT BAY WATER WHEEL PROJECT, FINAL INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

INTRODUCTION

project does involve the collection of trash, it is not similar to a landfill operation land use. Due to the intermittent operations of the water wheel, anticipated one disposal bin per day volume estimate during operation, and primarily inorganic composition of the trash that will be collected, substantial odors are not expected. In addition, once a disposal bin is full, it will be picked up by the City of Newport Beach and replaced with an empty disposal bin to minimize the duration a full disposal bin would remain on the site. For the same reasons, the project is not expected to create a vector for rats, birds, or other pests.

- C3. The project has been designed in a manner and positioned in a location (including water depths and historical stream flows during storm events) to be effective in removing floating trash. Because there is less precipitation than in Baltimore, the proposed water wheel in San Diego Creek would comparatively be expected to operate less frequently.
- D. **Responses to Comment from Scott Shelley, Brach Chief, District 12, California Department of Transportation, letter dated August 31, 2018.**
- D1. The City appreciates Caltrans support of the Project and concurs that potential impacts were properly addressed and mitigated where necessary. The Project would be consistent with the California Coastal Act and City's Local Coastal Program.
- D2. The City will apply for an Encroachment Permit if it is determined that implementation would encroach on the State Highway System.



INTRODUCTION

1.5 PROJECT APPROVALS AND DISCRETIONARY ACTIONS

The public agency that has the principal responsibility for carrying out or approving a project is designated as the “Lead Agency” under CEQA. The City of Newport Beach is a permitting authority as well as the Lead Agency for the Project.

As the Lead Agency, it is the City’s responsibility to ensure that the IS/MND satisfies the procedural and substantive requirements of CEQA, and for considering and certifying the adequacy and completeness of the IS/MND prior to making any decision regarding the Project.

This IS/MND is intended to be used as the CEQA document for all approvals required for the Project, including approvals by responsible agencies and any approvals required from trustee agencies.

“Responsible Agency” means a public agency that proposes to carry out or approve a project for which the Lead Agency is preparing or has prepared a CEQA document. For purposes of CEQA, the term “Responsible Agency” includes all public agencies other than the Lead Agency having discretionary approval authority over the Project. “Trustee Agency” means a State agency having jurisdiction by law over project-affected natural resources that are held in trust for the people of the State of California.

The agencies anticipated to be involved, and permit, consultation, and environmental review requirements of the Project are summarized below in Table 1-1.

Table 1-1 Agency Permits, Approvals, and Environmental Review Requirements

Agency	Permits and Other Approvals	Environmental Review/Consultation Requirements
FEDERAL AGENCIES		
U.S. Army Corps of Engineers	<ul style="list-style-type: none"> Clean Water Act Section 404 Permit 	<ul style="list-style-type: none"> Federal Endangered Species Act Section 7 Consultation with U.S. Fish and Wildlife Service/NOAA Fisheries National Historic Preservation Act Section 106 Consultation with the State Historic Preservation Office
STATE AGENCIES		
California Coastal Commission	<ul style="list-style-type: none"> Coastal Development Permit/Letter of Consistency 	<ul style="list-style-type: none"> Trustee Agency
California Department of Fish and Wildlife	<ul style="list-style-type: none"> California Fish and Game Code Section 1602 Streambed Alteration Agreement Permit 	<ul style="list-style-type: none"> Responsible and Trustee Agency
Ocean Protection Council	<ul style="list-style-type: none"> Grant Funding 	<ul style="list-style-type: none"> Responsible Agency
LOCAL AND REGIONAL AGENCIES		
City of Newport Beach	<ul style="list-style-type: none"> Lease for submerged tidelands Grading Permit Building Permit 	<ul style="list-style-type: none"> CEQA lead agency responsible for preparing and adopting the IS/MND.



NEWPORT BAY WATER WHEEL PROJECT, FINAL INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

INTRODUCTION

Agency	Permits and Other Approvals	Environmental Review/Consultation Requirements
Orange County Flood Control District	<ul style="list-style-type: none">• Encroachment Permit	<ul style="list-style-type: none">• Responsible Agency
Santa Ana Regional Water Quality Control Board	<ul style="list-style-type: none">• Clean Water Act Section 401 Water Quality Certification or Waste Discharge Requirement	<ul style="list-style-type: none">• Responsible Agency
OTHER		
San Gabriel Band of Mission Indians	<ul style="list-style-type: none">• None	<ul style="list-style-type: none">• AB 52 tribal notification/consultation
Juaneño Band of Mission Indians, Acjachemen Nation	<ul style="list-style-type: none">• None	<ul style="list-style-type: none">• AB 52 tribal notification/consultation
Gabrieleño Band of Mission Indians, Kizh Nation	<ul style="list-style-type: none">• None	<ul style="list-style-type: none">• AB 52 tribal notification/consultation

1.6 PUBLIC, PRIVATE, AND NGO SUPPORT AND RECOGNITION

The City has provided early coordination and community outreach efforts in the manner of:

- Presented at Coastal Cleanup Day by Help Your Harbor
- Ongoing site visits with the City of Newport Beach; in addition to out-reach conducted by the Newport Bay Conservancy with potential stake-holders
- Outreach to Regulatory/Resources Agencies
- Outreach and Coordination with the Orange County Flood control
- Presentation to Orange County Watersheds Stakeholders Staff
- Outreach Presentation to the City of Newport Beach, Water Quality/Coastal Tidelands Committee
- Outreach presentation to the City of Newport Beach Harbor commission
- Outreach and coordination with the County of Orange Property Permits Department
- Outreach presentation with the Newport Beach Executive Watershed Committee

The City has received the support of Orange County Coastkeeper, Sierra Club, Help Your Harbors (which has provided donations for the Project), Newport Bay Conservancy, Ocean Protection Council, and Surfrider.

In addition, the City has received correspondence from the Orange County Conservation Corps, stating if the Project is approved for funding, they can assist with Community Outreach, such as flyers to local-residents and businesses; site preparation, consisting of clearing and grubbing activities as needed; and revegetation, as needed.



INTRODUCTION

1.7 ORGANIZATION OF THE IS/MND

The principal objective of CEQA is that the environmental review process be a public one. To meet this objective, the IS/MND must inform members of the general public, decision makers, and technically oriented reviewers of the physical impacts associated with the Project.

The content and organization of this IS/MND are designed to meet the requirements of CEQA, the State CEQA Guidelines, the City's local guidelines, as well as to present issues, analyses, mitigation, and other information in a logical and understandable way. A description of the organization of this IS/MND and the content of each section is provided in the following.

Section 1.0, Introduction, provides information and a brief overview of the Project, the environmental review process, the availability of the Draft IS/MND, and the organization of the IS/MND.

Section 2.0, Project Description, presents a description of the Project, which identifies the location of the Project site, the objectives of the Project, and the characteristics of the Project.

Section 3.0, Environmental Impact Analysis, contains a detailed environmental analysis of the potential for the Project to result in significant environmental effects with respect to the topics evaluated in this IS/MND.

Section 4.0, Mitigation Monitoring and Report Plan, lists the mitigation measures included in the IS/MND, actions required, responsibility, and required time of compliance.

Section 5.0, Proposed Finding, presents the environmental determination to prepare a MND based on the findings of the IS.

Section 6.0, List of Preparers, lists persons involved in the preparation of this IS/MND.

Section 7.0, References, lists the principal documents, reports, maps, and other information sources referenced in this IS/MND.

Appendices provide information and technical studies that support the environmental analysis contained within the IS/MND.



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2.0 PROJECT DESCRIPTION

2.1 PROJECT LOCATION

As shown in Figure 1, the Project site is located along San Diego Creek between the Jamboree Road Bridge and California State Route 73 within the City of Newport Beach, Orange County, California. While located in the City of Newport Beach, the upland area of the Project site is owned by the County of Orange for flood control management purposes. The Project site is approximately 800 feet upstream of Upper Newport Bay.

The Land Use Element of the City of Newport Beach General Plan and certified Local Coastal Program (LCP) designates the area surrounding the Project site as Open Space (OS). The Project site is currently vacant with commercial development to the north and residential development to the south across San Diego Creek.

2.2 ENVIRONMENTAL SETTING

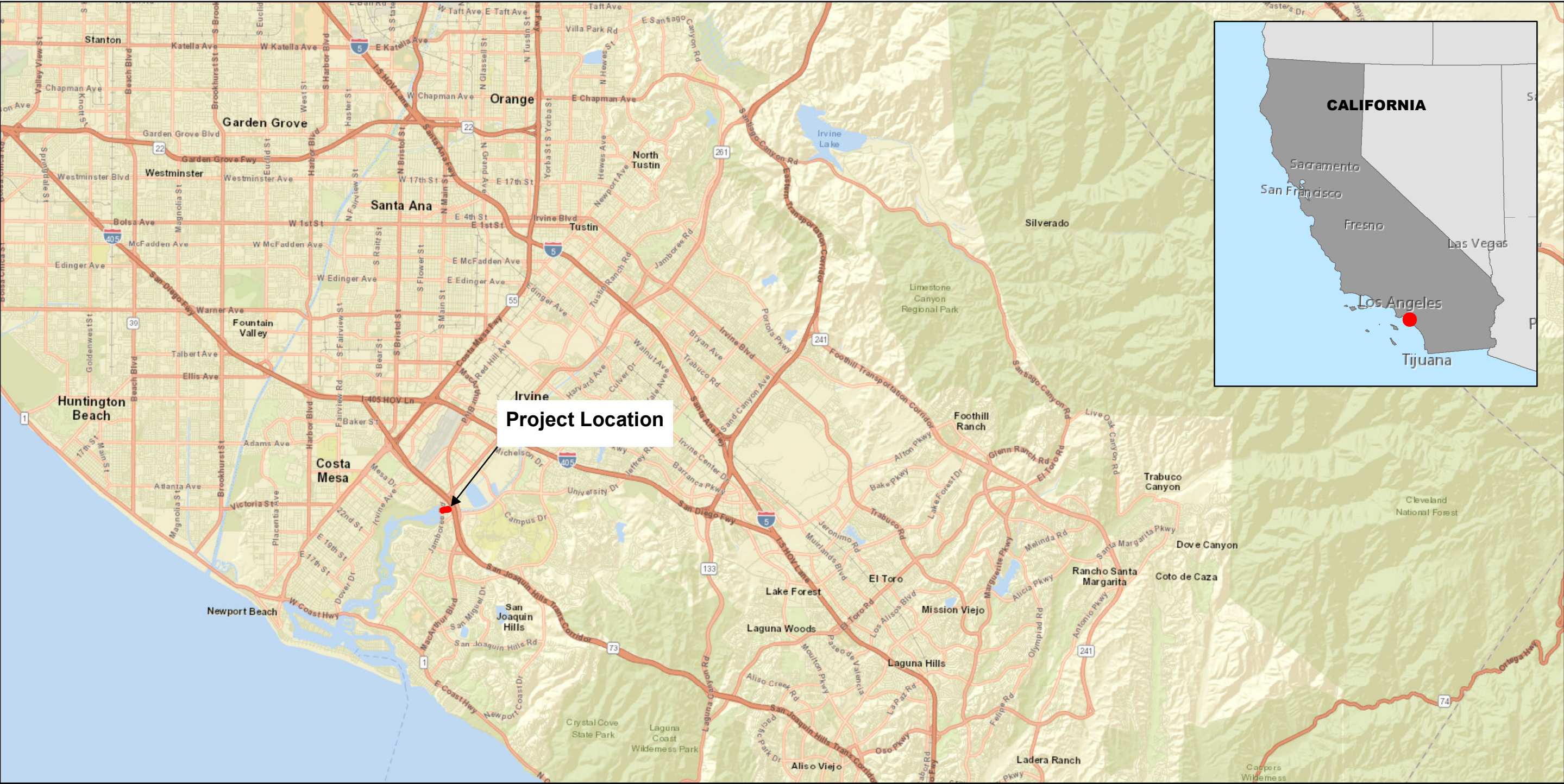
The Project site and surrounding area are within the Newport Bay Watershed drainage area which drains approximately 152 square miles to the Pacific Ocean. San Diego Creek is the largest subwatershed within the Newport Bay Watershed with San Diego Creek as the main tributary, accounting for approximately 77 percent of the freshwater flow into the Newport Bay (www.ocwatersheds.com). Its headwaters lie about one mile east of the Interstate 5 and Interstate 405 intersection, at an elevation of about 500 feet. The creek flows westerly from its headwaters and empties into Newport Bay one mile west of the campus of the University of California at Irvine (<http://www.newportbeachca.gov>).

The dry-season flow of San Diego Creek consists mainly of urban and agricultural drainage runoff. According to the Environmental Protection Agency, average dry-season flow at the mouth is 8 to 15 cubic feet per second (0.23 to 0.42 m³/s), whereas wet-season runoff is 800 to 9,000 cubic feet per second (23 to 255 m³/s). The average annual flow is about 61 cubic feet per second (1.7 m³/s), 44,200-acre feet (0.0545 km³) per year. An all-time highest flow of 43,500 cubic feet per second (1,230 m³/s) was recorded on December 6, 1997.

The Project site is situated along a segment of San Diego Creek that was re-aligned from its historical course in 1965 for the purposes of connecting San Diego Creek to Upper Newport Bay (the 1965 San Diego Creek Trunk Channel Project).



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 Project Site



0 6,400 12,800 Feet

Notes
1. NAD 1983 COR596 StatePlane California VI FIPS 0406 FT US
2. Service Layer Credits Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community
Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community



Project Location
San Diego Creek
Newport Beach, CA

Client/Project

City of Newport Beach
Newport Bay Water Wheel Project
Initial Study/Mitigated Negative Declaration

Figure No.
1

Title
Project Location

Prepared by JV on 2018-07-03
Technical Review by MW on 2018-07-03
Independent Review by SR on 2018-07-03

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PROJECT DESCRIPTION

2.3 PROJECT ELEMENTS

2.3.1 Water Wheel

The Project entails siting the Water Wheel within San Diego Creek secured to a pile system. The Water Wheel will be constructed within San Diego Creek as a floating system that can accommodate forecast sea level rise impact. Landside improvements will be located above elevation to limit impacts of sea level rise during the life of the Water Wheel. Through engineering design, it was determined, a pile system can be designed that can adequately handle the maximum current flows in San Diego Creek. The Water Wheel is designed for an expected useful life of 20 years.

The proposed 40-foot long, 30-foot wide, 14-foot high Water Wheel and conveyer belts will be secured to a pile system along the north shore of the San Diego Creek. Existing remnant piles in San Diego Creek at the Project site will be removed. A buoy collection system of floating trash booms will be deployed along the full width of the creek (approximately 140 feet wide within the area of the Project site). The booms will be situated to guide floating waste towards a rake and conveyor belt system powered by the Water Wheel. The rake and conveyor belt system will lift the floating waste from the water and deposit it on a second conveyor belt that will transport the waste to a dumpster located on a landside concrete pad adjacent to the Water Wheel. The proposed site plans are depicted in Figures 2 through 5.

The Water Wheel will generate its own power from the flowing current of the San Diego Creek to the Upper Newport Bay. Supplemental power can be provided by an array of solar panels located atop the Water Wheel. The power generated through the solar panels will be sufficient to turn the Water Wheel during times of diminished current in order to operate the conveyor belts. The system can store excess energy in a battery array to be utilized during periods of little to no sunlight.

2.3.2 Landside Truck Access and Dumpster Location

The landside truck access road will be graded into the wide channel bank to allow delivery of an empty dumpster which will be stationed on a landside concrete pad adjacent to the Water Wheel. When the dumpster is full, it will be removed and replaced with a new empty dumpster. The channel bank and an access road area will need to be revegetated with native plant materials. In conjunction with creating the access road to the Water Wheel, the slope will be restored with native plant materials (i.e. trees, shrubs, and plants). In addition, the shoreline will be engineered based on living shoreline principals to provide natural protection from current flow velocity that are expected to increase with climate change. Special marsh sills are planned in the vicinity of the Water Wheel to protect the shoreline from local eddies.

Pickup/Delivery Details

1. The truck will pull forward into the dumpster area to either pickup or drop off the dumpster.
2. The truck will then back up into the turnaround area, allowing the truck to then pull forward.
3. The dumpster is then hauled up on the rails and remains on the rail system securely in place which is at grade with the loading/unloading pad (see profile pdf).



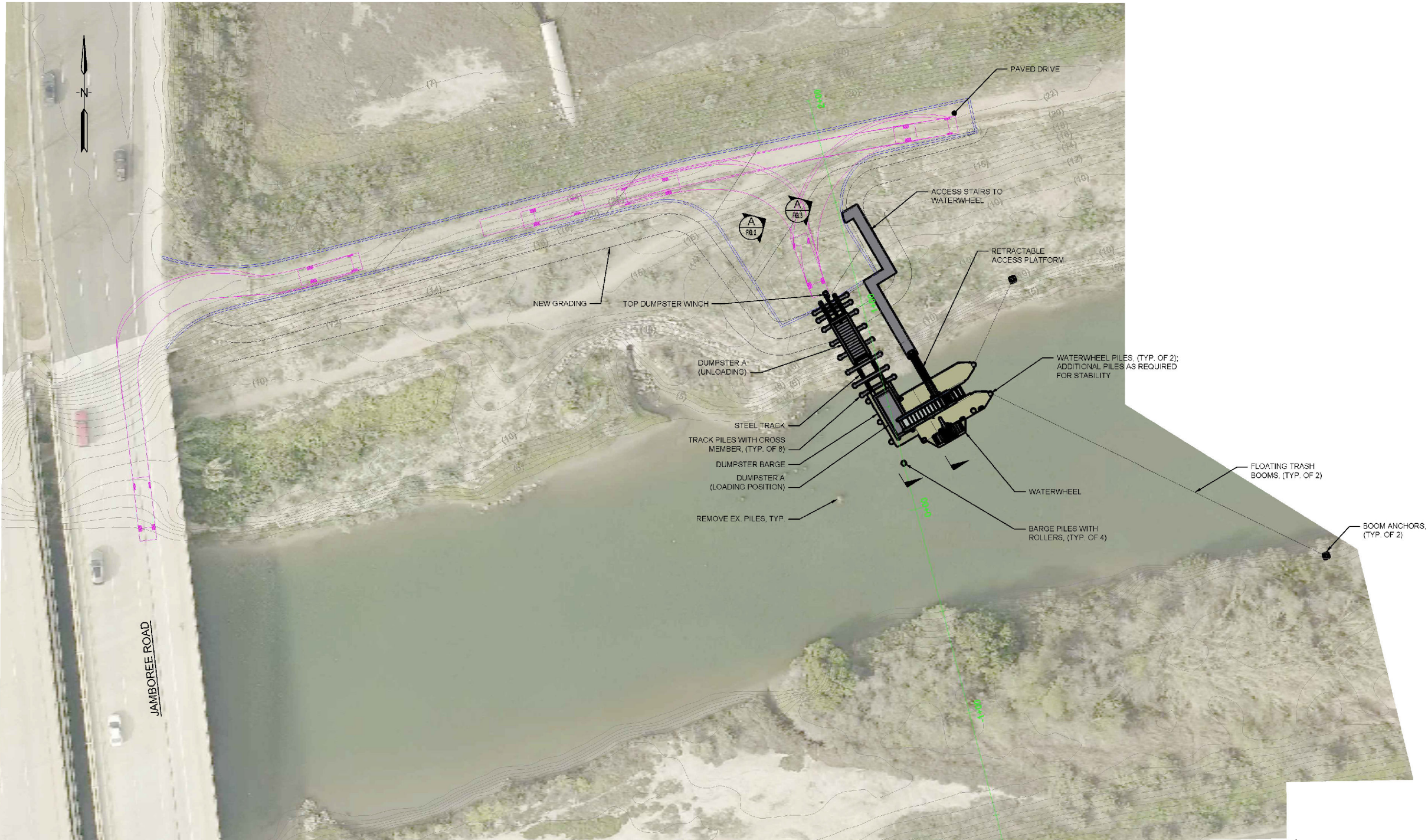
PROJECT DESCRIPTION

4. The truck then backs up, the winch system is released, and the dumpster is loaded directly from the rail system (Position A). The final design must include safety measures to ensure the dumpster remains firmly on the rails after the winch system is released allowing the truck operator to pick it up directly and drive off.
5. At this point, the truck can then turn to leave the site.
6. The full dumpster is taken to an off-site trash disposal facility.
7. Following steps 1 and 2 the empty dumpster is returned.
8. The truck will then deposit the empty dumpster on the rail system and the winch system is activated to deliver the dumpster back down to the Water Wheel.

2.3.3 Land Disturbance Estimates

Project construction and development would occur on approximately 0.67 acres of land; consisting of 0.59 acres of terrestrial land and 0.08 acres of aquatic lands. Cut and fill during grading activities would be balanced on-site.





Notes
1. NAD 1983 COR5% StatePlane California VI FIPS 0406 FT US
2. Data Source: Clearwater Mills, Fuscoe Engineering, and KCI Technologies (April 2018)



Project Location
San Diego Creek
Newport Beach, CA

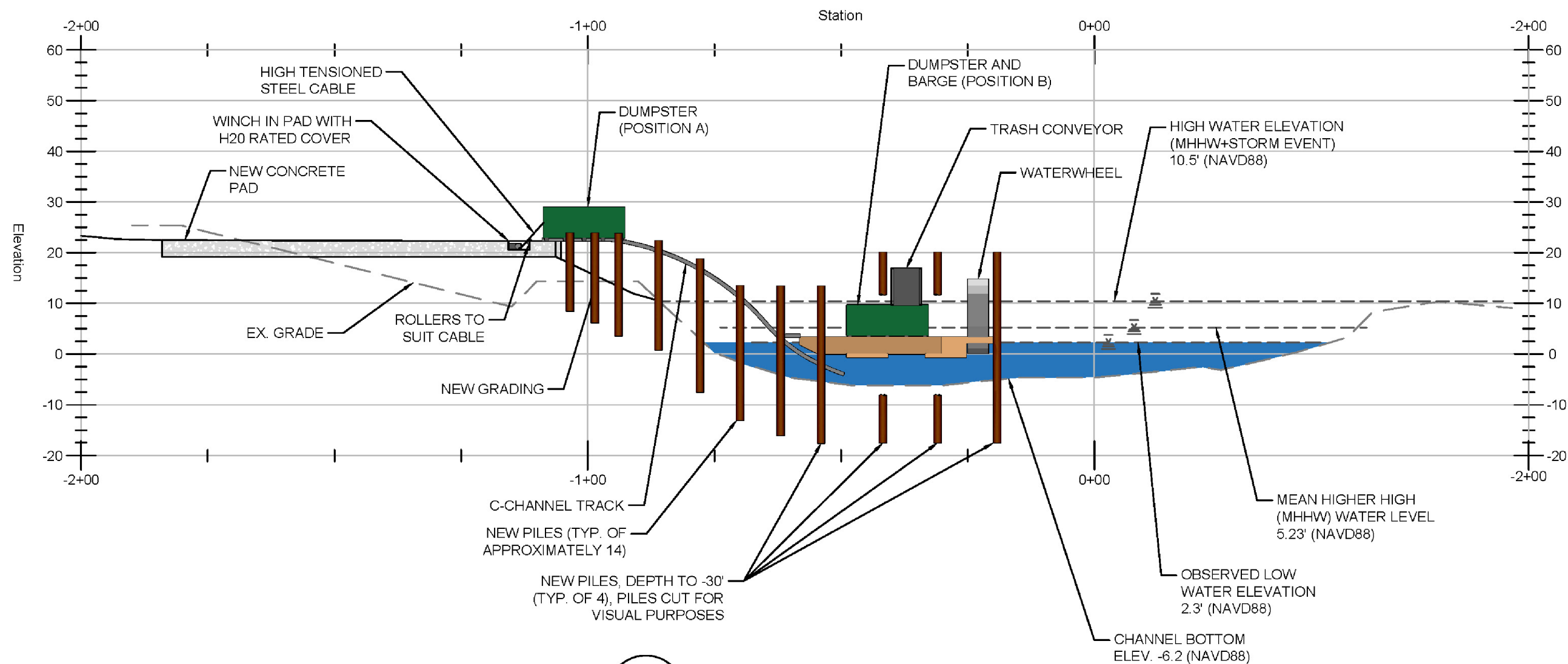
Prepared by JV on 2018-07-03
Technical Review by MW on 2018-07-03
Independent Review by SR on 2018-07-05

Client/Project
City of Newport Beach
Newport Bay Water Wheel Project
Initial Study/Mitigated Negative Declaration

Figure No.
2

Title
Site Plan

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NOTES:

1. ALL DIMENSIONS ARE APPROXIMATE.
2. ADDITIONAL DUMPSTER WHEELS ARE TO BE PROVIDED AS REQUIRED TO MEET TRACK SLOPE.
3. CURRENT ILLUSTRATION SHOWS WATERWHEEL AT LOW WATER LEVEL.

A **SECTION: 13+50 WATERWHEEL BARGE**
FIG. 2 SCALE: HORIZONTAL: 1"=20'-0"
 VERTICAL: 1"=20'-0"



Notes
 1. NAD 1983 COR5% StatePlane California VI FIPS 0406 FT US
 2. Data Source: Clearwater Mills, Fuscoe Engineering, and KCI Technologies (April 2018)



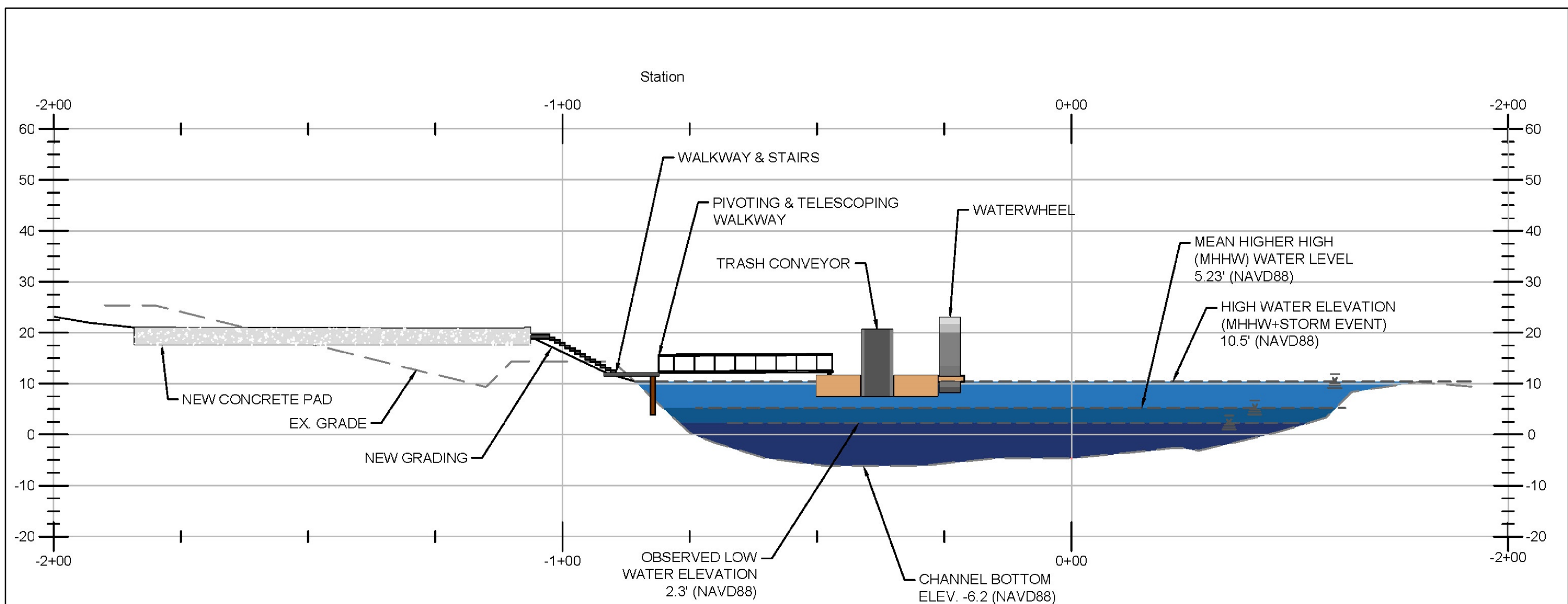
Project Location
 San Diego Creek
 Newport Beach, CA
 Prepared by JV on 2018-07-03
 Technical Review by MW on 2018-07-03
 Independent Review by SR on 2018-07-05

Client/Project
 City of Newport Beach
 Newport Bay Water Wheel Project
 Initial Study/Mitigated Negative Declaration

Figure No.
3

Title
Section: 13+50 Waterwheel Barge

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NOTES:

- ALL DIMENSIONS ARE APPROXIMATE.
- CURRENT ILLUSTRATION SHOWS WATERWHEEL AT HIGH WATER LEVEL.

A
FIG. 3 **SECTION: 13+50 WATERWHEEL ACCESS**
SCALE: HORIZONTAL: 1"=20'-0"
VERTICAL: 1"=20'-0"



Notes
1. NAD 1983 COR5% StatePlane California VI FIPS 0406 FT US
2. Data Source: Clearwater Mills, Fuscoe Engineering, and KCI Technologies (April 2018)



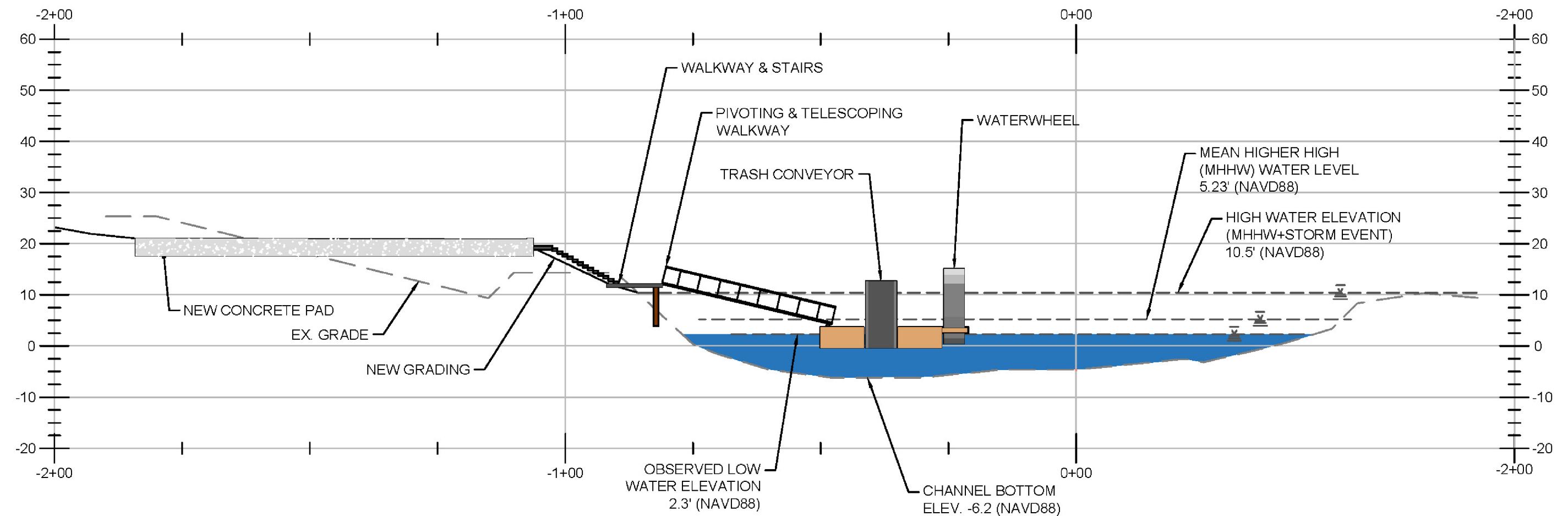
Project Location
San Diego Creek
Newport Beach, CA
Prepared by JV on 2018-07-03
Technical Review by MW on 2018-07-03
Independent Review by SR on 2018-07-05

Client/Project
City of Newport Beach
Newport Bay Water Wheel Project
Initial Study/Mitigated Negative Declaration

Figure No.
4

Title
Section: 13+50 Waterwheel Access

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NOTES:

1. ALL DIMENSIONS ARE APPROXIMATE.
2. CURRENT ILLUSTRATION SHOWS WATERWHEEL AT HIGH WATER LEVEL.

A SECTION: 13+50 WATERWHEEL ACCESS (LOW WATER LEVEL)
FIG. 4 SCALE: HORIZONTAL: 1"=20'-0"
VERTICAL: 1"=20'-0"



Not to Scale
Notes
1. NAD 1983 COR5% StatePlane California VI FIPS 0406 FT US
2. Data Source: Clearwater Mills, Fuscoe Engineering, and KCI Technologies (April 2018)



Project Location
San Diego Creek
Newport Beach, CA
Prepared by JV on 2018-07-03
Technical Review by MW on 2018-07-03
Independent Review by SR on 2018-07-05

Client/Project
City of Newport Beach
Newport Bay Water Wheel Project
Initial Study/Mitigated Negative Declaration

Figure No.
5

Title
Section: 13+50 Waterwheel Access (Low Water Level)

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PROJECT DESCRIPTION

2.3.4 Data Collection

The Project will collect two types of data sets. One set is of visual information. There will be a camera system that shows type and quantity of trash and debris captured by the Water Wheel. The Baltimore Trash Wheel has a live feed that has captured the interest of over 14,000 Facebook and 15,000 Twitter users. The second would be the volume of captured material, and the characterization of the trash; this will be done in cooperation with the hauler for the dumpsters. The data will be reported annually and shared with the community and stakeholders.

2.4 PROJECT OPERATIONS

The Water Wheel is not proposed to run on a constant basis. As the San Diego Creek is generally a low flow creek without storm events, the current will not produce the flow necessary to turn the Water Wheel daily. Project operations are planned to occur during and/or after storm events. The Water Wheel will be powered by the water current of the San Diego Creek. Should the current of the creek become stagnant, the Water Wheel contains backup solar panels to turn the wheel.

Once construction has been completed, when in operation, the Water Wheel would consist of the following activities.

1. The water current and/or solar power support will be used to turn the Water Wheel.
2. Floating booms would funnel trash toward the rotating forks, which lift the refuse onto a conveyor belt.
3. The rotating forks would lift the trash onto the conveyor belt.
4. The conveyor belt would tumble the trash into a landside dumpster.
5. When the dumpster is full, the dumpster will be removed and replaced with an empty one.
6. The full dumpster will be taken to an appropriate waste facility.

2.5 SCHEDULE

The anticipated timeline to implement the Water Wheel is approximately 2.5 years, which includes the regulatory permitting process.

Task	Timeline	Start Month/Year
Project Planning:	12 months (1 year)	Month, Year, In progress
• CEQA, Permitting, Tribal Consultation, Biological Survey, Geotechnical Investigation, Utility Investigation		
Design:	12 months (1 year)	Month, Year, in progress
• Preliminary Engineering, Design work plan, Construction drawings		
Construction:	6 months	Proposed to begin in February 2020
• Shipment and Construction of the system		
Operation:	20-year Project life	Anticipated for late 2020
• During and/or after storm events.		



NEWPORT BAY WATER WHEEL PROJECT, FINAL INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

PROJECT DESCRIPTION

The six-month Project construction consists of the following primary elements:

- Site grading;
- Installation of piles within the channel and along the northern shore of the San Diego Creek as well as existing pile removal;
- Concrete pad poured adjacent to the Water Wheel to support a dumpster;
- Assembling of the Water Wheel;
- Installation of the containment booms; and
- Truck access road will be graded into the wide channel bank to allow pick-up and delivery of dumpsters as necessary.



3.0 ENVIRONMENTAL IMPACT ANALYSIS

3.1 CATEGORIES OF ENVIRONMENTAL FACTORS

This project is evaluated based upon its effect on the following eighteen (18) major categories of environmental factors.

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation and Traffic
- Tribal Cultural Resources
- Utilities and Service Systems
- Mandatory Findings of Significances

A detailed analysis of environmental impacts is presented for each resource area (listed above) utilizing the model Environmental Checklist Form found in Appendix G of the CEQA Guidelines Section 15063(f). Impacts to the environment for construction and operation of the project are assessed and described, and the level of significance of impacts are be measured against criteria that have been established by regulation, accepted standards, or other definable criteria. The use of a MND is only permissible if all potentially significant environmental impacts assessed in the IS are rendered less than significant with incorporation of mitigation measures.

Each environmental resource area is reviewed by analyzing a series of questions (i.e., Initial Study Checklist) regarding level of impact posed by the project. Substantiation is provided to justify each determination. One of four following conclusions is then provided as a determination of the analysis for each of the major environmental factors.

No Impact. A finding of no impact is made when it is clear from the analysis that the project would not affect the environment.

Less than Significant Impact. A finding of a less than significant impact is made when it is clear from the analysis that a project would cause no substantial adverse change in the environment and no mitigation is required.

Less than Significant Impact with Mitigation Incorporated. A finding of a less than significant impact with mitigation incorporated is made when it is clear from the analysis that a project would cause no substantial adverse change in the environment when mitigation measures are successfully implemented by the project proponent. In this

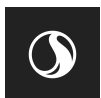


NEWPORT BAY WATER WHEEL PROJECT, FINAL INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

ENVIRONMENTAL IMPACT ANALYSIS

case, the City of Newport Beach is the project proponent and would be responsible for implementing measures identified in a Mitigation Monitoring Program.

Potentially Significant Impact. A finding of a potentially significant impact is made when the analysis concludes that the Project could have a substantially adverse change in the environment for one or more of the environmental resources assessed in the checklist. In this case, typically preparation of an Environmental Impact Report (EIR) would be required.



3.2 AESTHETICS

3.2.1 Setting

The Project site is located approximately 800 feet upstream of Upper Newport Bay. The City of Newport Beach's Water Quality Coastal Tidelands Committee determined this to be the best location for the project, based on both aesthetic considerations and the need to protect marine resources. As one of the largest estuaries in California, Upper Newport Bay is a prime destination for visitors, school groups, and local recreationalists. The surrounding area has a unique physical setting that provides a variety of coastal views, harbor, sandy beaches, rocky shores, wetlands, canyons and coastal bluffs. As noted in the City of Newport General Plan Update EIR, the City has historically been sensitive to the need to protect and provide access to these scenic and visual resources and has developed a system of public parks, piers, trails, and viewing areas. Coastal views are also provided from a number of streets and highways and, due to the grid street pattern throughout the city, many streets provide view corridors to the ocean and bay (City of Newport Beach, 2006a).

The City of Newport Beach General Plan Natural Resources Element and certified LCP identify State Highway 73 that crosses San Diego Creek adjacent to the Project site, and Jamboree Road from University Drive to State Highway 73, as Coastal View Roads. There are no General Plan designated Public View Points in the vicinity of the Project; the nearest Public View Points are located at Bayview Park, located approximately 0.38 miles west-northwest of the Project site and on Back Bay Drive approximately 0.5 miles southwest of the Project site (City of Newport Beach, 2006b).

3.2.2 Impact Analysis

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



NEWPORT BAY WATER WHEEL PROJECT, FINAL INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

ENVIRONMENTAL IMPACT ANALYSIS

a) Have a substantial adverse effect on a scenic vista?

Less than Significant Impact. A scenic vista is defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. According to the City of Newport Beach General Plan Update EIR, significant vistas, as identified in the City's certified LCP, include public view points and coastal view roads. As illustrated in Figure 4.1-2 of the EIR (Coastal Views Map – Upper Newport Bay), there are coastal view roads located to the east and west of the Project site (City of Newport, 2006). Project construction activities visible from the roadway, such as clearing and grading, would temporarily impact this scenic resource; however, construction activities will primarily take place on previously disturbed land, will occur in an area where similar marine/water-related vessels transit, and will be short-term (approximately 9 months). Furthermore, following construction, native vegetation would be restored on the project site as well as planting of bushes and trees, thereby improving the visual character and quality of the site. During operations, the project would remove floatable trash and debris from the 120-mile tributary areas before it enters Upper Newport Bay, which would in turn, enhance the overall visual landscape. Therefore, implementation of the Project would result in a less than significant impact on scenic vistas.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No impact. The project site is located nearest to California State Route 73; however, this is not an officially designated scenic highway. Because no scenic highways are currently designated within the City, implementation of the Project would result in no impact to scenic resources within a state designated scenic highway.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

Less than Significant Impact. As stated in (a) above, project-related construction activities would result in changes to the existing visual character of the project site; however, these activities would be of short in duration and temporary. Post-construction activities (e.g., revegetation; planting of trees) would enhance the existing visual character and quality of the site. Removal of trash and debris from the project area during operations would also enhance the overall visual landscape. Therefore, implementation of the project would result in a less than significant impact to the existing visual quality of the project site.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

No impact. Construction activities would be limited to daytime hours. The water wheel would not require on-site personnel to operate and does not include installation of lights or use of materials with the potential to introduce glare. The project would result in no impact due to light or glare.



3.3 AGRICULTURE AND FORESTRY RESOURCES

3.3.1 Setting

The Project site is located along San Diego Creek between the Jamboree Road bridge and California State Route 73 in the City of Newport Beach, Orange County. The City's land use and zoning designations are set forth in the Land Use Element of the General Plan and Title 20 – Planning and Zoning of the Charter of the City of Newport Beach. The City's General Plan states that the majority of the community is fully developed with a diverse mixture of residential, institutional, commercial, industrial, and recreational and open space uses. The City does not contain any agriculture-oriented or forest-oriented zoning designations (City of Newport Beach, 2017).

3.3.2 Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
<u>AGRICULTURE AND FORESTRY RESOURCES:</u> Would the project:				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 Protection (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



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- 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?*

No Impact. There is no Farmland considered Prime, Unique, or of Statewide Importance within or adjacent to the Project area as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program (Department of Conservation, 2016). According to the State of California Orange County Important Farmland Map (California Department of Conservation, 2102), the Project area and surroundings are designated as “Urban and Built-Up Land,” which consists of urban development with a density of at least one unit to 1.5 acres or approximately six structures to a 10-acre parcel. In addition, no agricultural use zone currently exists within or near the Project, nor are any agricultural zones proposed. Therefore, no impacts related to the conversion of farmland to non-agricultural use would occur.

- b) *Conflict with existing zoning for agricultural use, or a Williamson Act contract?*

No Impact. The Williamson Act restricts land development of contract lands typically to agriculture, recreation, and open space, unless otherwise stated in the contract. The City does not have any agriculture-oriented zoning designations (City of Newport Beach, 2017) or Williamson Act Contract land (California Department of Conservation, 2004). Therefore, the Project would not conflict with existing zoning for agricultural use and no impacts related to existing agricultural zone use or Williamson Act contracts would occur.

- 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 Protection (as defined by Government Code section 51104(g)))?*

No Impact. The Project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Protection because none of the lands within or adjacent to the Project area are identified as “forest land,” “timberland,” or “Timberland Protection” as defined in the Public Resources Code Section 12220(g) and Section 4526, or Government Code Section 51104 (g). Therefore, no impacts related to zoning of forest land, timberland, or Timberland Protection would occur.

- d) *Result in the loss of forest land or conversion of forest land to non-forest use?*

No Impact. The Project would not result in the loss of forest land or conversion of forest land to non-forest use because none of the lands within and adjacent to the Project are identified as forest land as defined in the Public Code Section 12220(g). Therefore, no impacts related to loss or conversion of forest land would occur.

- 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?*

No Impact. The Project would not involve other changes in the existing environment that could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use because there is no farmland or forest land within or adjacent to the Project area. Therefore, no impacts related to conversion of farmland to non-agricultural use or conversion of forest land to non-forest use would occur.



3.4 AIR QUALITY

3.4.1 Setting

The Project site is located along San Diego Creek between the Jamboree Road bridge and California State Route 73 in the City of Newport Beach, Orange County. The project location is within the South Coast Air Basin (SCAB). Regulatory oversight authority regarding air quality of the SCAB rests at the local, State, and federal levels with the South Coast Air Quality Management District (SCAQMD), California Air Resources Board (CARB), and U.S. Environmental Protection Agency (USEPA), respectively.

Ambient air quality is determined by comparing pollutant levels in ambient air samples from a local area to the national and State standards. These standards are established by the USEPA and CARB at levels determined to be protective of public health and welfare, with an adequate margin of safety. California Ambient Air Quality Standards (CAAQS) were established in 1967, whereas National Ambient Air Quality Standards (NAAQS) were first established by the federal Clean Air Act (CAA) of 1970. California standards are generally more stringent than national standards.

Air quality standards specify the upper limits of pollutant concentrations, over defined durations, in ambient air consistent with the management goal of preventing specific harmful effects. There are national and State standards for the six “criteria air pollutants” ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), lead (Pb), and particulate matter. Particulate matter is measured in two size range: PM_{2.5} for fine particulate matter with an aerodynamic diameter of less than 2.5, and PM₁₀ for airborne respirable particulate matter with an aerodynamic diameter of less than 10 microns. Ozone is a secondary pollutant, Nitrogen oxides (NO_x) and volatile organic compounds (VOCs) are of particular interest as they are precursors to ozone formation.

The USEPA and CARB determine the air quality attainment status relative to the level of pollutants in designated areas by comparing local ambient air quality measurements from State or local ambient air monitoring stations with the NAAQS and CAAQS. Non-attainment status indicates that ambient measurements for a given pollutant in that area exceed the NAAQS and/or CAAQS. Consistent with federal requirements, an unclassifiable designation is treated as an attainment designation. Table 3-1 presents the federal and State attainment status for the project area which is in Orange county within the SCAB.

Table 3-1 Attainment Status of Orange County within South Coast Air Basin

Pollutant	Federal Designation	State Designation
Ozone (O ₃)	Non-Attainment (Extreme)	Non-Attainment
Particulate Matter (PM ₁₀)	Attainment/Maintenance	Non-Attainment
Particulate Matter (PM _{2.5})	Non-Attainment (Moderate)	Non-Attainment
Carbon Monoxide (CO)	Attainment	Attainment
Nitrogen Dioxide (NO ₂)	Attainment	Attainment
Sulfur Dioxide (SO ₂)	Attainment	Attainment
Lead (Pb)	Attainment	Attainment
Hydrogen Sulfide (H ₂ S)	*	Unclassified
Sulfates	*	Attainment



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Pollutant	Federal Designation	State Designation
Visibility Reducing Particles	*	Unclassified
Source: SCAQMD, 2017a		
Notes: (*) = Not Applicable/ No Federal Standards.		

As shown in Table 3-1, the Project is in an area designated non-attainment for both the federal and State standards for O₃ and PM_{2.5}, and for the State standard for PM₁₀. Because the Orange County (within SCAB) currently exceeds these State and federal ambient air quality standards, the SCAQMD is required to implement strategies to reduce pollutant levels to recognized acceptable standards.

The SCAQMD in conjunction with the Southern California Association of Governments (SCAG), CARB, and USEPA recently prepared the 2016 Air Quality Management Plan (AQMP) (SCAQMD, 2017b). The purpose of the 2016 AQMP is to provide a comprehensive and integrated program to lead the SCAB into compliance with the federal ozone and particulate matter standards.

The 2016 AQMP accounts for projected population growth, predicted future emissions in energy and transportation demand, and determined control strategies for the eventual achievement of NAAQS attainment designation. These control strategies are either organized into the SCAQMD rules and regulations, or otherwise set forth as formal SCAQMD recommendations to other agencies.

The 2016 AQMP includes policies that are consistent with the SCAQMD and specify review according to the recommendations of SCAQMD guidelines. Other policies are aimed at reducing transportation emissions and emissions from major stationary sources.

The Project would be subject to the following general SCAQMD rules and regulations, also as required by the Orange County Grading and Excavation Codes prior to issuance of grading permit:

- Regulation IV - Prohibitions
 - Rule 401 – Visible Emissions: prohibits discharges of visible air contaminants that occlude the air beyond certain thresholds;
 - Rule 402 – Nuisance: prohibits discharges of air contaminants that cause “injury, detriment, nuisance, or annoyance” to the public; and
 - Rule 403 – Fugitive Dust: prohibits discharges of fugitive dust that exceed certain thresholds.

The SCAQMD has adopted regional and localized significance thresholds (LSTs) to determine the significance of a project’s potential air quality impacts. Separate thresholds of significance have been adopted for the construction and operation phases of projects. The LSTs were developed by the SCAQMD to assist lead agencies in analyzing localized air quality impacts from projects. LSTs look-up tables for one-, two-, and five-acre proposed projects emitting CO, NO_x, PM_{2.5} or PM₁₀ were prepared for easy reference according to source receptor area. The LSTs methodology and associated mass rates are not applicable to mobile sources travelling over the roadways. It should be noted that SCAQMD does not mandate impact determination based on LSTs for new construction projects; more importantly, LSTs are a voluntary approach to be implemented at the discretion of local agencies (SCAQMD, 2008).



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Table 3-2, below, presents the regional thresholds as well as the LSTs applicable to the Project. These daily emission thresholds are used in this analysis for purposes of determining the air quality impacts from project construction and operation. SCAQMD air quality significance thresholds for VOCs are also included in Table 3.3-2 to illustrate the importance of limiting VOC emissions which contribute to ozone formation. As determined through SCAQMD guidelines, a one-acre site size was used for project calculations. These LSTs are based on the one-acre project site with a 100-meter (330 feet) receptor distance (approximate distance of the nearest residences located southeast of the project site).

Table 3-2 SCAQMD Significance Thresholds for Mass Daily Emissions of Criteria Air Pollutants

Regional Thresholds (lbs/day)	VOC	NO _x	SO _x	CO	PM ₁₀	PM _{2.5}	Pb
Construction	75	108	150	550	150	55	3
Operation	55	55	150	550	150	55	3
Localized Thresholds (lbs/day) ¹	VOC	NO _x	SO _x	CO	PM ₁₀	PM _{2.5}	Pb
Construction	n/a	108	n/a	1,090	27	9	n/a
Operation	n/a	108	n/a	1,090	7	3	n/a
SOURCES: SCAQMD Air Quality Significance (Mass Daily) Thresholds, 2015 SCAQMD Mass Rate LST Lookup Tables, Appendix C, 2008							
Notes:							
1. Localized significance thresholds are from the SCAQMD lookup tables for Source Receptor Area (SRA) 18 assuming a one-acre project site and a distance to the nearest sensitive receptor of 100 meters.							

3.4.2 Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
<u>AIR QUALITY:</u> Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



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Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) *Conflict with or obstruct implementation of the applicable air quality plan?*

Less Than Significant Impact. Emissions below the SCAQMD regional mass emissions thresholds of significance presented in Table 3-2, would not conflict with or obstruct implementation of the applicable air quality plan. The Project construction and operation emissions were calculated using the California Emissions Estimator Model (CalEEMod) version 2016.3.1. CalEEMod is a Statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planning, and environmental professionals to quantify potential criteria air pollutant emissions associated with both construction and operations from a variety of land use projects. The model utilizes widely accepted federal and state models for emission estimates and default data from sources such as USEPA AP-42 emission factors, California Air Resources Board (CARB) vehicle emission models, and studies from California agencies such as the California Energy Commission (CEC).

The model quantifies direct emissions from construction and operations including vehicle use, off-road equipment, fugitive dust, material export and import. Default data (i.e., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions. The model is a comprehensive tool and provides good estimates for quantifying air quality impacts from land use projects throughout California.

The Project would generate emissions during construction from construction equipment, impact hammers, and haul and worker vehicle trips. Emissions were calculated for the construction and operation of project using CalEEMod, assuming a “general light industry” land use and modifying default values to include pile installations during construction and truck using access road on intermittent basis for operational phase.

The Project does not involve day-to-day operational activities, nor does it include a land use that would generate substantial new vehicle trips. The Water Wheel is not proposed to run on a constant basis. As San Diego Creek is generally a low flow creek without storm events, the current will not produce the flow necessary to turn the Water Wheel daily. Project operations are planned to occur during and/or after storm events. As a result, the Project would not result in a substantial or continuous increase of operation phase emissions and they are therefore not considered further in this air quality section. Total Project emissions from construction activities were estimated, and maximum



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daily emission rates were calculated for comparison with applicable significance thresholds. Estimated unmitigated Project construction emissions are summarized below in Table 3-3. Detailed emissions estimates and assumptions are provided in Appendix A (Project Emissions Estimates).

Table 3-3 Unmitigated Project Emissions in Comparison to SCAQMD Significance Thresholds

Component	Maximum Daily Emissions (lbs/day)					
	VOC	NO _x	SO _x	CO	PM10	PM2.5
Construction Phase						
Regional Thresholds Construction	75	100	150	550	150	55
Estimated Total Construction Emissions	1.23	12.53	0.02	10.58	1.33	0.89
Localized Thresholds Construction	n/a	108	n/a	1,234	24	8
Estimated On-site Construction Emissions*	1.17	11.96	0.02	10.07	1.22	0.86
Exceeds Thresholds?	No	No	No	No	No	No
Notes: * Emission estimated using CalEEMod for “general industrial use” and modifying default values to include pile installations and truck using access road on intermittent basis. Results of model runs are provided in Appendix A.						

As shown in Table 3-3, Project construction emissions are well below the applicable SCAQMD regional and localized mass emissions thresholds of significance. Project construction emissions are not anticipated to conflict with or obstruct implementation of the AQMP, therefore impacts would be less than significant.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less Than Significant Impact. As presented in Table 3-3 emissions from Project construction would be below the applicable SCAQMD regional and localized mass emissions thresholds of significance. Therefore, the Project would not violate any air quality standards or contribute substantially to any existing or projected air quality violation and impacts would be less than significant.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Less Than Significant Impact. In accordance with SCAQMD methodology, projects that do not exceed or can be mitigated to less than the daily threshold values do not add significantly to a cumulative impact. As discussed above, estimated Project emissions are below the applicable SCAQMD regional and localized mass emissions thresholds of significance. Therefore, Project emissions would have less than significant impact to non-attainment pollutants in the SCAB.

d) Expose sensitive receptors to substantial pollutant concentrations?



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Less Than Significant Impact. Sensitive receptors are defined as populations that are more susceptible to the effects of pollution than the population at large. The SCAQMD identifies the following as sensitive receptors: residences, schools, daycare centers, playgrounds, and medical facilities. The Project location is within an undeveloped area which is zoned as open space (OS). The nearest sensitive receptors to the project site are the residences that are located across the water channel approximately 100 meters (330 feet) from the Project site boundary. Projects that are below the SCAQMD LSTs presented in Table 3-2 would not be expected to expose sensitive receptors to substantial pollutant concentrations. These LSTs are based on a one-acre site with a 100-meter receptor distance. As discussed above, estimated Project emissions are below all applicable SCAQMD localized thresholds of significance. Therefore, exposure of pollutants to sensitive receptors due to Project emissions is anticipated to have a less than significant impact.

e) *Create objectionable odors affecting a substantial number of people?*

No Impact. The SCAQMD has identified land uses subject to odor complaints. These land uses include agriculture (farming and livestock), wastewater treatment, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding (SCAQMD, 1993). The Project does not include a land use that SCAQMD has identified as subject to odor complaints and does not include any component with the potential to generate objectionable odors that could affect a substantial number of people. Furthermore, construction of the Project does not include use of large amounts of solvents or architectural coatings which are main sources of construction odor. Therefore, no odor impacts would occur during construction or operation of the Project.

f) *Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?*

No Impact. The Project is limited to construction and operation of a Water Wheel to remove trash from San Diego Creek during storm events prior to it entering Newport Bay. The Project's emissions of criteria air pollutants are below SCAQMD mass emissions thresholds of significance and it does not include the operation of stationary sources of air pollutants. The Project would have no impact on diminishing an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s).



3.5 BIOLOGICAL RESOURCES

3.5.1 Setting

The Project site is located along San Diego Creek between the Jamboree Road bridge and California State Route 73 in the City of Newport Beach, Orange County. The San Diego Creek Watershed is approximately 118 square miles in size and includes all of the cities of Irvine and Tustin, and portions of Lake Forest, Laguna Hills, Newport Beach, Orange, Santa Ana, and unincorporated Orange County. San Diego Creek confluences with Upper Newport Bay immediately downstream from the Project site. Upper Newport Bay is primarily a marine saltmarsh with freshwater inflows from San Diego Creek, the Santa Ana - Delhi Channel, local springs, and drainage from adjacent areas. Biological related surveys conducted in support of this document occurred within and adjacent to the Project site (Biological Survey Area or BSA) along San Diego Creek; the BSA is approximately 4.52 acres (refer to Figures 1 through 4 in Appendix C for a graphical depiction of the BSA).

The Project site is located within the San Diego Creek Environmental Study Area (ESA) designated by the City of Newport Beach's certified LCP. ESAs are areas with known and potential biological resources and the LCP requires potential threats to those resources be identified and mitigated when potentially impacted. The certified LCP presumes the natural communities and habitats within an ESA to be environmentally sensitive habitat areas (ESHAs), unless there is compelling site-specific evidence to the contrary. ESHAs are areas in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.

3.5.2 Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less than Significant Impact	No Impact
<u>BIOLOGICAL RESOURCES:</u> Would the Project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



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Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporation	Less than Significant Impact	No Impact
<u>BIOLOGICAL RESOURCES:</u> Would the Project:				
removal, filling, hydrological interruption, or other means?				
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The following describes the methodologies used to conduct a literature review for and terrestrial/aquatic surveys within the Project site. The results of these surveys are discussed below under specified headings.

Literature Review

A literature search was performed in conjunction with field surveys conducted for the BSA. The BSA is located within the U.S. Geological Survey's (USGS) Tustin California, 7.5-minute topographic quadrangle. A search of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) was conducted for this quadrangle to determine special-status plants, wildlife, and vegetation communities that have been documented within the vicinity of the BSA (CDFW, 2018a). The following seven adjacent quadrangles were also included in the database search due to their proximity to the BSA (note: due to the Project's proximity to the coastline, no quadrangles occur to the southwest):

- Anaheim
- Orange
- Black Star Canyon
- Lake Forest El Toro
- San Juan Capistrano
- Laguna Beach
- Newport Beach

Additional data regarding the potential occurrence of special-status species and policies relating to these special-status natural resources were gathered from the following sources:

- State and federally listed endangered and threatened animals of California (CDFW, 2018b);
- Special Animals List (CDFW, 2018c);
- Inventory of Rare and Endangered Vascular Plants of California (CNPS, 2018); and



- Consortium of California Herbaria (CCH, 2018).

Terrestrial Surveys

Qualified biologists conducted a survey for biological resources and habitat assessment within the BSA on 27 April 2018. This included, but was not limited to, a literature review, reconnaissance-level survey, focused non-protocol surveys for special-status plant and wildlife species, non-protocol focused surveys for listed song birds, and preliminary jurisdictional delineation. Surveys were conducted on foot within the BSA where accessible based on terrain and vegetative cover. A literature search was performed in conjunction with field surveys conducted for the BSA. A search of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) was conducted for this quadrangle in which the project occurs and all adjacent quadrangles to determine special-status plants, wildlife, and vegetation communities that have been documented within the vicinity of the Project Area.

The reconnaissance-level survey was performed by walking meandering transects through the entirety of the BSA at an average pace of approximately 1.5 km/hr while visually searching for and listening to wildlife songs and calls and observing for animal signs. The walking survey was halted approximately every 50 meters to listen for wildlife or as necessary to identify, record, or enumerate any other detected species. Terrestrial insects and other invertebrates were searched for on flowers and leaves, under loose bark, and under stones and logs on the ground throughout the BSA. Randomly selected areas within appropriate micro habitats (e.g., leaf litter, underneath felled logs, etc.) were hand raked or visually inspected to determine the presence/absence of gastropods. Surveys were conducted during daylight hours when temperatures were such that reptiles would be active (i.e., between 75° – 95° Fahrenheit). Visual observations were made to locate basking reptiles, and potential refuge areas, such as debris piles (e.g., woody debris, trash, etc.), were searched. All refugia sites search were returned to their original state upon survey completion.

The entire BSA was assessed by walking “meandering transects” throughout all accessible portions, with particular attention given to areas of suitable habitat for special-status plant species. All plant species observed were identified in the field or collected for later identification.

Aquatic Surveys

The San Diego Creek bottom was surveyed using both video and acoustic methods. Surveys were performed from a kayak. The kayak is fitted with a hull mounted 455 MHz/800 MHz side scan sonar, variable frequency single beam Chirp sonar, and a 10 Hertz (Hz) Global Positioning System (GPS). In total, five in-water survey transects were completed using the Pi-yak. Acoustic coverage was greater than 90 percent in the survey area. Side scan sonar surveys were visually verified using a wifi enabled High Definition (HD) Video camera. The camera was connected to the scientist’s smartphone via an Android app that was capable of viewing in real time and recording either HD video or still images. Visibility at the time of survey was poor, less than 1 foot at times. Collectively, the equipment and methodology used on this survey is compliant with NMFS recommendations for a valid survey for both eelgrass and/or *Caulerpa*. Concurrent with in-water acoustic survey transects, a field biologist investigated the water to land interface, and recorded animals observed around the surveyed habitat. Two shoreline transects were completed of the creek edges.



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- a) *Have a substantial adverse effect, either directly or through habitat modifications, on any 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?*

Less than Significant Impact with Mitigation Incorporated. A reconnaissance level survey for terrestrial and aquatic biological resources was conducted on 27 April 2018. Terrestrial surveys consisted of meandering transects throughout the entirety of the BSA to document existing resources. During terrestrial surveys only one special-status wildlife species was detected; an Osprey (*Pandion haliaetus*) was observed perched on top of a tree on the south bank of and foraging in an around San Diego Creek. No nest capable of supporting an Osprey were observed within or adjacent to the BSA.

Aquatic surveys conducted within the BSA did not result in the detection of any special-status species. In-water surveys included side scan sonar surveys that were visually verified using a Wi-Fi enabled High Definition (HD) Video camera. Concurrent with in-water acoustic survey transects, a field biologist investigated the water to land interface, and recorded animals observed around the surveyed habitat. The only large fish observed during aquatic survey were Mullet, otherwise, fish were largely absent from the survey. Visibility was limited making distance observations difficult, but it is suspected the dense foliage on the banks of the creek may serve as high quality protective habitat for fish, providing cover and structure for juveniles. There were no signs of invasive species (i.e., *Caulerpa sp.*) or eelgrass (*Zostera marina*). The full text of the Aquatic Survey Report is available in Appendix B.

Other than the Osprey, no federal, State or other special-status wildlife species were detected during the surveys. The on-site surveys revealed that the habitats within or adjacent to the ~~Project site~~ BSA have the potential to support (i.e., nesting, foraging, breeding, etc.) special-status wildlife species such as but not limited to; western pond turtle (*Actinemys marmorata*), yellow-breasted chat (*Icteria virens*), least Bell's vireo (*Vireo bellii pusillus*), and western mastiff bat (*Eumops perotis*).

No federal, State, or other special-status plant species were observed during the 27 April 2018 survey. Salt marsh birds-beak (*Chloropyron maritimum ssp. Maritimum*), federally and State listed as endangered, while not observed is known to occur immediately west within Upper Newport Bay. Several special-status plant species recognized by the California Native Plant Society (CNPS) Rare Plant Program and assigned a California Rare Plant Rank (CRPR), are known to occur in the Project area; southern tarplant (*Centromadia parryi ssp. australis*), Coulter's saltbush (*Atriplex coulteri*), many-stemmed dudleya (*Dudleya multicaulis*), San Bernardino aster (*Symphytotrichum defoliatum*), and Los Angeles sunflower (*Helianthus nuttallii ssp. parishii*).

In general, direct impacts to special-status plants and terrestrial wildlife include ground-disturbing activities associated with construction of the Project and increased human presence (i.e., crushing, trampling, trapping). Potential indirect impacts include increased noise levels from heavy equipment (wildlife only), increased human disturbance, exposure to fugitive dust, the spread of noxious weeds, and disruption of breeding or foraging activity due to routine maintenance activities (wildlife only). Weed abatement through herbicide application or mechanized tools could also impact special-status species. If the Project construction were to occur during the avian nesting season (generally considered to be between February 15th through September 15th; although some raptors species may nest as early as January) indirect impacts to nesting birds could occur; the Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711) does not allow for take of migratory birds.



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The MBTA makes it unlawful to possess, buy, sell, purchase, barter or “take” any migratory bird listed in Title 50 of the Code of Federal Regulations Part 10. “Take” is defined as possession or destruction of migratory birds, their nests or eggs. Disturbances that cause nest abandonment and/or loss of reproductive effort or the loss of habitats upon which these birds depend may be a violation of the MBTA. The MBTA prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary. This act encompasses whole birds, parts of birds, and bird nests and eggs.

Project construction would result in a permanent loss of piling/structured habitat associated with removal of the existing pile structures, as well as temporary disturbance of soft bottom habitat within the work area. Direct impacts on the benthic community (a primary food source for fish species) would include the loss or mortality of any benthic infauna and epifauna within the in-water construction footprint, and present on existing pile structures. Temporary effects from construction-related in-water pile removal/installation may include localized increases in turbidity and sedimentation, along with lowered dissolved oxygen levels associated with disturbance of anoxic sulfidic sediments during sediment removal. Another consideration regarding these bottom-disturbing activities is the re-suspension of potentially contaminated materials that could harm aquatic resources. Additionally, disturbance of sediment would temporarily impact benthic invertebrate communities that serve as a food source for fish and other aquatic species populations. Some fish and/or other aquatic species would temporarily avoid the work area and move to adjacent habitats during construction due to turbidity associated with pile removal/installation.

If implementation of the Project were to impact special-status species, these impacts would be considered significant. Therefore, Mitigation Measures BIO-1 through BIO-7, which would require pre-construction wildlife surveys prior to ground disturbance, relocation of wildlife found within Project impact areas during pre-construction surveys and daily monitoring, a biological monitor during site disturbing activities, implementation of environmental awareness training to educate Project personnel regarding on-site plants and wildlife, implementation of site-wide Best Management Practices (BMPs) (i.e., restriction on open trenches and guidelines for refueling near drainage features), nesting bird surveys and avoidance measures for active nests, placement of turbidity curtains during in-water construction, protocol surveys for least Bell’s vireo, and focused surveys and monitoring for western pond turtles (including relocation from the Project area). These measures would be implemented to mitigate these potentially significant impacts. Implementation of these Mitigation Measures would ensure that potential impacts to special-status plant and wildlife species are reduced to a less than significant level.

Mitigation Measures

BIO-1 Pre-Construction Surveys (Plants and Wildlife) and Biological Monitoring

Wildlife Surveys: Prior to ground disturbance or vegetation clearing within the Project site, a qualified biologist shall conduct surveys for wildlife (no more than 14 days prior to site disturbing activities) where suitable habitat is present and directly impacted by construction activities. The qualified biologist must be approved by the City of Newport Beach prior to the commencement of surveys. Wildlife found within the Project site or in areas potentially affected by the Project will be relocated to the nearest suitable habitat that will not be affected by the project prior to the start of construction. Special-status species found within a Project impact area shall be relocated by an authorized biologist to suitable habitat outside the impact area.

Plant Surveys: Prior to initial ground disturbance for any areas subject to ground disturbance, the Project proponent shall conduct pre-construction surveys for special-status plant species in all areas subject to ground-disturbing



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activity, including, but not limited to, slope grading, new access roads, staging areas, and Project construction. The surveys shall be conducted during the appropriate blooming period(s) by a qualified plant ecologist/biologist (approved by the City of Newport Beach) according to protocols established by the USFWS, CDFW, and CNPS. All listed plant species found shall be marked and avoided. Any populations of special-status plants found during surveys will be fully described, mapped, and a CNPS Field Survey Form or written equivalent shall be prepared.

Prior to site grading, any populations of special-status plant species identified during the surveys shall be protected by a buffer zone. The buffer zone shall be established around these areas and shall be of sufficient size to eliminate potential disturbance to the plants from human activity and any other potential sources of disturbance including human trampling, erosion, and dust. The size of the buffer depends upon the proposed use of the immediately adjacent lands and includes consideration of the plant's ecological requirements (e.g., sunlight, moisture, shade tolerance, physical and chemical characteristics of soils) that are identified by the qualified plant ecologist or botanist. The buffer for herbaceous and shrub species shall be, at minimum, 50 feet from the perimeter of the population or the individual. A smaller buffer may be established, provided there are adequate measures in place to avoid the take of the species, with the approval of the City of Newport Beach. Highly visible flagging shall be placed along the buffer area and remain in good working order during the duration of any construction activities in the area.

Where impacts to listed plants cannot be avoided, the USFWS and/or CDFW shall be consulted for authorization, as appropriate. Additional mitigation measures to protect or restore listed plant species or their habitat, including but not limited to a salvage plan including seed collection and replanting, may be required by the USFWS or CDFW before impacts are authorized.

If non-listed CRPR 1, 2, 3, or 4 plants cannot be avoided, and Project-related impacts result in the loss of 10 percent or more of the local population (i.e., occurrences within ¼ mile of the Project impact location), compensatory mitigation will be required.

Compensation: Compensation will be required for all impacts that exceed the 10 percent threshold (e.g. impacts to 15 percent of a population will only require compensation for 5 percent, the amount of impacts that exceed the 10 percent threshold). To compensate for permanent impacts to special-status plants (including areas located beneath the arrays), habitat (which may include preservation of areas within the undisturbed areas of the Project footprint, mitigation lands outside of the main Project site, or a combination of both) that is not already public land shall be preserved and managed in perpetuity at a 1:1 mitigation ratio (one acre preserved for each acre impacted). Compensation for temporary impacts shall include land acquisition and/or preservation at a 0.5:1 ratio. The preserved habitat for a significantly impacted plant species shall be of equal or greater habitat quality to the impacted areas in terms of soil features, extent of disturbance, and vegetation structure, and will contain verified extant populations, of the same size or greater, of the special-status plants that are impacted.

Prior to the disturbance of habitat for or take of special-status plants the City of Newport Beach must present documentation of a recorded conservation easement(s) for all compensation/mitigation lands to the U.S. Army Corps of Engineers (USACE) and CDFW as applicable. Compensation lands shall be located within the San Diego Creek Watershed (including Newport Bay). An open space easement will be recorded on all property associated with the compensation/mitigation lands to protect the existing plant and wildlife resources in perpetuity. An open space easement can be held by CDFW or an approved land management entity and shall be recorded immediately upon the dedication or acquisition of the land.



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Biological Monitoring: Prior to the issuance of grading permits, the Project proponent shall provide written evidence to the City of Newport Beach, that the Project proponent has retained a qualified biological monitor with expertise in the species known to occur or with the potential to occur on the Project site. The qualified biologist shall be present during initial ground disturbance for each phase of construction. Once initial ground disturbance is complete, monitoring will occur periodically during all construction activities. The qualified biologist(s) shall be present at all times during ground-disturbing activities immediately adjacent to, or within habitat that supports populations of listed or special-status species.

If required, during pre-construction surveys and/or required monitoring efforts, the qualified biologist will relocate common and special-status species that enter the Project site; some special-status species may require specific permits prior to handling and/or have established protocols for relocation. Records of all detection, capture and release shall be reported to CDFW.

BIO-2 Environmental Awareness Training

Prior to the issuance of any grading permits, the Project proponent shall submit proof to the City of Newport Beach, that all Project personnel attended an environmental awareness and compliance training program. The training program shall present the environmental regulations and applicable permit conditions that the Project team shall comply with. The training program shall include applicable measures established for the Project to minimize impacts to water quality and avoid sensitive resources, habitats and species. Dated sign-in sheets for attendees at these meetings shall be maintained and submitted to the City of Newport Beach.

BIO-3 Implement Best Management Practices (BMPs)

Prior to the issuance of any grading permits, the Project proponent shall submit grading plans and specifications to the City of Newport Beach, which indicate that the Project shall implement the following BMPs:

- Restrict non-essential equipment to the existing roadways and/or ruderal areas to avoid disturbance to native vegetation.
- All excavation, steep-walled holes or trenches in excess of six inches in depth shall will be covered at the close of each working day by plywood or similar materials or provided with one or more escape ramps constructed of earth dirt fill or wooden planks. Trenches will also be inspected for entrapped wildlife each morning prior to onset of construction activities and immediately prior to covering with plywood at the end of each working day. Before such holes or trenches are filled, they will be thoroughly inspected for entrapped wildlife. Any wildlife discovered will be allowed to escape before construction activities are allowed to resume or removed from the trench or hole by a qualified biologist holding the appropriate permits (if required).
- Minimize mechanical disturbance of soils to reduce impact of habitat manipulation on small mammals, reptiles, and amphibians.
- Removal/disturbance of vegetation shall be minimized to the greatest extent feasible.
- Install and maintain appropriate erosion/sediment control measures, as needed, throughout the duration of work activities.



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- Vehicles shall not be driven, or equipment operated, in water covered/wetted portions of the stream channel, or where riparian vegetation may be destroyed, except as otherwise provided for in the permits/agreements from the CDFW, USACE, and/or Regional Water Quality Control Board (RWQCB).
- No vehicles or equipment shall be refueled within 100 feet of an ephemeral drainage or wetland unless a bermed and lined refueling area is constructed. Spill kits shall be maintained on site in sufficient quantity to accommodate at least three complete vehicle tank failures of 50 gallons each. Any vehicles driven and/or operated within or adjacent to drainages or wetlands shall be checked and maintained daily to prevent leaks of materials.

BIO-4 Nesting Bird Surveys and Avoidance Measures

Prior to issuance of grading permits, the Project proponent shall provide evidence to the City of Newport Beach, of compliance with the MBTA. Prior to initial site disturbance/issuance of grading permits, seasonally timed presence/absence surveys for nesting birds shall be conducted by a qualified biologist; the qualified biologist must be approved by the City of Newport Beach prior to the commencement of surveys. If construction activities carry over into a second nesting season(s) the surveys will need to be completed annually until the Project is complete. A minimum of three survey events, three days apart shall be conducted (with the last survey no more than three days prior to the start of site disturbance), if construction is scheduled to begin during avian nesting season (February 15th through September 15th); surveys for raptors shall be conducted from January 1st to August 15th. Surveys shall be conducted within 500 feet of all Project activities.

~~If least Bell's vireo or other~~ If ~~least Bell's vireo or other~~ special-status species are observed, consultation with U.S. Fish and Wildlife Service (USFWS) and/or CDFW is required. If breeding birds with active nests are found prior to or during construction, a qualified biological monitor shall establish a 300-foot buffer around the nest and no activities will be allowed within the buffer(s) until the young have fledged from the nest or the nest fails. The prescribed buffers may be adjusted by the qualified biologist based on existing conditions around the nest, planned construction activities, tolerance of the species, and other pertinent factors. The qualified biologist shall conduct regular monitoring of the nest to determine success/failure and to ensure that Project activities are not conducted within the buffer(s) until the nesting cycle is complete or the nest fails. If construction occurs outside of avian nesting season, only a single presence/absence survey will be required.

BIO-5 Focused Western Pond Turtle Surveys and Avoidance Measures

Prior to ground disturbance or vegetation clearing, a qualified biologist shall be retained to conduct focused surveys for western pond turtle within the Project site and adjacent habitats to a distance of 200 feet away; the qualified biologist must be approved by the City of Newport Beach prior to the commencement of surveys. Focused surveys shall occur between April 1st and September 1st (breeding season) and shall consist of a minimum of four daytime surveys, to be completed prior to ground disturbance or vegetation clearing. The qualified biologist shall conduct focused, systematic surveys for western pond turtle nesting sites. The survey area shall include all suitable nesting habitat located within 200 feet of occupied habitat in which ground disturbance will occur. Surveys will entail searching for evidence of pond turtle nesting, including remnant eggshell fragments, which may be found on the ground following nest depredation.



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If an active western pond turtle nesting area would be adversely impacted by construction activities, the nesting area with an appropriate buffer shall be avoided. If avoidance of the nesting area is determined to be infeasible, the qualified biologist shall coordinate with the CDFW to identify if it is possible to relocate the pond turtles. Eggs or hatchlings shall not be moved without written authorization from the CDFW.

During the design phase of the Project, modifications will be made to the water wheel structure (in coordination with a qualified biologist), to minimize potential access to the structure by aquatic species such as western pond turtle. This may include, but is not limited to, the installation of vertical surfaces where turtles (or other aquatic species) may attempt to access the structure.

A qualified biologist with demonstrated expertise with western pond turtles shall monitor construction activities where pond turtles are present. The qualified biologist will be present full-time during all vegetation removal activities immediately adjacent to, or within, habitat that supports populations of western pond turtles, and part time for all remaining activities. If the installation of fencing to prevent turtles from entering the work area is deemed necessary by the qualified biologist, one pre-construction survey for southwestern pond turtles shall be conducted at the time of the fence installation.

BIO-6 Conduct Protocol Surveys for Least Bell's Vireo

A qualified avian biologist shall conduct focused protocol surveys in suitable habitat within 500 feet of proposed Project disturbance areas within the breeding season prior to the start of construction. The surveys shall be of adequate duration to verify potential nest sites if work is scheduled to occur during the breeding season and follow established protocols.

If a territory or nest is confirmed in a previously unoccupied area, the CDFW and USFWS shall be notified within 48 hours. In coordination with the CDFW and USFWS, a 300 foot disturbance-free buffer shall be established and demarcated by fencing or flagging. This buffer may be adjusted as determined by a qualified avian biologist in coordination with the CDFW and USFWS. The City, in consultation with the qualified biologist, shall halt construction if activities outside of but near the 300-foot buffer are determined to be negatively impacting the nesting birds. The qualified biologist shall devise methods to reduce the noise and/or disturbance in the vicinity as needed. This may include methods such as, but not limited to, turning off vehicle engines and other equipment whenever possible to reduce noise, installing a protective noise barrier between the nest site and the construction activities, and working in other areas until the young have fledged. All active nests shall be monitored on a weekly basis until the nestlings fledge.

BIO-7 Install Turbidity Curtains

The Project proponent shall install turbidity curtains around the in-water construction area prior to initiation of in-water construction activities (i.e., pile removal or installation). Turbidity curtains shall consist of a hanging weighted curtain with a surface float line and shall extend from the surface to the bottom of the San Diego Creek.

- b) *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish or U.S. Fish and Wildlife Service?*



Less Than Significant Impact with Mitigation Incorporated. Two “sensitive” habitat communities, quailbush scrub and arroyo willow thickets are present within the BSA and would be permanently impacted by Project construction activities; 0.24 acres and 0.01 acres respectively. Both quailbush scrub and arroyo willow thickets have an “S4” designation, which indicates that they are uncommon but not rare in the state; but there is some cause for long-term concern due to declines or other factors; global and state ranks are determined by the NatureServe Network and recognized by the CDFW. The loss of these sensitive riparian plant communities would be considered a significant impact.

Impacts to habitat areas identified as an ESHA would also be considered a significant impact. The City of Newport Beach LCP Implementation Plan serves to implement the policies of the Coastal Land Use Plan and the California Coastal Act of 1976 and defines ESHAs as the following:

Any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments shall be designated as an environmentally sensitive habitat area (ESHA).

Based on surveys conducted within the BSA, some of the habitats (non-subtidal) that would be permanently impacted by proposed construction activities may meet the requirements to constitute an ESHA. Habitats that may constitute an ESHA include those that have been identified as rare by the CDFW. While quailbush scrub and arroyo willow thickets are considered a sensitive community by the CDFW, they are not identified as rare. No special-status plant or wildlife species were observed within the BSA. The presence of coastal streams is another attribute that may lead to a determination that a habitat feature constitutes an ESHA; therefore, San Diego Creek may meet the requirements of this attribute. Portions of San Diego Creek and adjacent habitats are identified as jurisdictional wetlands (refer to Section 3.5.2 subsection c) for additional information on wetland habitats). Limits are placed on land uses within a habitat that constitutes an ESHA. The City of Newport Beach LCP states that uses within an ESHA shall be limited to only those that are dependent on those resources. Given that the intent of the project is to reduce the levels of trash and debris within San Diego Creek and Newport Bay, which will result in enhanced habitat and water quality conditions, the restoration nature of the project would be considered a land use consistent with the certified LCP.

Riparian habitats, including ephemeral and perennial streams, are biologically productive and diverse, and are the exclusive habitat of several threatened or endangered wildlife species and many other special-status species. Riparian and wetland habitats are highly productive ecosystems that also provide drinking water sources and foraging, nesting, and cover habitat for a diverse assemblage of wildlife species, both within the riparian habitats and adjacent upland habitats. Many wildlife species are wholly dependent on riparian habitats throughout their life cycles, and many others use riparian habitats only during certain seasons or life history phases. For example, certain mammals require drinking water or cool shaded cover during summer but otherwise may live in upland habitats. Numerous amphibians breed in aquatic habitats but spend most of their lives in uplands.

Table 3-4 below identifies the potential impacts to vegetation communities that are expected to occur from Project implementation.



Table 3-4 Estimated Impacts to Vegetation Communities and Land Cover Types

Vegetation Community / Land Cover Type	Estimated Permanent Impacts (acres)
Ice Plant Mats	0.09
Disturbed/Developed	0.12
Open Water	0.07
Marsh Jaumea Mats	0.01
Arroyo Willow Thickets*	0.01
Fennel Patches	0.13
Quailbush Scrub*	0.24

*Sensitive Vegetation Community

Construction of the Project would remove vegetation, alter soil conditions, and have the potential to result in the loss of native seed banks within portions of the BSA. Construction activities could also result in the spread of noxious weeds within the Project site and adjacent habitats. During operation and maintenance of the Project, impacts would occur during routine maintenance activities and could include trampling or crushing of native vegetation by foot traffic, alterations in topography and hydrology, increased erosion and sedimentation, and the introduction of non-native, invasive plants due to increased human presence on foot or equipment.

Mitigation Measure BIO-8 below, which include minimizing vegetation removal and compensation for impacts to native vegetation communities would be implemented to mitigate these potential impacts. In addition, BIO-2 and BIO-3 would require environmental awareness training for all project personnel and implementation of best management practices (i.e., establishment of construction exclusion zones). Implementation of these measures would ensure that potential impacts to sensitive habitats, including ESHA, are reduced to a less than significant level.

Mitigation Measures

BIO-2 Environmental Awareness Training

BIO-3 Implement Best Management Practices (BMPs)

BIO-8 Vegetation Removal and Replacement

Construction activities shall be done in such a manner as to minimize the removal of native vegetation. If native vegetation removal cannot be avoided, and the removal is approved by the City of Newport Beach, the impacted plant communities shall be replaced at a mitigation ratio of 1:1. Sensitive communities, including jurisdictional wetlands, shall be replaced at a mitigation ration of 3:1. The compensation for the loss of habitats may be achieved either by a) on-site habitat creation or enhancement of impacted communities with similar species compositions to those present prior to construction, b) off-site creation or enhancement of California sycamore woodlands and southern riparian scrub communities, or c) participation in an established mitigation bank program.

Prior to the removal of native vegetation, if on or off-site mitigation is required, a Habitat Mitigation and Monitoring Plan shall be prepared that will guide all restoration and monitoring activities. This plan shall include, at a minimum, the following:

- Proposed species list for creation/enhancement;



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- Planting/seeding methodology;
- Irrigation plan;
- Weeding schedule;
- Success criteria;
- Monitoring methodology and schedule; and
- Reporting requirements.

c) *Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

Less Than Significant Impact with Mitigation Incorporated. Four potentially jurisdictional habitats/features occur within the BSA and two of them would be impacted by the Project. Based on an assessment of hydrology, vegetation, and soils, the Project would permanently impact approximately 0.081 acres that satisfy the criteria to be considered federally jurisdictional wetlands (Environmental Laboratory, 1987 and 2011). Following an assessment of hydrology and the presence of bed and bank, it was determined that there are approximately 0.542 acres of CDFW jurisdictional waters would be permanently impacted by the Project. By virtue of its hydrological connectivity to Upper Newport Bay and subsequently with the Pacific Ocean, San Diego Creek is a potentially jurisdictional “waters of the US”, subject to Clean Water Act permitting. The above-mentioned features are also likely afforded protection by the State, under Section 401 Water Quality Certification and the Coastal Zone Management Act (administered by the California Coastal Commission [CCC]), and Section 1600 Streambed Alteration Agreement programs. Project-related impacts to jurisdictional waters/wetlands would be considered significant

The importance of intermittent and ephemeral streams to wildlife in arid environments is well known (Levick et al., 2008). Ephemeral drainages, such as Fullerton Creek, provide unique habitat that is distinct from the surrounding uplands, providing more continuous vegetation cover and microtopographic diversity than the surrounding uplands. Ephemeral and intermittent streams in the arid west provide important habitat for wildlife and are responsible for much of the biotic diversity (Levick et al., 2008). They have higher moisture content and provide shade and cooler temperatures within the channel. In cases where the habitat is distinct in species composition, structure, or density, wash communities provide habitat values not available in the adjacent uplands.

Direct impacts to State and federal waters would include the removal of native riparian vegetation, the discharge of fill, degradation of water quality, and increased erosion and sediment transport. Potential indirect impacts could include alterations to the existing topographical and hydrological conditions and the introduction of non-native, invasive plant species. Operational impacts to jurisdictional habitats would be similar to direct and potential indirect impacts.

For Project related impacts to jurisdictional waters, as required by law, the City of Newport Beach would comply with State and federal regulations regarding conducting Project activities in water courses and habitats under the jurisdiction of the State and federal government. Pursuant to Section 401 and 404 of the CWA, the State Porter-Cologne Act, Coastal Zone Management Act, and Fish and Game Code 1600, the Project proponent would be



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required to procure a Section 404 permit from the USACE, a Section 401 Water Quality Certification from the RWQCB, Coastal Development Permit from the CCC, and a Section 1600 Streambed Alteration Agreement permit from the CDFW prior to initiating activities that may result in disturbance within the jurisdictional areas. Conditions outlined in permits from the above agencies may require compensatory mitigation for impacts to jurisdictional resources.

Project-related impacts to jurisdictional waters would be considered significant without mitigation. Therefore, Mitigation Measures BIO-1 (Pre-Construction Surveys (Plants and Wildlife), BIO-3 (Implement BMPs) and Biological Monitoring), BIO-8 (Vegetation Removal and Replacement), which would require on-site biological monitoring, installation and maintenance of appropriate erosion/sediment control measures, would be implemented to mitigate these potentially significant impacts. Implementation of Mitigation Measures BIO-1, BIO-3 and BIO-8 would reduce potential impacts to jurisdictional features to a less than significant level.

Mitigation Measures

BIO-1 Pre-Construction Surveys (Plants and Wildlife) and Biological Monitoring

BIO-3 Best Management Practices (BMPs)

BIO-8 Vegetation Removal and Replacement

d) *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

Less Than Significant Impact. The literature review conducted as part of the preparation of this document did not reveal known wildlife movement corridors within or immediately adjacent to the Project site and there are no known migratory fish within San Diego Creek, traversing through the Project site. However, the creek itself potentially provides an important migratory pathway for various aquatic wildlife such as various fish, birds, and amphibians.

The Project is not expected to impact or interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. Construction activities would be limited to daytime hours; wildlife movement is anticipated to be limited during this time due to existing anthropogenic influence. There are no known bird or bat migratory corridors that would be directly impeded by the Project. Large concentrations of migrants are not known to utilize any specific portion of the Project site and Project activities are not expected to preclude use of the area. Migrating birds would have access to riparian communities within the Project site. Although species would be disrupted during certain activities, impacts to migratory corridors from the Project would not be significant. Therefore, impacts would be less than significant in this regard.

e) *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

Less Than Significant Impact with Mitigation Incorporated. The BSA occurs within the boundaries of the City of Newport Beach LCP. As described above, under Sub-section b in Section 3.5.2, some of the habitats potentially impacted by the project may constitute an ESHA as defined in the certified LCP. Limits are placed on land uses within a habitat that constitutes an ESHA. The City of Newport Beach LCP states that uses within an ESHA shall be limited



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to only those that are dependent on those resources. Given that the intent of the project is to reduce the levels of trash and debris within San Diego Creek and Newport Bay, which will result in enhanced habitat and water quality conditions, the restoration nature of the project would be considered a land use consistent with the certified LCP. However, impacts to ESHA would be potentially significant as a result of construction and operation activities including disturbance to sensitive vegetation communities. Mitigation Measures BIO-2, BIO-3, and BIO-8 require environmental awareness training, best management practices and vegetation removal minimization and compensation for impacts to native vegetation communities. These mitigation measures comply with and have been developed based on guidelines in the LCP to mitigate potential impacts to ESHA. There are no other known local policies or ordinances related to protection of biological resources in the BSA. With implementation of Mitigation Measures BIO-2, BIO-3, and BIO-8, the Project would result in a less than significant impact with mitigation.

Mitigation Measures

BIO-2 Environmental Awareness Training

BIO-3 Implement Best Management Practices (BMPs)

BIO-8 Vegetation Removal and Replacement

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?

No Impact. The BSA is within the plan area for the Orange County Central/Coastal NCCP/HCP (Central/Coastal Plan). Several species covered under the plan have the potential to occur within the BSA and be impacted by the Project. Where applicable the Project would follow conservation measures outlined in the plan. The City of Newport Beach may elect to seek coverage as a “participating special entity” under the HCP or seek take coverage under the traditional permit process. The BSA also occurs within the boundaries of the Special Area Management Plan (SAMP) for the San Diego Creek Watershed prepared by the USACE. Where applicable the Project will comply with buffer requirements and permitting requirements set forth in the SAMP.



3.6 CULTURAL RESOURCES

3.6.1 Setting

The earliest period of human occupation in southern California is referred to by various terms, including Clovis, Paleoindian, and Early Systems Period. This is a time generally accepted to have commenced about 12,000 years Before Present (BP), lasting until about 10,000 years BP. Archaeological sites around Upper Newport Bay have yielded some of the evidence for the earliest human occupation of Orange County and date to about 9,500 years before present BP. Over fifty sites have been documented in the Newport Beach area, many yielding substantial information regarding the prehistory of the City and County and have included human burials (City of Newport Beach, 2006c). At least two and possibly three distinct cultural groups inhabited the area, and later period sites indicate that the area was heavily populated at the time of European contact. The Project Site falls within a region in which tribal boundaries are unclear: the Gabrielino and the Luiseño/Juaneño lay ancestral claims.

3.6.2 Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
<u>CULTURAL RESOURCES:</u> Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a) *Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?*

No Impact. The City of Newport Beach General Plan Historical Resources Element includes a figure that shows historic resources within the City (City of Newport Beach, 2006c). There are no identified historic resources located near the Project site. The Project would have no impact on historic resources.

b) *Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?*



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Less Than Significant Impact With Mitigation Incorporated. The City notified the Juaneño Band of Mission Indians – Acjachemen Nation, San Gabriel Band of Mission Indians, and Gabrieleño Band of Mission Indians – Kizh Nation of the Project and offered to consult with each tribe on the Project's potential to impact tribal archaeological resources. The City consulted with the Gabrieleño Band of Mission Indians – Kizh Nation during preparation of this Initial Study. Consultation included a site visit and teleconference which resulted in the Gabrieleño Band of Mission Indians – Kizh Nation determining there was a potential to encounter tribal archaeological resources during site grading activities. Disturbing such resources, if present, could result in a significant impact to archaeological resources. Mitigation Measures CR-1 through CR-4 shall be implemented to reduce potentially significant impacts to less than significant.

Mitigation Measures

CR-1 Retain a Native American Monitor

The project proponent will be required to retain the services of a Tribal monitor approved by the Gabrieleño Band of Mission Indians-Kizh Nation who will be present on-site during the construction phases that involve ground disturbing activities. Ground disturbing activities are defined by the Gabrieleño Band of Mission Indians-Kizh Nation as activities that may include, but are not limited to, pavement removal, pot-holing or auguring, grubbing, tree removals, boring, grading, excavation, drilling, and trenching, within the project area. The Tribal Monitor will complete daily monitoring logs that will provide descriptions of the day's activities, including construction activities, locations, soil, and any cultural materials identified. The on-site monitoring shall end when the project site grading and excavation activities are completed, or when the Tribal Representatives and monitor have indicated that the site has a low potential for impacting Tribal Cultural Resources.

CR-2 Unanticipated Discovery of Tribal Cultural and Archaeological Resources

Upon discovery of any archaeological resources, cease construction activities in the immediate vicinity of the find until the find can be assessed. All archaeological resources unearthed by project construction activities shall be evaluated by the qualified archaeologist and tribal monitor approved by the Gabrieleño Band of Mission Indians-Kizh Nation. If the resources are Native American in origin, the Gabrieleño Band of Mission Indians-Kizh Nation shall coordinate with the landowner regarding treatment and curation of these resources. Typically, the Tribe will request reburial or preservation for educational purposes. Work may continue on other parts of the project while evaluation and, if necessary, mitigation takes place (CEQA Guidelines Section 15064.5 [f]). If a resource is determined by the qualified archaeologist to constitute a "historical resource" or "unique archaeological resource", time allotment and funding sufficient to allow for implementation of avoidance measures, or appropriate mitigation, must be available. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources and Public Resources Code Sections 21083.2(b) for unique archaeological resources. Preservation in place (i.e., avoidance) is the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. Any historic archaeological material that is not Native American in origin shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, they shall be offered to a local school or historical society in the area for educational purposes.



CR-3 Professional Standards:

Native American monitoring and excavation during construction projects will be consistent with current professional standards. All feasible care to avoid any unnecessary disturbance, physical modification, or separation of human remains and associated funerary objects shall be taken.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant Impact. The Project site is located in area of historic disturbance related to the San Diego Creek realignment project in 1965 and is not known to contain paleontological resources. While it is possible to encounter paleontological resources, the limited site grading at the previously disturbed site would have a less than significant impact on paleontological resources.

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

Less Than Significant Impact With Mitigation Incorporated. While encountering human remains during construction is not anticipated, Mitigation Measure CR-4 shall be implemented to reduce potentially significant impacts of encountering human remains to a less than significant impact. Mitigation Measure CR-4 was suggested by the Gabrieleño Band of Mission Indians – Kizh Nation during Initial Study consultation.

Mitigation Measures

CR-4 Unanticipated Discovery of Human Remains and Associated Funerary Objects:

Native American human remains are defined in PRC 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in PRC 5097.98, are also to be treated according to this statute. Health and Safety Code 7050.5 dictates that any discoveries of human skeletal material shall be immediately reported to the County Coroner and excavation halted until the coroner has determined the nature of the remains. If the coroner recognizes the human remains to be those of a Native American or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission (NAHC) and PRC 5097.98 shall be followed.

Resource Assessment & Continuation of Work Protocol:

Upon discovery, the tribal and/or archaeological monitor will immediately divert work at minimum of 50 feet and place an exclusion zone around the burial. The monitor(s) will then notify the Tribe, the qualified lead archaeologist, and the construction manager who will call the coroner. Work will continue to be diverted while the coroner determines whether the remains are Native American. The discovery is to be kept confidential and secure to prevent any further disturbance. If the finds are determined to be Native American, the coroner will notify the NAHC as mandated by state law who will then appoint a Most Likely Descendent (MLD).

Kizh-Gabrieleno Procedures for burials and funerary remains:

If the Gabrieleno Band of Mission Indians – Kizh Nation is designated MLD, the following treatment measures shall be implemented. To the Tribe, the term “human remains” encompasses more than human bones. In ancient as well as historic times, Tribal Traditions included, but were not limited to, the burial of funerary objects with the deceased, and the ceremonial burning of human remains. These remains are to be treated in the same manner



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as bone fragments that remain intact. Associated funerary objects are objects that, as part of the death rite or ceremony of a culture, are reasonably believed to have been placed with individual human remains either at the time of death or later; other items made exclusively for burial purposes or to contain human remains can also be considered as associated funerary objects.

Treatment Measures:

Prior to the continuation of ground disturbing activities, the land owner shall arrange a designated site location within the footprint of the project for the respectful reburial of the human remains and/or ceremonial objects. In the case where discovered human remains cannot be fully documented and recovered on the same day, the remains will be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. If this type of steel plate is not available, a 24-hour guard should be posted outside of working hours. The Tribe will make every effort to recommend diverting the project and keeping the remains in situ and protected. If the project cannot be diverted, it may be determined that burials will be removed. The Tribe will work closely with the qualified archaeologist to ensure that the excavation is treated carefully, ethically and respectfully. If data recovery is approved by the Tribe, documentation shall be taken which includes at a minimum detailed descriptive notes and sketches. Additional types of documentation shall be approved by the Tribe for data recovery purposes. Cremations will either be removed in bulk or by means as necessary to ensure completely recovery of all material. If the discovery of human remains includes four or more burials, the location is considered a cemetery and a separate treatment plan shall be created. Once complete, a final report of all activities is to be submitted to the Tribe and the NAHC. The Tribe does NOT authorize any scientific study or the utilization of any invasive diagnostics on human remains.

Each occurrence of human remains and associated funerary objects will be stored using opaque cloth bags. All human remains, funerary objects, sacred objects and objects of cultural patrimony will be removed to a secure container on site if possible. These items should be retained and reburied within six months of recovery. The site of reburial/repatriation shall be on the project site but at a location mitigated between the Tribe and the landowner at a site to be protected in perpetuity. There shall be no publicity regarding any cultural materials recovered.



3.7 GEOLOGY AND SOILS

3.7.1 Setting

The City of Newport Beach is located in the northern part of the Peninsular Ranges Province along the southwesterly edge of the Los Angeles basin. The area of the Peninsular Ranges Province that coincides with the Newport-Inglewood fault zone is characterized by rocks of the Peninsular Ranges Batholith and pre-batholithic meta-sedimentary and-volcanic rocks overlain by thick, widespread Upper Cretaceous and Tertiary sedimentary units (USGS, 2006). Within coastal regions of the Peninsular Ranges Province, Pleistocene marine terrace deposits and late Pleistocene river terrace deposits commonly overly bedrock units. Holocene alluvium exists along floors of valleys and stream channels within the province.

The topography of the Peninsular Ranges Province is characterized by northwest-oriented mountain ranges and structural grain caused by northwest trending faults running parallel to the coast (USGS, 2006). The closest mapped fault zone to the Project site is the Newport-Inglewood fault zone. The Newport-Inglewood fault is a right lateral, strike-slip fault that extends for approximately 75 kilometers from the Los Angeles Basin to the City of Newport Beach where it heads offshore and becomes the Newport-Inglewood - Rose Canyon fault zone (SCEDC, 2018).

3.7.2 Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
<u>GEOLOGY AND SOILS:</u> Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving?				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



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Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building code (1997), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving?*

- i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

Less Than Significant Impact. The City of Newport Beach is located in the northern part of the Peninsular Ranges Province which is an area that is exposed to risks from multiple earthquake fault zones. The closest mapped fault zone to the Project site is the Newport-Inglewood fault zone. South of Signal Hill it roughly parallels the coastline until just south of Newport Bay, where it heads offshore, and becomes the Newport-Inglewood - Rose Canyon fault zone (SCEDC, 2018). However, according to the California Geological Survey's Regulatory Maps of California, the Project site, located in the Tustin Quadrangle, is not located in an Alquist-Priolo Earthquake Fault Zone. No habitable or commercial structures (e.g. residential or commercial buildings) are proposed to be built and the Project will comply with the California Building Code (CBC) and the City's Municipal Code requirements. Therefore, impacts related to the rupture of a known earthquake fault are expected to be less than significant.

- ii. Strong seismic ground shaking?

Less Than Significant Impact. The Project site is located in a seismically active region and residents could potentially be exposed to dangers caused by earthquakes and ground shaking. Significant historical earthquakes within a five-mile radius of the Project site include the 1989, 4.7 magnitude, Newport Beach Earthquake and the 1933, 6.4 magnitude, Long Beach Earthquake (SCEDC, 2018). Both the Long Beach Earthquake and the Newport Beach Earthquake originated from the Newport-Inglewood fault. It is believed this fault is capable of generating a maximum 7.5 magnitude earthquake (OCGP, 2005). The Project entails siting a Water Wheel within San Diego Creek



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secured to a pile system. The Water Wheel will be constructed within San Diego Creek as a floating system that can accommodate forecast sea level rise impact. No habitable or commercial structures (e.g. residential or commercial buildings) are proposed to be built. Therefore, impacts related to strong seismic ground shaking would be less than significant.

iii. Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. Liquefaction is a secondary earthquake-induced hazard that occurs when water-saturated soils lose their strength and liquefy during intense and prolonged ground shaking. According to the California Geological Survey's Regulatory Maps of California, the Project site, located in the Tustin Quadrangle, is located within a liquefaction zone. The Newport Beach General Plan indicates that the Project site and surrounding areas in and around the Newport Bay and Upper Newport Bay, are susceptible to liquefaction and related ground failure. However, the Project is limited to grading, the pouring of a concrete pad, and siting a Water Wheel within San Diego Creek secured to a pile system. No habitable or commercial structures (e.g. residential or commercial buildings) are proposed to be built. Additionally, adherence to the CBC and the City's Municipal Code requirements would implement geotechnical design measures that would minimize the potential for liquefaction. Therefore, Project impacts from seismic related ground failure, including liquefaction, would be less than significant.

iv. Landslides?

Less Than Significant Impact. Landslides often occur during or after strong earthquakes. According to the California Geological Survey, the Project site is not situated within an Earthquake-Induced Landslide Zone. In addition, the Project does not include the construction of habitable or commercial structures (e.g. residential or commercial buildings). The City of Newport Beach General Plan, however, indicates that slope failures may be expected to occur along stream banks and coastal bluffs, including Newport and Upper Newport Bay. Adherence to the CBC and the City's Municipal Code requirements would implement geotechnical design measures that would minimize the potential for landslides. Therefore, Project impacts related to exposing people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides would be less than significant.

b) *Result in substantial soil erosion or the loss of topsoil?*

Less Than Significant Impact. The Project involves grading activities including cut and fill that could result in soil erosion or the loss of topsoil.

Construction activities would be limited to the approximately 0.67-acre site. Because construction would occur on less than one acre of land, the Project would not require coverage under the General Construction Stormwater NPDES Permit or preparation of a SWPPP. However, the Project would be subject to City of Newport Beach's Grading Ordinance which requires implementation of erosion control Best Management Practices (BMPs) during construction such as minimizing soil disturbances, temporary soil stabilizers, temporary sediment controls, wind erosion controls, vehicle track-out controls, waste management and materials pollution controls. These measures would minimize the potential for soil erosion or the loss of topsoil and potential impacts would be less than significant.

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?*



Less Than Significant Impact. Please refer to responses 3.7 a), iii) and a), iv).

d) *Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building code (1997), creating substantial risks to life or property?*

Less Than Significant Impact. Expansive soils generally have a significant amount of clay particles, which release water (shrink) or take on water (swell). The change in volume exerts stress on buildings and other loads placed on these soils. The City of Newport Beach General Plan indicates that some of the geologic units in the Newport Beach area, including both surficial soils and bedrock, have fine-grained components that are moderate to highly expansive. These materials may be present at the surface or exposed by grading activities. The Project would comply with the CBC and the City's Municipal Code requirements for stable soils. Additionally, the Project does not include the construction of habitable or commercial structures (e.g. residential or commercial buildings). Therefore, Project impacts relating to expansive soils would be less than significant.

e) *Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?*

No Impact. The Project does not include the construction of new septic tanks or alternative wastewater disposal system; therefore, no impacts would occur.



3.8 GREENHOUSE GAS EMISSIONS

3.8.1 Setting

Greenhouse gases (GHGs), are defined as any gas that absorbs infrared radiation in the atmosphere. GHGs include, but are not limited to, water vapor, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and fluorocarbons. GHGs lead to the trapping and buildup of heat in the atmosphere near the earth's surface, commonly known as the Greenhouse Effect, which leads to Global Climate Change. While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs related to human activity that include CO₂, CH₄, N₂O, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, and hydrofluorocarbons (HFCs).

As stated on California's Climate Change Portal (www.climatechange.ca.gov):

Climate change is expected to have significant, widespread impacts on California's economy and environment. California's unique and valuable natural treasures - hundreds of miles of coastline, high value forestry and agriculture, snow-melt fed fresh water supply, vast snow and water fueled recreational opportunities, as well as other natural wonders - are especially at risk.

In addition, the IPCC, in the section of its Fifth Assessment Report by Working Group II, Climate Change 2014: Impacts, Adaptation, and Vulnerability (IPCC 2014) specific to North America (Chapter 26), stated in part:

North American ecosystems are under increasing stress from rising temperatures, CO₂ concentrations, and sea-levels, and are particularly vulnerable to climate extremes (very high confidence). Climate stresses occur alongside other anthropogenic influences on ecosystems, including land-use changes, non-native species, and pollution, and in many cases would exacerbate these pressures (very high confidence). [26.4.1; 26.4.3]. Evidence since the Fourth Assessment Report (IPCC 2014) highlights increased ecosystem vulnerability to multiple and interacting climate stresses in forest ecosystems, through wildfire activity, regional drought, high temperatures, and infestations (medium confidence) [26.4.2.1; Box 26-2]; and in coastal zones due to increasing temperatures, ocean acidification, coral reef bleaching, increased sediment load in run-off, sea level rise, storms, and storm surges (high confidence) [26.4.3.1].

Climate change is having widespread impacts on California's economy and environment and will continue to affect communities across the state in the future. Many impacts, including increased fires, floods, severe storms and heat waves are occurring already (California Climate Change Center 2014). Documented effects of climate change in California include increased average, maximum, and minimum temperatures; decreased spring run-off to the Sacramento River; shrinking glaciers in the Sierra Nevada; a rise in sea level at the Golden Gate; warmer temperatures in major lakes such as Lake Tahoe, Clear Lake, and Mono Lake; and changes in elevations for plant and animal species (Office of Environmental Health Hazard Assessment 2013).

According to the IPCC, the concentration of CO₂, the primary GHG, has increased from approximately 280 parts per million (ppm) in pre-industrial times to well over 380 ppm. The current rate of increase in CO₂ concentrations is about 1.9 ppm/year; present CO₂ concentrations are higher than any time in at least the last 650,000 years. To meet the



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statewide GHG reduction target for 2020, requiring California to reduce its total statewide GHG emissions to the level they were in 1990 (Health & Saf. Code, § 38550), and the 2050 goal of 80 percent below 1990 levels (Executive Order S-3-05), not only must projects contribute to slowing the increase in GHG emissions, but, ultimately, projects should contribute to reducing the State's output of GHGs. To reach California's GHG reduction targets, it is estimated that per capita emissions would need to be reduced by slightly less than 5 percent per year during the 2020 to 2030 period, with continued reductions required through midcentury.

In its 2008 "Report on Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act," the California Air Pollution Control Officers Association (CAPCOA 2008) stated:

While it may be true that many GHG sources are individually too small to make any noticeable difference to climate change, it is also true that the countless small sources around the globe combine to produce a very substantial portion of total GHG emissions.

Regulatory Setting

Federal and State laws and regulations pertaining to this issue area and relevant to the Project are provided below.

Federal

Clean Air Act (42USC 7401 et seq.):

While the CAA does not call specifically for regulation of GHGs, in *Massachusetts v. EPA*, 549 U.S. 497, the Supreme Court found that GHGs are air pollutants covered by the CAA. In 2007, the U.S. Supreme Court ruled that carbon dioxide (CO₂) is an air pollutant as defined under the Federal Clean Air Act, and that the USEPA has authority to regulate GHG emissions.

State

California Global Warming Solution Act of 2006 (AB32):

Under AB 32, CARB is responsible for monitoring and reducing GHG emissions in the State and for establishing a statewide GHG emissions cap for 2020 that is based on 1990 emissions levels. CARB (2009) has adopted the AB 32 Climate Change Scoping Plan (Scoping Plan), which contains the main strategies for California to implement to reduce CO₂ equivalent (CO₂e) emissions by 169 million metric tons (MMT) from the State's projected 2020 emissions level of 596 MMT CO₂e under a business-as-usual scenario. The Scoping Plan breaks down the amount of GHG emissions reductions the CARB recommends for each emissions sector of the State's GHG inventory but does not directly discuss GHG emissions generated by construction activities.

Senate Bills (SB) 97 and 375:

- Pursuant to SB 97, the State Office of Planning and Research prepared, and the Natural Resources Agency adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. Effective as of March 2010, the revisions to the CEQA Environmental Checklist Form (Appendix G) and the Energy Conservation Appendix (Appendix F) provide a framework to address



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global climate change impacts in the CEQA process; State CEQA Guidelines section 15064.4 was also added to provide an approach for assessing impacts from GHGs.

- SB375 (effective January 1, 2009) requires CARB to develop regional reduction targets for GHG emissions and prompted the creation of regional land use and transportation plans to reduce emissions from passenger vehicle use throughout the State. The targets apply to the regions covered by California's 18 metropolitan planning organizations (MPOs). The 18 MPOs must develop regional land use and transportation plans and demonstrate an ability to attain the proposed reduction targets by 2020 and 2035.

Executive Orders (EO):

- EO B-30-15 (Governor Brown, April 2015) established a new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. It additionally directed all state agencies with jurisdiction over sources of GHG emissions to implement measures, pursuant to statutory authority, to achieve GHG emissions reductions to meet the 2030 and 2050 targets.
- EO S-13-08 (Governor Schwarzenegger, November 2008) established a coalition of state agencies and directed them to plan for sea level rise and climate impacts through coordination of the state Climate Adaptation Strategy.
- EO S-01-07 (Governor Schwarzenegger, January 2007) established a low carbon fuel standard for California and directed the carbon intensity of California's transportation fuels to be reduced by at least 10 percent by 2020.
- EO S-3-05 (Governor Schwarzenegger, June 2005) directed the state to reduce GHG emissions to 2000 levels by 2010, to 1990 levels by 2020, and to 80 percent below 1990 level by 2050. Executive Order B-16-2012 (Governor Brown, March 2012) affirmed the long-range emissions reduction target of 80 percent below 1990 levels by 2050.

3.8.2 Impact Analysis

The significance criteria used to evaluate the project impacts are based on Appendix G of the CEQA Guidelines. Where available, the significance criteria established by the applicable air quality management or air pollution control district may also be relied upon to make the following determinations.

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
<u>GREENHOUSE GASES:</u> Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



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Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The quantification of GHG emissions associated with a project can be complex and relies on a number of assumptions. GHG emissions are generally classified as direct and indirect. Direct emissions are associated with the production of GHG emissions from the immediate Project area. These include the combustion of natural gas as well as the combustion of fuel in engines and construction vehicles used on the site. Indirect emissions include the emissions from vehicles (both gasoline and diesel) delivering materials and equipment to the site (e.g., haul trucks).

With the exception of very large projects, GHG from individual projects are typically less than significant at the project scale; however, GHG emissions cumulatively have a substantial environmental impact. The revisions to the State CEQA Guidelines adopted December 30, 2009 (§ 15064, sub (h)(3)) provide the basis for assessing cumulative impacts of GHG emissions. Section 15064 indicates that a

...lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program (including, but not limited to, water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plan, plans or regulations for the reduction of greenhouse gas emissions) that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located.

The guidance also encourages lead agencies to quantify GHG emissions where possible.

- a) *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*

Less Than Significant Impact. Construction activities associated with the Project would require the operation of on-road vehicles and off-road construction equipment that would emit GHGs in the form of CO₂, CH₄, and N₂O from engine exhaust. GHG emissions are commonly expressed as CO₂e emissions that accounts for each greenhouse gases global warming potential with the warming potential of CO₂ set at a reference value of 1.

The Project construction activities include siting the Water Wheel within San Diego Creek secured to a pile system and constructing the landside truck access road. The Project does not involve day-to-day operational activities, nor it include a land use that would generate substantial new vehicle trips. The Water Wheel is not proposed to run on a constant basis. As the San Diego Creek is generally a low flow creek without storm events, the current will not produce the flow necessary to turn the Water Wheel daily. Project operations are planned to occur during and/or after storm events. As a result, the Project would not result in a substantial or continuous increase of operational



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emissions; however, the results from a modified default CalEEMod modeling for the project are considered in this analysis as a representative case.

SCAQMD has proposed a “bright-line” screening level threshold of 3,000 metric tons/year CO₂e for all non-industrial land use types and a 10,000 MT/year for industrial facilities. This non-industrial use threshold is based on a review of the Governor’s Office of Planning and Research database of CEQA projects. Based on their review of 711 CEQA projects, 90 percent of CEQA projects would exceed the bright-line thresholds identified above. Therefore, projects that do not exceed the bright-line threshold would have a nominal, and therefore, less than significant impact on GHG emissions. SCAQMD’s guidelines for analyzing a project’s GHG impacts is to amortize project emissions over a 30-year period (or the life time of the project which is 20 years in case of the proposed water wheel), add them to annual operation phase emissions and compare the emissions to the 3,000 metric tons/year CO₂e threshold of significance level to determine significance (SCAQMD, 2010).

GHG emissions for the Project were estimated using the CalEEMod version 2016.3.1 (CalEEMod, 2016). Detailed GHG emissions estimates for the Project are included in Appendix A (Project Emissions Estimates). Table 3-5, below, presents a summary of the estimated total GHG emissions that would result from Project implementation.

Table 3-5 Total Estimated Project GHG Emissions

Project Phase	Total Metric Tons			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
Construction Emissions (total)	101	0.028	<0.00	101.69
Construction Emissions (amortized over 20 years)	5.05	0.0014	<0.00	5.08
Operation Emissions (annual)	498.72	0.696	0.006	517.86
Total Project Emissions	503.77	0.70	0.006	522.94
Interim SCAQMD Threshold				3,000 or 10,000
Project Emissions Exceed SCAQMD Threshold?				No
Notes: 1. Emission estimated using CalEEMod for “general industrial use” and modifying default values to include pile installations during construction and truck using access road on intermittent basis for operational phase. Results of model runs are provided in Appendix A. 2. The Project does not involve a long-term activity or land use that would generate long-term operation phase GHG emissions. The default operational emissions from CalEEMod assuming general light industry land use was modified to count for intermittent nature of project operations.				

As shown above in Table 3-5, the Project would result in a total estimated 522.94 metric tons (MT) of CO₂e emissions per year when construction emissions are amortized over 20 years in accordance with SCAQMD guidance. The 522.94 MT of CO₂e emissions is below the 3,000 MT CO₂e significance threshold for non-industrial land use and well below 10,000 MT/year for industrial facilities. Therefore, the Project would not generate greenhouse gas emissions, either directly or indirectly, that would have a substantial adverse effect on the environment and potential impacts would be less than significant.

b) b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less Than Significant Impact. The State Legislature enacted Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006, signed on September 27, 2006, to further the goals of Executive Order S-3-05 (Health and Safety Code, S38500 et seq.). AB 32 requires CARB to adopt Statewide GHG emissions limits to



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achieve Statewide GHG emissions levels at the same levels they were atmospherically in 1990 by the year 2020. A longer-range goal requires an 80% reduction in GHG emissions from 1990 levels by 2050. CARB adopted the 2020 Statewide target and mandatory reporting requirements in December 2007 and a Statewide scoping plan in December 2008 (the AB 32 Scoping Plan). Senate Bill 32 (SB 32), signed on September 8, 2016, expands on the mandate of AB 32 requiring CARB to ensure that State GHG emissions are reduced to 40 percent below the 1990 emission level by year 2030. Section 38566 is added to the current Health and Safety Code, which states “the State board shall ensure that Statewide greenhouse gas emissions are reduced to at least 40 percent below the Statewide greenhouse gas emissions limit no later than December 31, 2030” (California Legislative Information, 2016).

The Project does not include stationary sources of GHG emissions and is not subject to compliance with AB 32’s cap-and-trade program. Orange County has not adopted a Climate Action Plan. The Project’s use of fuels during construction would be consistent with existing regulations related to low carbon fuel standards achieved through regulations placed on the fuel manufacturing and supply industry. Considering the above, as well as that the Project’s GHG emissions would be below SCAQMD’s thresholds of significance, the Project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Potential impacts would be less than significant.



3.9 HAZARDS AND HAZARDOUS MATERIALS

3.9.1 Setting

The storage and use of hazardous materials are governed by federal, state, and local laws. Applicable laws and regulations address the use and storage of hazardous materials to protect the environment from contamination as well as to protect workers and the surrounding community from exposure to hazardous materials. As well, the City of Newport's General Plan Safety Element includes policies to reduce the potential risk of death, injuries, property damage, and economic and social dislocation from natural and human-induced hazards (City of Newport, 2006). The applicable regulatory oversight and administering agencies (federal, state and local) are listed in the table below.

Table 3-6 Applicable Federal, State and Local Regulations for Hazards

Applicable Acts and Regulations	Administering Agency
Federal	
Federal Toxic Substances Control Act/Resource Conservation and Recovery Act/Hazardous and Solid Waste Act	US Environmental Protection Agency (USEPA)
Comprehensive Environmental Response, Compensation, and Liability Act/Superfund Amendments and Reauthorization Act	USEPA
Clean Water Act/Spill Prevention, Control, and Countermeasure Rule	USEPA
Occupational Safety and Health Act	Occupational Safety and Health Administration (OSHA); Administered by Cal-OSHA
State	
Hazardous Waste Control Act	CalEPA
Local	
City of Newport Beach General Plan, Safety Element	City of Newport Beach
City of Newport Beach Fire Department, Fire Prevention Guidelines	City of Newport Beach

Pursuant to Government Code 65962.5, environmental regulatory database lists were reviewed to identify and locate properties with known hazardous substance contamination within the Project area (California Government Code, Section 65960 et seq.). A review of the Department of Toxic Substances Control's (DTSC) Hazardous Waste and Substances List – Site Cleanup (Cortese List) and State Water Resources Control Board GeoTracker online database indicates that no identified open cleanup sites or hazardous waste sites are located within the project area (DTSC, 2007).



3.9.2 Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
<u>HAZARDS AND HAZARDOUS MATERIALS:</u> Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



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- a) *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

Less than Significant Impact. Construction activities would involve grading, minimal clearing / vegetation removal, and other ground-disturbing activities. Construction activities would occur for approximately nine months within the Project site. The proposed construction activities would require the use of equipment, such as loaders, excavators, trucks, and other powered equipment, and would therefore use fuels (gasoline or diesel) and lubricants (oils and greases). All construction equipment would be housed within the staging area of the Project site. The construction equipment on site may require minor maintenance during construction activities, which may result in the disposal of hazardous byproducts from the equipment.

During operations, maintenance activities associated with the Project would include disposal of trash into a landside dumpster and transporting the dumpster to an appropriate waste facility. Routine maintenance checks of the Water Wheel, booms, and loading area would also be performed to ensure they were functioning properly (e.g., removal of any visual contamination, such as oil and grease, and repairs to control structures as needed). As such, operational activities would involve limited amounts of hazardous materials used in and transported to the Project site.

The use of hazardous materials and substances during construction and operation activities would be subject to federal, state, and local health and safety requirements for handling, storage, and disposal. Therefore, hazardous material impacts related to Project activities would be less than significant.

- 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?*

Less than Significant Impact. As discussed above, limited quantities of hazardous materials such as gasoline, diesel, oils, and lubricants may be required to operate Project-related construction equipment. Construction activities would be short-term (approximately 9 months), and the use of these materials would cease once construction is complete. The hazardous substances used during construction would be required to comply with existing federal, state and local regulations regarding the use and disposal of these materials. In the event of an accidental release during construction, containment and clean up would be in accordance with existing applicable regulatory requirements. Project operation would involve minimal transport and use of hazardous materials such as lubricants. The use of hazardous materials and substances during construction and operation activities would be subject to federal, state, and local health and safety requirements for handling, storage, and disposal. The Water Wheel is designed to recover floating trash such as plastic that would not represent a hazard to the public during collection or disposal transport. Potential impacts to the public or the environment related to reasonably foreseeable accident conditions involving hazardous materials would be less than significant.

- c) *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

Less Than Significant Impact. There are two existing schools located near the Project site; the Santa Ana Heights (approximately 0.18 miles) and Eastbluff Elementary School (approximately 0.23 miles). As shown in Section 3.4, Table 3.3, construction emission are below the applicable Localized Significance Criteria and would not expose even receptors located as close to 100 meters from the Project site to substantial pollutant concentrations from equipment



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and vehicle exhaust. Operation of the Project does not include stationary sources of air pollution and is limited to those from periodic disposal bin delivery and pickup. Impacts would be less than significant.

- 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?*

No Impact. Based on desktop review of public databases (DTSC EnviroStor; State Water Resources Control Board GeoTracker), there are no known hazardous waste facilities or open cleanup sites within the vicinity of the Project area. Therefore, since the Project is not located on a list associated with hazardous materials, no impacts would occur.

- e) *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the Project Area?*

Less Than Significant Impact. The nearest public airport to the Project site is John Wayne Airport (JWA), approximately 1-mile northwest. The JWA Safety Compatibility Zones are defined in the Airport Environs Land Use Plan for JWA. The Project site is located within and at the southeast boundary of the Safety Compatibility Zone for Runways 1L and 19R. This zone generally has a low likelihood of accident occurrence and risk concern primarily is with uses for which potential consequences are severe. Residential and non-residential uses are generally allowable. Schools, large day care centers, hospitals, and nursing homes are recommended to be avoided and outdoor stadiums and similar uses with very high intensities should be prohibited in this zone (ALUC, 2008). The Project is limited to construction and operation of a primarily unmanned floating trash removal system and does not include a land use that would expose persons to safety hazards associated with airport operation. Additionally, the Project includes structures less than 200 feet in elevation above ground surface which is the criteria requiring Federal Aviation Administration and Airport Land Use Commission notification related to evaluating potential obstructions to air navigation. Potential impacts would be less than significant.

For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the Project Area?

No impact. The Project is not located within the vicinity of a private airstrip. No airstrip related hazard impacts would occur.

- f) *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

Less Than Significant impact. The City of Newport Beach has a comprehensive Emergency Management Program which includes all elements necessary to respond quickly and effectively to major emergencies. An Emergency Operations Plan (EOP) was adopted by the City of Newport Beach in 2011 and provides guidance for City's response to extraordinary emergency situations associated with natural disasters, technological incidents, and national security emergencies in or affecting the City of Newport Beach (City of Newport Beach, 2011). The EOP also shows the City's emergency evacuation routes in the event of a tsunami.

The Project site is located along Jamboree Road, a designated emergency evacuation route. The Project would be constructed completely within the Project boundary. Construction equipment as well as vehicles and trucks would



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access the site from Jamboree Road. The Project does not include any uses or design features that would result in interference with any adopted emergency response plan or emergency evacuation plan. The design of the Project would provide adequate emergency access consistent with City requirements, including public access trails within the Project site. Therefore, the Project would not result in impacts to emergency access during construction and/or operation. The Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan and, thus, the Project would have a less than significant impact.

g) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

No impact. The Project site is not located in an area classified as a “Wildland Area That May Contain Substantial Forest Fire Risks and Hazards” or a “Very High Fire Hazard Severity Zone” by the California Department of Forestry and Fire Protection (CAL FIRE 2011). Therefore, the risk for wildland fire hazards is low, and Project implementation would result in no impact to people or structures to a significant fire risk.



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3.10 HYDROLOGY AND WATER QUALITY

3.10.1 Setting

San Diego Creek is in the Newport Bay watershed in central Orange County on the Southern California coast. The watershed is surrounded by the Santa Ana Mountains to the east and the San Joaquin Hills to the west (SWRCB, 2018).

U.S. Clean Water Act Impaired Water Bodies

The Federal Clean Water Act Section 303(d) requires that States assess the quality of their waters every two years and publish a list of those waters not meeting the water quality standards established for them. For water bodies placed on the 303(d) List, states are required to develop Total Maximum Daily Loads (TMDLs) for the pollutant(s) that are causing standards impairment (SARWQCB, 2018).

Once a water body is placed on the 303(d) List, it remains on the list until a TMDL is adopted and the water quality standards are attained or there are sufficient data to demonstrate that water quality standards have been met and delisting should take place. San Diego Creek in the vicinity of the Project site is on the Section 303(d) list as impaired for fecal coliform, nutrients, pesticides, sedimentation/siltation, and toxaphene. Upper Newport Bay Estuary water body is on the Section 303(d) list as impaired for chlordane, copper, DDT, metals, nutrients, PCBs, pesticides, sediment toxicity, and sedimentation/siltation (SWRCB, 2018).

Stormwater Discharges

The Federal Water Pollution Control Act prohibits the discharge of any pollutant to navigable waters from a point source unless the discharge is authorized by a National Pollutant Discharge Elimination System (NPDES) permit. The 1987 passage of the Water Quality Act established NPDES permit requirements for discharges of stormwater. The NPDES permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States.

Industrial facilities and construction sites are regulated by the State Water Resources Control Board, through general stormwater permits. Cities and counties are regulated through permits issued by the Regional Water Quality Control Boards. Since 1990, operators of large storm drain systems such as Newport Beach have been required to:

- Develop a stormwater management program designed to prevent harmful pollutants from being dumped or washed by stormwater runoff, into the stormwater system, then discharged into local waterbodies; and
- Obtain a National Pollutant Discharge Elimination System (NPDES) permit.

The NPDES permit programs in California are administered by the State Water Resources Control Board and by nine regional boards that issue NPDES permits and enforce regulations within their respective region. Newport Beach lies within the jurisdiction of the Santa Ana Region. This regional board issues permits to the Orange County Permittees, which includes the County of Orange, Orange County Flood Control District and incorporated cities of Orange County, including Newport Beach. Since the program's inception, the County of Orange has served as the principal permittee.



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As part of Section 402 of the Clean Water Act, the U.S. EPA has established regulations under the NPDES program to control direct storm water discharges from construction activities disturbing one acre or more of land, industrial stormwater discharges, and municipal stormwater discharges. In California, the State Water Resources Control Board (SWRCB) administers the NPDES permitting program and is responsible for developing NPDES permitting requirements. The SWRCB works in coordination with the Regional Water Quality Control Boards (RWQCB) to preserve, protect, enhance, and restore water quality. The City is within the jurisdiction of the Santa Ana RWQCB (SARWQCB).

3.10.2 Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
<u>HYDROLOGY AND WATER QUALITY:</u> Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



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Issues	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
g) Place housing within a 100-year flood hazard area as mapped on a federal flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a) *Violate any water quality standards or waste discharge requirements?*

Less than Significant Impact with Mitigation Incorporated. Construction activities would include the use of heavy equipment and construction-related chemicals, such as fuels, oils, solvents and paints that would be stored in limited quantities on-site. In the absence of proper controls, these construction activities could result in accidental spills or disposal of potentially harmful materials used during construction that could wash into and pollute surface waters or groundwater. Construction of the Project would involve earth disturbing activities such as grading and excavations that also have the potential to increase erosion during precipitation events that could be introduced into adjacent San Diego Creek resulting in a violation of a water quality standard and/or further degrade the water quality of an already impaired water body.

Construction activities would be limited to the approximately 0.67-acre site. Because construction would occur on less than one acre of land, the Project would not require coverage under the General Construction Stormwater NPDES Permit or preparation of a SWPPP. However, the Project would be subject to City of Newport Beach's Grading Ordinance which requires implementation of Best Management Practices (BMPs) during construction such as minimizing soil disturbances, temporary soil stabilizers, temporary sediment controls, wind erosion controls, vehicle track-out controls, waste management and materials pollution controls. These measures would minimize the potential for soil and other pollutants to be introduced into San Diego Creek and/or the stormdrain system during Project construction and potential water quality impacts would be less than significant. Operation of the Project would remove trash from San Diego Creek during storm events prior to the trash entering Newport Bay which would have a beneficial impact to the water quality within the Newport Bay area.

Removal of wooden pile remnants and installation of new water wheel pile supports in San Diego Creek could result in increases in turbidity or suspension of constituents of concern, if present, such as pesticides that could result in a violation of a water quality standard. Mitigation Measure BIO-7 shall be implemented to minimize the potential for



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suspension of constituents of concerns in creek bed sediments during support pile removal and installation activities. With implementation of Mitigation Measure BIO-7, water quality impacts associated with support pile removal and installation would be highly localized and have a less than significant water quality impact.

During Project operation, run-off from development must be captured and filtered to remove pollutants prior to discharging the run-off into storm drains. Development of the Project would be subject to the Waste Discharge Requirements of California Regional Water Quality Control Board Santa Ana Region Order No. R8-2009-0030, as amended and NPDES No. CAS618030 for municipal stormwater discharges. Prior to the issuance of any grading or building permits, the City of Newport Beach's Local Implementation Plan requires preparation of a Water Quality Management Plan (WQMP). The purpose of WQMP is to reduce discharge of pollutants into urban runoff from development projects by reducing or eliminating sources of pollutants, and managing site runoff volumes and flow rates through application of appropriate Best Management Practices (BMP's). The goal is to protect Newport Harbor, Newport Bay, beaches, and receiving water within environmentally sensitive areas. The Project WQMP would utilize the County of Orange 2003 DAMP and 2011 Model WQMP which includes the specific water pollutant control elements and is the primary policy, planning and implementation document for County of Orange Municipal NPDES Stormwater Permit compliance (County of Orange, 2003 & 2011). With implementation of the required WQMP, potential water quality impacts from Project operation would be less than significant and would serve a water quality benefit as a result of removing trash from San Diego Creek prior to entering Upper Newport Bay.

Mitigation Measures

BIO-7 Install Turbidity Curtains

- b) *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?*

Less than Significant Impact. The Project site is within a designated Open Space in and along San Diego Creek. The Project includes installation of a solar-/self-powered trash collecting water wheel and constructing a new access road for waste collection vehicles to collect full and deliver empty dumpsters to the site. It does not include any new land use such as homes, businesses, or other buildings, and it does not use any groundwater for its operations. Construction of the project would last approximately six months and does not include extensive use of water. There would be an increase in impervious surfaces at the site as a result of the proposed paved access roadway. The Project would be required to implement a Project WQMP in accordance with County of Orange (and City of Newport Beach) municipal stormwater regulations and the 2003 Drainage Area Management Plan. As a result, the Project would have a less than significant impact on depleting groundwater supplies or interfering with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.

- c) *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?*

Less than Significant Impact. The project would significantly reduce trash, and associated pollutants, from entering Newport Bay. The trash collection boom placed across San Diego Creek to capture and direct trash to the water wheel for recovery would float on the creek surface allowing water to flow underneath. Please see Section 3.10



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subsection a) above for additional details on site drainage. Construction and operation of the Project would not substantially alter a drainage pattern and potential impacts would be less than significant.

- d) *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?*

Less Than Significant Impact. Please see Section 3.10 subsections a) and c) above. With implementation of the required WQMP, the project would not substantially alter the drainage pattern of the site or cause flooding. Potential impacts would be less than significant.

- e) *Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*

Less Than Significant Impact. Please see Section 3.10 subsection a) above. With implementation of the required WQMP, potential impacts would be less than significant.

- f) *Otherwise substantially degrade water quality?*

Less Than Significant Impact with Mitigation Incorporated. Please see Section 3.10 subsection a) above. Potential impacts would be less than significant with incorporation of Mitigation Measure BIO-7.

Mitigation Measures

BIO-7 Install Turbidity Curtains

- g) *Place housing within a 100-year flood hazard area as mapped on a federal flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?*

No Impact. The Project does not include placement of housing. No impact would occur.

- h) *Place within a 100-year flood hazard area structures which would impede or redirect flood flows?*

Less Than Significant Impact. The floating water wheel will be secured to pile anchors located in San Diego Creek. The placement of the pile anchors will be offset with removal of remnant piles already present in San Diego Creek at the Project site. Because of the floating nature of the water wheel and trash collection boom, the Project does not include a component that would impede or redirect flood flows. Potential impacts would be less than significant.

- i) *Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?*

Less Than Significant Impact. As indicated above in response to issue/item 3.10 g) and h), the Project does not include placement of housing and the in-water Project components have been designed to float on the surface of San Diego Creek. Additionally, operation of the water wheel does not require personnel to be located on the water wheel or at the site. The Project would not expose people or structures to a significant risk of loss, injury or death associated with flooding and potential impacts would be less than significant.

- j) *Inundation by seiche, tsunami, or mudflow?*



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Less Than Significant Impact. A seiche is a wave oscillation effect generated in an enclosed or semi-enclosed body of water of any size from swimming pool, to a harbor, or lake. It can be caused by wind, tidal current, or earthquake. Seiche potential is highest in large, deep, steep-sided reservoirs or water bodies. The nearest such water bodies include San Joaquin Reservoir, which is located approximately 2.5 miles southeast of the site and Big Canyon Reservoir, located approximately 2.7 miles southeast of the Project. The Project is located well beyond the area that could potentially be inundated as a result of a seiche. In addition, Newport Bay, lacks significant potential for generation of damaging seiche because it is very shallow. As a result, no significant impacts are anticipated, and no mitigation measures are needed.

A tsunami is a sea wave generated by an earthquake, landslide, volcanic eruption, or even by a large meteorite hitting the ocean. An event such as a strong earthquake creates a large displacement of water resulting in a rise or mounding at the ocean surface that moves away from its center as a sea wave. Tsunamis generally affect coastal communities and low-lying (low-elevation) river valleys near the coast. Buildings closest to the ocean and near sea level are most at risk. According to the Newport Beach General Plan Figure S1, the Project site is located within a 'tsunami inundation at extreme high tide', 100-year zone (13.64 feet). However, the Project would not include any structures to house people. In addition, implementation of the project would significantly reduce trash and associated pollutants from entering Newport Bay and thus protect natural system functions that contribute to good water quality. Therefore, the impact would be less than significant.

Potential risk from mudflow (i.e., mudslide, debris flow) does not exist within the Project area, as steep slopes are not located on or in proximity to the Project site.



3.11 LAND USE AND PLANNING

3.11.1 Setting

The City of Newport Beach is almost fully developed with a diverse mixture of residential, institutional, commercial, industrial, and recreational and open space uses (City of Newport Beach, 2006d). Newport Beach is surrounded by water, including the Upper and Lower Newport Bay and its channels, and the Pacific Ocean. The project site is located near Upper Newport Bay, which is part of a marine protected area, also known as the Upper Newport Bay Ecological Reserve (Ecological Reserve). This Ecological Reserve is a 752-acre property consisting of salt marsh, mudflat, and marine habitats. Large mudflats with suitable loafing areas above high tide are extremely desirable for migrating shorebirds and waterfowl. Sheltered waters provide foraging, spawning and nursery habitat for marine fishes (State of California, 2017).

3.11.2 Impact Analysis

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

a) Physically divide an established community?

No impact. The Project is located along San Diego Creek approximately 800 feet upstream of Upper Newport Bay between a commercial community to the north and a residential community to the south of the project site. Construction activities would be confined to the project site. Operation of the Water Wheel at the San Diego Creek and within the Upper Bay area would not physically divide the existing community to the north and south. Therefore, implementation of the project would not result in impacts to the physical division of an established community.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?



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Less Than Significant Impact With Mitigation Incorporated. The Project is consistent with the City of Newport Beach General Plan land use and zoning designations. The area surrounding the Project site is zoned as Open Space (OS) within the City's General Plan (Land Use Element), Zoning Code, and Coastal Land Use Plan (City of Newport Beach, 2006, 2010, 2017). Newport Beach's open space designated areas in the coastal zone include beaches, parks, golf courses, yacht clubs, and environmentally sensitive habitat areas and other natural resources. These areas provide a wide range of recreational and visitor-serving uses and facilities (City of Newport Beach, 2017).

The Project occurs within the boundaries of the City of Newport Beach certified LCP. As described above, under Subsection b and e in Section 3.5.2, some of the habitats potentially impacted by the Project may constitute an ESHA as defined in the certified LCP. Limits are placed on land uses within a habitat that constitutes an ESHA. The certified LCP states that uses within an ESHA shall be limited to only those that are dependent on those resources. Given that the intent of the project is to reduce the levels of trash and debris within San Diego Creek and Newport Bay, which will result in enhanced habitat and water quality conditions, the restoration nature of the project would be considered a land use consistent with the certified LCP. Since the project aims to restore natural habitat and improve water quality, the Project's objectives align with applicable land use plans regarding OS and the LCP. However, impacts to ESHA would be potentially significant as a result of construction and operation activities including disturbance to sensitive vegetation communities. Mitigation Measures BIO-2, BIO-3, and BIO-8 require environmental awareness training, best management practices and vegetation removal minimization and compensation for impacts to native vegetation communities. These mitigation measures comply with and have been developed based on guidelines in the certified LCP to mitigate potential impacts to ESHA. With implementation of Mitigation Measures BIO-2, BIO-3, and BIO-8, the Project would result in a less than significant impact with mitigation.

Mitigation Measures

BIO-2 Environmental Awareness Training

BIO-3 Implement Best Management Practices (BMPs)

BIO-8 Vegetation Removal and Replacement

c) *Conflict with any applicable habitat conservation plan or natural community conservation plan?*

No impact. Please see Section 3.5 subsection f). No impact would occur.



3.12 MINERAL RESOURCES

3.12.1 Setting

Historically, drilling for oil in and around the City of Newport Beach began as early as 1904 with the first commercial production in 1943. Oil production became the primary mineral extraction activity in the City. Two separate production and reserve areas exist within the City's Sphere of Influence: Newport Oil Field, which lies under the Pacific Ocean but has land-based tanks and extraction pumps just outside the municipal boundary in west Newport and West Newport Oil Field, which is located in the Banning Ranch area. Other than oil and gas resources, there is no active mining within the Newport Beach area and there are no designated areas that contain significant measured, indicated, or inferred mineral resources (City of Newport, 2006).

3.12.2 Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
<u>MINERAL RESOURCES:</u> Would the project:				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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?*

No Impact. Based on the guidelines adopted by the California Geological Survey (CGS), areas known as Mineral Resource Zones (MRZ) are classified according to the presence, absence, or potential of significant mineral resource deposits. The City is required to respond to mineral resource recovery areas that have been designated by the State as MRZ-2 (areas that contain significant measured, indicated, or inferred mineral resources). The Mineral Land Classification Map (Miller and Corbaley, 1981; Miller 1994) and the City of Newport Beach General Plan classifies no land as MRZ-2 within the City.

The Project site is located on land classified as MRZ-1, which are "areas where available geologic information indicates there is little or no likelihood for presence of significant mineral resources". Land north of the Project site is classified as MRZ-3, which are "areas containing known mineral occurrences of undetermined mineral resource significance" (Department of Conservation, Division of Mines and Geology; Miller and Corbaley, 1981; Miller 1994).



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Additionally, according to the County of Orange General Plan Resources Element, the Project area is not located in a designated mineral resources area. Implementation of the Project would therefore have no impact on the availability of known mineral resources. Therefore, no impacts would occur.

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?

No Impact. Please see Section 3.12 subsection a) above. Implementation of the Project would not result in the loss of availability of a locally important mineral resource recovery site. Therefore, no impacts would occur.



3.13 NOISE

3.13.1 Setting

Noise may be defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. The objectionable nature of sound could be caused by its pitch or its loudness. Pitch is the height or depth of a tone or sound, depending on the relative rapidity (frequency) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. Loudness is intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave.

In addition to the concepts of pitch and loudness, there are several noise scales which are used to describe noise in a particular location. A decibel (dB) is a unit of measurement which indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 decibels represents a ten-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10-decibel increase in sound level is perceived as approximately a doubling of loudness over a wide range of intensities.

There are several methods of characterizing sound. The most common in California is the A-weighted sound level or dBA. This scale gives weight to the frequencies of sound to which the human ear is most sensitive. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound/noise descriptor is called Leq. The most common averaging period is hourly, but Leq can describe any series of noise events of arbitrary duration.

Since the sensitivity to noise increases during the evening and at night -- because excessive noise interferes with the ability to sleep -- 24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The Community Noise Equivalent Level (CNEL) is a measure of the cumulative noise exposure in a community, with a 5 dB penalty added to evening (7:00 pm - 10:00 pm) and a 10 dB addition to nocturnal (10:00 pm - 7:00 am) noise levels. The Day/Night Average Sound Level (DNL) is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three-hour period are grouped into the daytime period.

Existing Noise Environment

The Project site is within an open space by the San Diego Creek between Jamboree Road to the west, Bayview Way to the north and SR 73 flyover ramps to the east. The nearest sensitive receptors to the project site include the residential uses approximately 330 feet south of the project across the creek. The existing noise environment in the project vicinity is primarily from vehicular traffic along SR 73 and its ramps, Jamboree Road, and to a lesser extent from Bayview Way.



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Future Noise Environment

The future noise environment at the project site would continue to result primarily from transportation noise sources in the site vicinity. The Project does not include any uses that increase population or traffic within the area. The truck access road would only be used by trucks after storm events and for the purpose of replacing the full trash bin with an empty one when needed. This entails an intermittent operation and would not be a continuous day-to-day activity.

3.13.2 Impact Analysis

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

a) *Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

Less Than Significant Impact with Mitigation Incorporated. The City of Newport Beach General Plan's Noise Element is a tool in the planning process to maintain compatible land use with environmental noise levels. It is the guiding document for the City's noise policy and is designed to protect residents and businesses from excessive and



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persistent noise intrusions. The Noise Element follows the revised State guidelines in Section 46050.1 of the California Health and Safety Code. For single-family and multi-family residential uses, an ambient noise level of up to 60 dBA CNEL is considered "Clearly Compatible", between 60 and 65 dBA CNEL considered "Normally Compatible", and between 65 to 75 dBA CNEL "Normally Incompatible". Section 10.26.035D of the City's Noise Ordinance exempts noise sources associated with construction, repair, remodeling, demolition, or grading of any real property from the City's Noise Ordinance standards. These activities are subject to the provisions of Chapter 10.28, which prohibits construction activities that generate loud noise that disturbs, or could disturb, a person of normal sensitivity who works or resides in the vicinity except during weekdays between the hours of 7:00 AM to 6:30 PM, and Saturdays between the hours of 8:00 AM to 6:00 PM.

The Project would be required to comply with Mitigation Measure NOI-1, which includes noise reduction measures to be implemented during construction of the Project, as a condition of approval to reduce potentially significant noise impacts to less than significant. The Project does not include substantial sources of long-term noise that would expose persons to or generate noise levels in excess of applicable standards.

Mitigation Measures

NOI-1 Construction Noise Reduction

- A. Prior to the issuance of any grading permits, the project proponent shall produce evidence acceptable to the Manager, Building and Safety, that:
 - 1. All construction vehicles or equipment, fixed or mobile, operated within 1,000 feet of a dwelling shall be equipped with properly operating and maintained mufflers.
 - 2. All operations shall comply with the City Noise Ordinance including limiting construction activities between the hours of 7:00 a.m. and 6:30 p.m. during weekdays and 8:00 AM to 6:00 PM on Saturdays.
 - 3. Stockpiling and/or vehicle staging areas shall be located as far as practicable from dwellings.
- B. Notations in the above format, appropriately numbered and included with other notations on the front sheet of the project's permitted grading plans, will be considered as adequate evidence of compliance with this condition.

While construction of the Project could temporarily increase noise levels beyond those that currently exist at and near the Project site, the Project would not result in exposure of persons to or generation of noise levels in excess of standards established in the local General Plan, noise ordinance, or applicable standards of other agencies. So long as construction remains within the City's approved work hours and implementation of Mitigation Measure NOI-1, potential impacts would be less than significant with mitigation.

b) Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?

Less Than Significant Impact with Mitigation Incorporated. Construction of the Project could result in noise and vibration from the activities for installation of the proposed pile system to secure the floating water wheel and conveyer belts in the San Diego Creek. The pile drivers would be installed in the water. Pile drivers on average



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generate a maximum noise level of 96 dBA Lmax at a distance of 50 feet (FHWA, 2006), the nearest sensitive receptors to the Project site are the residences located about 330 feet south and across the creek, as such, the impact would not be excessive. Furthermore, pile driving would be intermittent and not continuous throughout the entire day. Moreover, as stated above, the mitigation measures that would be employed during project construction (NOI-1 Construction Noise Reduction) would reduce the impact to less than significant.

Mitigation Measures

NOI-1 Construction Noise Reduction

c) *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?*

No Impact. As discussed above, the Project would operate on an intermittent basis and mainly after storm. It is located within an open space where the main environmental noise is from traffic on the nearby roadways. No substantial impact will occur, and no mitigation is needed.

d) *A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?*

Less Than Significant Impact with Mitigation Incorporated. Construction of the Project would result in noise from the operation of pile drivers and conventional construction equipment and associated vehicles. However, the nearest sensitive receptors are located approximately 330 feet from the pile installation locations and across the San Diego Creek, as such the noise and vibration effects of the pile installation activities would not have significant impact. Furthermore, all construction-related activities would be conducted during weekdays (Monday through Friday) between the hours of 7:00 a.m. and 6:30 p.m. and on Saturdays between 8:00 a.m. and 6:00 p.m. and would therefore be exempt from the local noise ordinances related to construction noise. Construction-related noise, with adherence to Mitigation Measure NOI-1, would not expose persons to or generate noise levels exceeding established standards and potential impacts would be less than significant with mitigation incorporated.

Mitigation Measures

NOI-1 Construction Noise Reduction

e) *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the Project Area to excessive noise levels?*

No Impact. The Project site is located approximately 1 mile southwest of and within the Airport Planning/Influence Area of John Wayne Airport in Santa Ana. The Airport Land Use Plan for John Wayne Airport notes that placing noise sensitive land uses near the airport has the potential to expose persons to high noise levels associated with airport operations. The Airport Land Use Plan identifies areas located in proximity to the airport that may be exposed to high noise levels, which are based on a 60 dBA CNEL planning criteria for generally acceptable noise levels for noise sensitive receptors such as residences. The Project site is located outside of the 60 dBA CNEL contour identified in the Airport Land Use Plan (ALUC, 2008). Additionally, the Project does not include a noise sensitive land use that would potentially be impacted by airport noise. No impacts would occur.



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

No Impact. The project site is not within the vicinity of a private airstrip. Therefore, no impacts would occur.



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3.14 POPULATION AND HOUSING

3.14.1 Setting

The Project site is located approximately 800 feet upstream of Upper Newport Bay in an area zoned as Open Space. The City of Newport Beach is almost fully developed with a diverse mixture of residential, institutional, commercial, industrial, and recreational and open space uses. In the year 2018, the City recorded a population of approximately 87,182 residents, an increase of approximately 975 since 2017. The City of Newport Beach's population is projected to increase a rate of 7.6 percent between 2010 and 2030.

The total number of housing units within the City of Newport Beach totaled to 44,219 in 2012 (City of Newport, 2013). Pursuant to the updated General Plan, ultimate residential capacity within the City of Newport Beach will be 49,968 dwelling units, including the Newport Coast area. In accordance with State Housing Element law, the SCAG has prepared a Regional Housing Needs Assessment (RHNA) to identify the housing need for each jurisdiction within the SCAG region. This assessment was prepared for the 2014–2021 period. To accommodate projected growth in the region, SCAG estimates the City needs to target its housing unit production to accommodate five new housing units. Sufficient sites within the City have been identified to create approximately 4,612 new housing units in the community, significantly exceeding the combined future housing need of five units (City of Newport, 2013).

3.14.2 Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
<u>POPULATION AND HOUSING:</u> Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) *Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?*

No Impact. The Project would not induce population growth in the area either directly or indirectly. The Project includes construction and installation of a self-powered trash collecting water wheel and the grading of a new access



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road for waste collection vehicles to collect and deliver dumpsters to the site as necessary. The Project does not include the construction of new homes, businesses, or other buildings. Therefore, the project would result in no direct or indirect impacts to population growth in the Project area.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

No Impact. The Project site is located in designated Open Space in and along the San Diego Creek. The nearest residential houses are located approximately 300 feet to the south, across the San Diego Creek, or 1,275 feet northwest from the Project area and would not be displaced during short-term construction activities. The Project would not displace existing housing or necessitate the construction of replacement housing elsewhere. Therefore, no impacts would occur.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Impact. Please see Section 3.14 subsection b) above. The Project would not result in the displacement of people and as a result, the construction of replacement housing would not be required. Therefore, no impacts would occur.



3.15 PUBLIC SERVICES

3.15.1 Setting

Services to support the needs of the City of Newport Beach's residents, businesses, and visitors are provided by a diversity of City departments, other public agencies, and private organizations. The agencies responsible for providing public services maintain plans and fund improvements to assure that they adequately meet existing and projected future needs. The Newport Beach Police and Fire Departments provide public safety services to the City's residents, business, and visitors as well as maintain programs for emergency preparedness, response, and recovery. The Newport Beach Recreation and Senior Services Department and General Services Department are responsible for the development and operation of public parks within the City. The City of Newport Beach administers programs within the City to promote economic activity, community involvement, property maintenance and improvement, as well as the preservation, conservation, development, and improvement of housing within the community; support the needs of special needs households and existing homeowners; preserve existing affordable housing; and support equal housing opportunities for all residents (City of Newport, 2006).

3.15.2 Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
<u>PUBLIC SERVICES:</u> Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impact, in order to maintain acceptable service ratios for any of the public services:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could



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cause significant environmental impact, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

i. Fire protection?

No Impact. The Newport Beach Fire Department (NBFD) provides fire protection services for the City. The nearest NBFD fire station is Fire Station #7 located approximately one-mile northwest of the Project site at 20401 SW Acacia St, Newport Beach, CA 92660. The Project includes construction and installation of a trash collecting water wheel and the grading of a new access road for waste collection vehicles to collect and deliver dumpsters to the site as necessary. The Project would not construct additional residential or commercial developments, nor would it alter acceptable service ratios or response times. Additionally, the grading of a new access road would allow the fire department improved access to the Project site for emergencies. The implementation of the Project would not result in environmental impacts to new or physically altered fire department facilities because changes to these City facilities would not be required. Therefore, no impacts would occur.

ii. Police protection?

No Impact. The Newport Beach Police Department (NBPD) provides local police services for the City. The Newport Beach Police Department is located approximately two miles southwest of the Project site at 870 Santa Barbara Dr. Newport Beach, CA 92660. The Project includes construction and installation of a trash collecting water wheel and the grading of a new access road for waste collection vehicles to collect and deliver dumpsters to the site as necessary. The Project would not construct additional residential or commercial developments, nor would it alter acceptable service ratios or response times. Additionally, the grading of a new access road would allow the police department improved access to the Project site for emergencies. The implementation of the Project would not result in environmental impacts to new or physically altered police department facilities because changes to these City facilities would not be required. Therefore, no impacts would occur.

iii. Schools?

No Impact. The Newport-Mesa Unified School District (NMUSD) provides public educational services to the City of Newport Beach, as well as the City of Costa Mesa and other unincorporated areas of Orange County. The Project would not introduce new residents within the City. Therefore, the project would not increase the demand for school facilities. As a result, the Project would not require the NMUSD to provide new or physically altered school facilities. The project would result in no environmental impacts to new or physically altered school facilities because changes to school facilities would not be required. Therefore, no impacts would occur.

i. Parks?

No Impact. The Project is intended to reduce the amount of solid waste and associated pollutants carried from San Diego Creek into Upper Newport Bay and would not introduce new residences. The Project would not impact the level of park services or increase the need for park services. The Project would not require the City to provide new or physically altered park facilities because these facilities would not be required to serve the Project. The implementation of the Project would not result in environmental impacts to new or physically altered park facilities. Therefore, no impacts would occur.



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ii. Other public facilities?

No Impact. The Project would not introduce new residences and thus the Project would not significantly impact the level of other public services or increase the need for other public facilities, such as libraries or hospitals. Therefore, no impact would occur.



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3.16 RECREATION

3.16.1 Setting

The City has approximately 278 acres of developed parks as well as numerous bikeways, jogging trails, pedestrian trails, recreation trails, and regional equestrian trails. City parks range in size from mini-parks such as the Lower Bay Park (0.1 acre) to the 39-acre Bonita Canyon Sports Park. School facilities also provide indoor and outdoor recreational opportunities, while greenbelts and open space areas provide passive recreational opportunities or open space relief. Eight miles of sandy beaches, Newport Bay and Newport Harbor provide coastal and marine recreational opportunities. Additional recreational resources in the City include three community centers, several multipurpose recreation centers, a senior center, and two gymnasium facilities (City of Newport, 2006).

3.16.2 Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
<u>RECREATION:</u> Would the project:				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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?*

Less Than Significant Impact. The Project would be constructed and installed within and along San Diego Creek approximately 800 feet upstream of Upper Newport Bay to remove trash from San Diego Creek during storm events prior to entering Newport Bay. The Project would have a beneficial impact to the quality of recreation in and around Newport Bay through removal of trash. The Project does not include a component with the potential to 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. Potential impacts would be less than significant.

Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact. The Project would not include the construction or expansion of recreational facilities. Therefore, no impacts would occur.



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3.17 TRAFFIC AND TRANSPORTATION

3.17.1 Setting

For purposes of this section, the public and private roadway network surrounding the Project site is referred to as the Project vicinity. The Project vicinity is served by an extensive transportation system, including major freeways, highways, and an airport. In addition, the Project vicinity has nearby harbor and rail facilities. The Project site is located within the Airport Planning/Influence Area of John Wayne Airport (ALUC, 2008).

The Circulation Element of the City of Newport Beach General Plan (City of Newport, July 2006) governs circulation, infrastructure, and maintenance of roadway levels of service. The standard measure used to gauge traffic congestion is Level of Service (LOS). LOS uses field data to report the flow and mobility of vehicles along road segments and delays at intersections. LOS is then rated from “A”, indicating free-flow traffic and minimal delays, to “F”, indicating traffic exceeding capacity, with stop-and-go gridlock. The City of Newport General Plan Circulation Element Roadway System Goal CE 2.1 is to have “A roadway system that provides for the efficient movement of goods and people in the City of Newport Beach, while maintaining the community’s character and its residents’ quality of life”. Policy CE 2.1.1 specifically indicates a LOS standard of D for arterial roadway system planning to accommodate projected traffic within the City (CE 2.1.1.A) and LOS E, at any intersection in the “Airport Area” shared with Irvine (CE2.1.1.B).

State maintained roadways within the project area are within the California Department of Transportation (Caltrans) District 12 jurisdiction. Each Caltrans District develops Transportation Concept Reports (TCRs) for the State maintained roadways – Interstates (I) or State Routes (SRs) in their jurisdiction. The TCRs divide the roadways into segments and provides detailed information for each segment including LOS, planned projects, route development concepts, and existing and forecasted traffic data.

The following roadway/highway segments have the potential to be impacted by implementation of the Project:

- I-405 (segment 2 – between SR-133 and State Route 55);
- SR-73 (segment 4 – between Bison Avenue and State Route 55);
- SR-133 (segment 1 – between I-405 and I-5);
- SR-133 (segment 2 – between I-5 and Trabuco Road);
- SR-133 (segment 3 – between Trabuco Road and Irvine Boulevard);
- Jamboree Road (between University Drive and I-405);
- University Drive (between Jamboree Road and SR-73);
- Irvine Boulevard (between SR-133 and Sand Canyon Avenue);
- Sand Canyon Avenue (between Irvine Boulevard and Portola Parkway);
- Portola Parkway (between Sand Canyon Avenue and Bee Canyon Access Road); and
- Bee Canyon Access Road.

The following provides a description of the regional and local roadways which service the Project for access, production processing, and waste transport.

Regional Transportation System



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Interstate 405 (I-405) is the major freeway with 24.18 miles located in Orange County and 48.2 miles located in Los Angeles County. This freeway is considered a bypass route to the Santa Ana/Golden State Freeway (I-5). The southern terminus is the interchange with I-5 in Irvine. The northern terminus is the interchange with I-5 near Sylmar. The I-405 TCR (District 12) dated November 1999, divides the District 12 portion of this interstate into six segments. Segment 2 starts at the interchange with SR-133 and ends at the interchange with SR-55. The TCR for I-405 indicates existing average daily traffic (ADT) volumes between 153,000 and 340,000 and identifies the existing LOS as F3 for segment 2 within the Project vicinity. The Caltrans TCR indicates that the concept for this route is “to provide the best LOS possible and reduce the duration of congestion” (Caltrans, November 1999).

State Route 73 (SR-73) is an 18.02-mile freeway corridor from the City of San Juan Capistrano (terminus at I-5 interchange) northwesterly through the Cities of Laguna Niguel, Laguna Hills, Laguna Beach, Aliso Viejo, Irvine, Newport Beach, and Costa Mesa (terminus at I-405 interchange). The SR-73 TCR (District 12) dated May 2012, divides the District 12 portion of this highway into five segments. Segment 4 starts at the intersection of Bison Avenue and ends at the interchange with SR-55. Segment 4 includes the interchange with Jamboree Road and is the closest major highway with access to the Project site. The Caltrans TCR for SR-73 identifies a LOS C standard for the toll segments (south of MacArthur Boulevard) and LOS D standard for the non-toll segments (Jamboree Road). The Caltrans TCR for SR-73 indicates segment 4 has an existing annual average daily traffic (AADT) volumes of 171,000 operating at a LOS F (Caltrans, May 2012).

State Route 133 (SR-133) is a freeway from the I-405 interchange in the north to the I-5 interchange and a tollway from the I-5 interchange to the SR-241 interchange in the south. Separate TCRs were developed for the toll and non-toll portions of the freeway. The Project Vicinity is located in the area of the toll portion of SR-133. The toll portion of SR-133 encompasses 5.56-miles with a northern terminus at the interchange with SR-241 and a southern terminus at the interchange with I-405. The SR-133 TCR (District 12) dated June 2014, divides the District 12 portion of this highway into four segments. Segments 1 through 3 encompass the area from the I-405 interchange to Irvine Boulevard. The TCR for SR-133 identifies a LOS C standard for the toll segments. The Caltrans TCR for SR-133 indicates segments 1 through 3 have existing ADT volumes of 32,000 to 45,000 operating at a LOS A (Caltrans, June 2014).

Project Vicinity Primary Site Access

Jamboree Road, a major arterial and the sole access route to the Project site consists of six divided lanes between Pacific Coast Highway (SR-1) and Campus Drive in a northeast/southwest direction. The Project site is located along Jamboree Road between University Drive and Bayview Way. All existing intersections in the Project vicinity are controlled with traffic signals and dedicated left- and right-hand turning lanes. Access to the Project site is available from the northeast direction along Jamboree Road. Access to Jamboree Road will be controlled with a stop sign on the access road to the Project site. Jamboree Road (to travel northeast) can be accessed from SR-73 via University Drive. The General Plan EIR indicates that Jamboree Road has volumes between 30,000 and 67,000 ADT. According to the General Plan EIR, the Jamboree Road/University Drive intersection is operating at an LOS A or B during peak AM/PM hours (General Plan EIR, July 2006).

University Drive, a primary arterial, is located south of the Project site provides access to Jamboree Road from SR-73 (MacArthur Boulevard exit). Within the Project vicinity, University Drive consists of four divided lanes with dedicated left- and right-hand turning lanes at the both the SR-73 off-ramps and the Jamboree Road intersection. Each of these intersections is controlled with traffic signals. The Newport Beach General Plan indicates primary arterials



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(four-lane divided roadways) are designed to accommodate a daily capacity range of 30,000 to 40,000 vehicles with a typical daily capacity of 34,000 vehicles per day.

Solid Waste Disposal Facility

The Project site would be served by the solid waste facilities and landfills that are operated by the Orange County Waste and Recycling (OCWR). The nearest landfill to the project location is the Frank R. Bowerman Sanitary Landfill in Irvine which is the only landfill that serves the City of Newport Beach. The Frank R. Bowerman Sanitary Landfill is located on Bee Canyon Access Road. The route from the Project site to Bee Canyon Access Road consists of Jamboree Road to I-405 (southbound), to SR-133 (northbound), to Irvine Boulevard (westbound), to Sand Canyon Avenue (northbound), to Portola Parkway (westbound), and to Bee Canyon Access Road (northbound). Irvine Boulevard is along the access route to the nearest solid waste facility serving the Project site (Frank R. Bowerman Sanitary Landfill in Irvine). Irvine Boulevard provides access from SR-133 to Sand Canyon Avenue. Irvine Boulevard is a six-lane divided thruway with dedicated left- and right-hand turning lanes at the both the SR-133 off-ramps and the Sand Canyon Avenue intersection. Each of these intersections is controlled with traffic signals.

Sand Canyon Avenue is along the access route to the nearest solid waste facility serving the Project site. Sand Canyon Avenue provides access from Irvine Boulevard to Portola Parkway. Sand Canyon Avenue is a four-lane divided parkway with dedicated left- and right-hand turning lanes at each intersection. Each intersection along this route is controlled with traffic signals.

Portola Parkway is along the access route to the nearest solid waste facility serving the Project site. Portola Parkway provides access from Sand Canyon Avenue to Bee Canyon Access Road. Portola Parkway is a four-lane divided parkway with dedicated left- and right-hand turning lanes at each intersection. Each intersection along this route is controlled with traffic signals.

Bee Canyon Access Road is the primary access road to Frank R. Bowerman Sanitary Landfill (the nearest solid waste facility serving the Project site). Bee Canyon Access Road is a four-lane roadway with dedicated left- and right-hand turning lanes at the Portola Parkway intersection.

3.17.2 Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
<u>TRANSPORTATION AND TRAFFIC:</u> Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets,	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



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Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
highways and freeways, pedestrian and bicycle paths, and mass transit?				
b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) *Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?*

Less than Significant Impact. Construction activities would involve grading, minimal clearing / vegetation removal, and other ground-disturbing activities. Construction activities are short-term and would occur for approximately six months within the Project site. The proposed construction activities would require the use of equipment, such as loaders, excavators, and which would be stored within the staging area of the Project site. Vehicle trips generated from construction activities will be limited to workers/equipment operators accessing the site, periodic material deliveries, and periodic equipment mobilization/demobilization.

During operations, maintenance activities associated with the Project would include disposal of trash into a landside dumpster and transporting the dumpster to an appropriate waste facility. Routine maintenance checks of the Water Wheel, booms, and loading area would also be performed to ensure they were functioning properly. As such,



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operational activities would involve limited amounts of vehicle trips to/from the Project site and the solid waste disposal facility.

Access to the Project vicinity and solid waste disposal facility would occur along existing major freeways and arterials with roadways designed with dedicated turning lanes and intersections controlled with traffic signals. Implementation of the Project would not conflict with the Circulation Element of the City of Newport Beach General Plan. The Project site has limited internal circulation capacity with only one entrance and exit route with limited area for site turn-around. Thus, potential impacts would be less than significant.

- b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?*

Less than Significant Impact. Project construction activities are short-term and would occur for approximately six months within the Project site. Vehicle trips generated from construction activities will be limited to workers/equipment operators accessing the site, periodic material deliveries, and periodic equipment mobilization/demobilization. The route to the Project site and solid waste disposal facility consists of major freeways and arterials with roadways designed with dedicated turning lanes and intersections controlled with traffic signals. The contribution of periodic trips to the disposal facility from the Project site will have no impact to the capacity of the roadways or degrade the LOS along this route.

The Circulation Element of the City of Newport Beach General Plan specifically indicates a LOS standard of D for arterial roadway system planning to accommodate projected traffic within the City. The Jamboree Road/University Drive intersection is operating at a LOS A or B during peak AM/PM hours (General Plan EIR, July 2006). The contribution of vehicle trips from the construction or operation of the Project is not expected to degrade the LOS for this intersection to a point which would conflict with the Circulation Element. While the TCR for SR-73 indicates segment 4 is operating at a LOS F (below the LOS D standard), the contribution of vehicle trips from the construction or operation of the Project is less than significant compared to the existing AADT volume of 171,000 vehicles.

- c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?*

No Impact. The Project does not involve air traffic. No impact would occur.

- d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

Less than Significant Impact. No public roads would be constructed as a part of the Project. The route to the Project site and solid waste disposal facility consists of major freeways and arterials with roadways designed with dedicated turning lanes and intersections controlled with traffic signals. The transport of disposal materials along the route to the solid waste disposal facility is common and is not an incompatible use of roadways. The Project site is accessible from the northeast direction on Jamboree Road. Jamboree Road is a major arterial with a speed limit of 55 miles per hour. The Project site is in an area of dedicated open space with clear visibility of the Project site entrance along Jamboree Road. While the Project site does not have dedicated turning or merge lanes for



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ingress/egress along Jamboree Road, the available three lanes for flow through traffic and clear visibility along Jamboree Road along with the Project site egress controlled with a stop sign make this impact less than significant.

e) Result in inadequate emergency access?

No Impact. The Project does not include any component that would result in inadequate emergency access to the site or surrounding areas. Vehicles used during the project construction and operation are typical in size to tractor-trailers moving at the speed limit of the roadways. Vehicles are not anticipated to block roadways or intersections, reduce speed below the speed limit on roadways, or to interfere with access of emergency vehicles. No impact would occur.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

No Impact. The Project would not affect public transit or pedestrian/bicycle facilities. No public roads or would be constructed as a part of the Project. The bicycle lane along Jamboree Road will not be impacted by the Project. The Project site will have restricted access and implementation of the Project would not conflict with the Circulation Element of the City of Newport Beach. No impact would occur.



3.18 TRIBAL CULTURAL RESOURCES

3.18.1 Setting

The Legislature added new requirements regarding tribal cultural resources for CEQA in Assembly Bill 52 (AB 52) that took effect July 1, 2015. AB 52 requires consultation with California Native American tribes and consideration of tribal cultural resources in the CEQA process. By including tribal cultural resources early in the CEQA process, the legislature intended to ensure that local and Tribal governments, public agencies, and project proponents would have information available, early in the project planning process, to identify and address potential adverse impacts to tribal cultural resources. By taking this proactive approach, the legislature also intended to reduce the potential for delay and conflicts in the environmental review process. To help determine whether a project may have such an effect, the Public Resources Code requires a lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project.

3.18.2 Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
TRIBAL CULTURAL RESOURCES: 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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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*



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No Impact. The City of Newport Beach General Plan Historical Resources Element includes a figure that shows historic resources within the City (City of Newport Beach, 2006c). There are no identified historic resources located near the Project site. The Project would have no impact on historic resources.

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code 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.

Less than Significant Impact with Mitigation Incorporated. The City sent Assembly Bill 52 notification letters to three Tribal groups within the geographic area (Juaneño Band of Mission Indians – Acjachemen Nation, San Gabriel Band of Mission Indians, and Gabrieleño Band of Mission Indians – Kizh Nation). A response was received from the Gabrieleño Band of Mission Indians – Kizh Nation requesting consultation regarding the Project in order to provide a more complete understanding of the prehistoric use(s) of the Project area and the potential for causing a substantial adverse change to the significance of tribal cultural resources. The City did not receive any other requests for tribal consultation during or after the 30-day comment period.

Through consultation with the Gabrieleño Band of Mission Indians – Kizh Nation, it was determined that Mitigation Measures CR-1, CR-2, CR-3 and CR-4 shall be implemented during all site grading activities to mitigate potentially significant impacts to less than significant.

Mitigation Measures

CR-1 Retain a Native American Monitor

CR-2 Unanticipated Discovery of Tribal Cultural and Archaeological Resources

CR-3 Professional Standards

CR-4 Unanticipated Discovery of Human Remains and Associated Funerary Objects



3.19 UTILITIES AND SERVICE SYSTEMS

3.19.1 Setting

Relevant setting to each utility and service system is included below in the Impact Analysis.

3.19.2 Impact Analysis

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?



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Less Than Significant Impact. The Santa Ana RWQCB is the applicable RWQCB for the Project site. The goal of the RWQCB is to ensure the highest quality for Waters of the State and to create a balance of waters delegated for beneficial purposes. Orange County has a NPDES permit with the Santa Ana RWQCB to control point source pollution. The County also has a Stormwater Program in place to ensure pollution is not a product from land sources to the oceans. Additionally, there would be no restroom facilities created for the Project, therefore, no sewage would be created or treated.

Construction activities would be limited to the approximately 0.67-acre site. Because construction would occur on less than one acre of land, the Project would not require coverage under the General Construction Stormwater NPDES Permit or preparation of a SWPPP. However, the Project would be subject to City of Newport Beach's Grading Ordinance which requires implementation of erosion control BMPs during construction such as minimizing soil disturbances, temporary soil stabilizers, temporary sediment controls, wind erosion controls, vehicle track-out controls, waste management and materials pollution controls.

Development of the Project would be subject to the Waste Discharge Requirements of California Regional Water Quality Control Board Santa Ana Region Order No. R8-2009-0030, as amended and NPDES No. CAS618030 for municipal stormwater discharges. Prior to the issuance of any grading or building permits, the City of Newport Beach's Local Implementation Plan requires preparation of a WQMP. The purpose of WQMP is to reduce discharge of pollutants into urban runoff from development projects by reducing or eliminating sources of pollutants, and managing site runoff volumes and flow rates through application of appropriate BMPs.

Operation of the Project would remove trash from San Diego Creek during storm events prior to the trash entering Newport Bay which would have a beneficial impact to the water quality within the Newport Bay area. Therefore, Project impacts related to the exceedance of wastewater treatment requirements of the RWQCB would be less than significant.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact. The Project requires no potable water supply for the Project site. During construction, portable toilets will be provided for personnel who work onsite. The Project would not require the construction of a new water or wastewater treatment facility or expansion of the existing treatment facilities serving the project area. Therefore, no impacts would occur.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less Than Significant Impact. The required WQMP would include drainage considerations to reduce discharge of pollutants into urban runoff from development by reducing or eliminating sources of pollutants, and managing site runoff volumes and flow rates through application of appropriate BMPs. The Project would have a less than significant impact as a result of proposed stormwater drainage facilities.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?



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No Impact. The City of Newport Beach's water supply is provided by the Municipal Water District of Orange County. The Project would have sufficient water supplies available from existing entitlements and resources to serve the Project site as necessary. In addition, there would be no need for new or expanded entitlements for the Project. Therefore, no impacts would occur.

e) *Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

No Impact. The Project requires no potable water supply or wastewater treatment. There would be no restroom facilities created for the Project and portable toilets will be provided for personnel who work onsite during construction. Therefore, no sewage would be created or treated, and the Project would not be a source of wastewater generation that would increase demand for wastewater treatment. The Project would not result in a determination by the wastewater treatment provider that it has inadequate capacity to serve the Project's projected demand. Therefore, no impacts would occur.

f) *Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?*

Less Than Significant Impact. The Project site would be served by the solid waste facilities and landfills that are operated by the OCWR). The nearest landfill to the project location is the Frank R. Bowerman Sanitary Landfill in Irvine which is the only landfill that serves the City of Newport Beach. The Bowerman Landfill is permitted as a Class III landfill to receive a daily maximum of 11,500 tons per day (TPD) with an 8,500 TPD average. Class III landfills accept only non-hazardous municipal solid waste for disposal; no hazardous or liquid waste can be accepted. It is currently estimated to operate with adequate capacity until 2053. The landfill is required to comply with numerous landfill regulations from federal, state and local regulatory agencies (OCWR, 2018).

The objective of the Project is to reduce the amount of solid waste and associated pollutants being carried into Upper Newport Bay by collecting it in San Diego Creek before it reaches the Bay. The waste will be trapped by floating booms and guided onto the system of conveyor belts that would tumble the trash into a landside dumpster. When the dumpster is full, the dumpster will be removed and replaced with an empty one. The full dumpster will be taken to an appropriate waste facility. With the implementation and operation of the Project, data will be collected to determine the volume of captured material, and the characterization of the trash. The volume of solid waste collected and/or generated by the Project is anticipated to be large and has the potential to be in the hundreds of tons based on previously recorded volumes of trash within Newport Bay as well as the success of the Baltimore Water Wheel.

Solid waste generated during construction is expected to be limited to removal of minor amounts of onsite garbage and miscellaneous construction consumables and related debris. The cut and fill resulting from grading activities will be balanced on-site.

The addition of the solid waste generated by Project to the daily average accepted at the Frank R. Bowerman Landfill will not exceed the daily maximum allowance. Therefore, the Project would result in a less than significant impact to landfill capacity.

g) *Comply with federal, state, and local statutes and regulations related to solid waste?*



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Less than Significant Impact. Please refer to Section 3.19.2 subsection f) above. The Project would only generate minor amounts of solid waste during construction, cut and fill will be balanced on-site, and operation of the Project will not generate a volume of solid waste that would create an exceedance in the daily maximum allowance at the accepting landfill. The Project intends to reduce the amount of solid waste and associated pollutants being carried into Upper Newport Bay by collecting it in San Diego Creek before it reaches the Bay and aims to restore coastal resources and improve water quality within the creek. The Project would be in compliance with and not interfere with the County of Orange's required compliance with State regulation AB 939, known as the California Integrated Waste Management Act. This regulation requires 50 percent diversion of counties solid waste from landfills by 2000, and AB 341, which establishes a State policy goal that no less than 75 percent of solid waste generated be source reduced, recycled, or composted by 2020. Therefore, potential impacts would be less than significant.



3.20 MANDATORY FINDINGS OF SIGNIFICANCE

Issues	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
MANDATORY FINDINGS OF SIGNIFICANCE:				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially 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?

Less Than Significant Impact with Mitigation Incorporated. Based on the evaluation completed for this Initial Study/Mitigated Negative Declaration, implementation of the Project has the potential to result in significant impacts to biological resources, cultural resources, hydrology and water quality, noise, and tribal cultural resources. Given implementation of the recommended Mitigation Measures BIO-1, BIO-2, BIO-3, BIO-4, BIO-5, BIO-6, BIO-7, BIO-8, CR-1, CR-2, CR-3, CR-4, and NOI-1 (see Section 4.0 Mitigation Monitoring and Reporting Plan), potential impacts to biological resources, cultural resources, hydrology and water quality, noise, and tribal cultural resources would be mitigated to a less than significant level. The Project does not include a component with the potential to otherwise degrade the quality of the environment or eliminate important examples of the major periods of California history or prehistory. The Project would result in beneficial impacts to aesthetics, biological resources, recreation, and water quality as a result of removing trash from San Diego Creek prior to it entering Newport Bay.



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- b. *Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)*

Less than Significant Impact. The Project involves construction and operation of a water wheel to remove trash from San Diego Creek prior to it entering Newport Bay. As identified in the analysis, all potential impacts can be mitigated to a less than significant. The Project is consistent with the land use and zoning of the site and does not include any component with the potential to result in cumulatively considerable impacts. The Project’s potential cumulative impacts would be less than significant.

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

Less than Significant Impact. Based on the results of the Initial Study/Mitigated Negative Declaration, the Project is not expected to have environmental effects, which would cause substantial adverse effects on human beings, either directly or indirectly. Potential impacts would be less than significant.



4.0 MITIGATION MONITORING AND REPORTING PLAN

Mitigation Measure	Lead Agency Department	Action(s) Required	Required Time of Compliance	Action Taken	Verified By/Dept.	Date	Further Action Needed
BIOLOGICAL RESOURCES							
BIO-1	Public Works	<p>Pre-Construction Surveys (Plants and Wildlife) and Biological Monitoring</p> <p>Pre-Construction Surveys (Plants and Wildlife) and Biological Monitoring Wildlife Surveys: Prior to ground disturbance or vegetation clearing within the Project site, a qualified biologist shall conduct surveys for wildlife (no more than 14 days prior to site disturbing activities) where suitable habitat is present and directly impacted by construction activities. The qualified biologist must be approved by the City of Newport Beach prior to the commencement of surveys. Wildlife found within the Project site or in areas potentially affected by the Project will be relocated to the nearest suitable habitat that will not be affected by the project prior to the start of construction. Special-status species found within a Project impact area shall be relocated by an authorized biologist to suitable habitat outside the impact area.</p> <p>Plant Surveys: Prior to initial ground disturbance for any areas subject to ground disturbance, the Project proponent shall conduct pre-construction surveys for special-status plant species in all areas subject to ground-disturbing activity, including, but not limited to, slope grading, new access roads, staging areas, and Project construction. The surveys shall be conducted during the appropriate blooming period(s) by a qualified plant ecologist/biologist (approved by the City of Newport Beach) according to protocols established by the USFWS, CDFW, and CNPS. All listed plant species found shall be marked and avoided. Any populations of special-status plants found during surveys will be fully described, mapped, and a CNPS Field Survey Form or written equivalent shall be prepared.</p> <p>Prior to site grading, any populations of special-status plant species identified</p>	Prior to and during site disturbance				



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Mitigation Measure	Lead Agency Department	Action(s) Required	Required Time of Compliance	Action Taken	Verified By/Dept.	Date	Further Action Needed
		<p>during the surveys shall be protected by a buffer zone. The buffer zone shall be established around these areas and shall be of sufficient size to eliminate potential disturbance to the plants from human activity and any other potential sources of disturbance including human trampling, erosion, and dust. The size of the buffer depends upon the proposed use of the immediately adjacent lands and includes consideration of the plant's ecological requirements (e.g., sunlight, moisture, shade tolerance, physical and chemical characteristics of soils) that are identified by the qualified plant ecologist or botanist. The buffer for herbaceous and shrub species shall be, at minimum, 50 feet from the perimeter of the population or the individual. A smaller buffer may be established, provided there are adequate measures in place to avoid the take of the species, with the approval of the City of Newport Beach. Highly visible flagging shall be placed along the buffer area and remain in good working order during the duration of any construction activities in the area.</p> <p>Where impacts to listed plants cannot be avoided, the USFWS and/or CDFW shall be consulted for authorization, as appropriate. Additional mitigation measures to protect or restore listed plant species or their habitat, including but not limited to a salvage plan including seed collection and replanting, may be required by the USFWS or CDFW before impacts are authorized.</p> <p>If non-listed CRPR 1, 2, 3, or 4 plants cannot be avoided, and Project-related impacts result in the loss of 10 percent or more of the local population (i.e., occurrences within ¼ mile of the Project impact location), compensatory mitigation will be required.</p> <p>Compensation: Compensation will be required for all impacts that exceed the 10 percent threshold (e.g. impacts to 15 percent of a population will only require compensation for 5 percent, the amount of impacts that exceed the 10 percent threshold). To compensate for permanent impacts to special-status plants (including areas located beneath the arrays), habitat</p>					



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		<p>(which may include preservation of areas within the undisturbed areas of the Project footprint, mitigation lands outside of the main Project site, or a combination of both) that is not already public land shall be preserved and managed in perpetuity at a 1:1 mitigation ratio (one acre preserved for each acre impacted). Compensation for temporary impacts shall include land acquisition and/or preservation at a 0.5:1 ratio. The preserved habitat for a significantly impacted plant species shall be of equal or greater habitat quality to the impacted areas in terms of soil features, extent of disturbance, and vegetation structure, and will contain verified extant populations, of the same size or greater, of the special-status plants that are impacted.</p> <p>Prior to the disturbance of habitat for or take of special-status plants the City of Newport Beach must present documentation of a recorded conservation easement(s) for all compensation/mitigation lands to the U.S. Army Corps of Engineers (USACE) and CDFW as applicable. Compensation lands shall be located within the San Diego Creek Watershed (including Newport Bay). An open space easement will be recorded on all property associated with the compensation/mitigation lands to protect the existing plant and wildlife resources in perpetuity. An open space easement can be held by CDFW or an approved land management entity and shall be recorded immediately upon the dedication or acquisition of the land.</p> <p>Biological Monitoring: Prior to the issuance of grading permits, the Project proponent shall provide written evidence to the City of Newport Beach, that the Project proponent has retained a qualified biological monitor with expertise in the species known to occur or with the potential to occur on the Project site. The qualified biologist shall be present during initial ground disturbance for each phase of construction. Once initial ground disturbance is complete, monitoring will occur periodically during all construction activities. The qualified biologist(s) shall be present at all times during ground-disturbing activities immediately adjacent</p>					



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		to, or within habitat that supports populations of listed or special-status species. If required, during pre-construction surveys and/or required monitoring efforts, the qualified biologist will relocate common and special-status species that enter the Project site; some special-status species may require specific permits prior to handling and/or have established protocols for relocation. Records of all detection, capture and release shall be reported to CDFW.					
BIO-2	Public Works	Environmental Awareness Training Prior to the issuance of any grading permits, the Project proponent shall submit proof to the City of Newport Beach, that all Project personnel attended an environmental awareness and compliance training program. The training program shall present the environmental regulations and applicable permit conditions that the Project team shall comply with. The training program shall include applicable measures established for the Project to minimize impacts to water quality and avoid sensitive resources, habitats and species. Dated sign-in sheets for attendees at these meetings shall be maintained and submitted to the City of Newport Beach.	Prior to grading or vegetation clearing				
BIO-3	Public Works	Implement Best Management Practices (BMPs) Prior to the issuance of any grading permits, the Project proponent shall submit grading plans and specifications to the City of Newport Beach, which indicate that the Project shall implement the following BMPs: <ul style="list-style-type: none"> • Restrict non-essential equipment to the existing roadways and/or ruderal areas to avoid disturbance to native vegetation. • All excavation, steep-walled holes or trenches in excess of six inches in depth shall will be covered at the close of each working day by plywood or similar materials or provided with one or more escape ramps constructed of earth dirt fill or wooden planks. Trenches will also be inspected for entrapped wildlife each morning prior to onset of construction activities and immediately prior to covering with plywood at the end of 	Prior to grading or vegetation clearing				



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		<p>each working day. Before such holes or trenches are filled, they will be thoroughly inspected for entrapped wildlife. Any wildlife discovered will be allowed to escape before construction activities are allowed to resume or removed from the trench or hole by a qualified biologist holding the appropriate permits (if required).</p> <ul style="list-style-type: none"> Minimize mechanical disturbance of soils to reduce impact of habitat manipulation on small mammals, reptiles, and amphibians. Removal/disturbance of vegetation shall be minimized to the greatest extent feasible. Install and maintain appropriate erosion/sediment control measures, as needed, throughout the duration of work activities. Vehicles shall not be driven, or equipment operated, in water covered/wetted portions of the stream channel, or where riparian vegetation may be destroyed, except as otherwise provided for in the permits/agreements from the CDFW, USACE, and/or Regional Water Quality Control Board (RWQCB). No vehicles or equipment shall be refueled within 100 feet of an ephemeral drainage or wetland unless a bermed and lined refueling area is constructed. Spill kits shall be maintained on site in sufficient quantity to accommodate at least three complete vehicle tank failures of 50 gallons each. Any vehicles driven and/or operated within or adjacent to drainages or wetlands shall be checked and maintained daily to prevent leaks of materials. 					
BIO-4	Public Works	<p>Nesting Bird Surveys and Avoidance Measures</p> <p>Prior to issuance of grading permits, the Project proponent shall provide evidence to the City of Newport Beach, of compliance with the MBTA. Prior to initial site disturbance/issuance of grading permits, seasonally timed presence/absence surveys for nesting birds shall be conducted by a qualified biologist; the qualified biologist must be approved by the City of Newport Beach prior to the commencement of surveys. If</p>	Prior to and during vegetation clearing				



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		<p>construction activities carry over into a second nesting season(s) the surveys will need to be completed annually until the Project is complete. A minimum of three survey events, three days apart shall be conducted (with the last survey no more than three days prior to the start of site disturbance), if construction is scheduled to begin during avian nesting season (February 15th through September 15th); surveys for raptors shall be conducted from January 1st to August 15th. Surveys shall be conducted within 500 feet of all Project activities.</p> <p>If special-status species are observed, consultation with U.S. Fish and Wildlife Service (USFWS) and/or CDFW is required. If breeding birds with active nests are found prior to or during construction, a qualified biological monitor shall establish a 300-foot buffer around the nest and no activities will be allowed within the buffer(s) until the young have fledged from the nest or the nest fails. The prescribed buffers may be adjusted by the qualified biologist based on existing conditions around the nest, planned construction activities, tolerance of the species, and other pertinent factors. The qualified biologist shall conduct regular monitoring of the nest to determine success/failure and to ensure that Project activities are not conducted within the buffer(s) until the nesting cycle is complete or the nest fails. If construction occurs outside of avian nesting season, only a single presence/absence survey will be required.</p>					
BIO-5	Public Works	<p>Focused Western Pond Turtle Surveys and Avoidance Measures</p> <p>Prior to ground disturbance or vegetation clearing, a qualified biologist shall be retained to conduct focused surveys for western pond turtle within the Project site and adjacent habitats to a distance of 200 feet away; the qualified biologist must be approved by the City of Newport Beach prior to the commencement of surveys. Focused surveys shall occur between April 1st and September 1st (breeding season) and shall consist of a minimum of four daytime surveys, to be completed prior to ground disturbance or vegetation clearing. The qualified biologist shall conduct focused, systematic surveys for</p>	Prior to grading or vegetation clearing				



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		<p>western pond turtle nesting sites. The survey area shall include all suitable nesting habitat located within 200 feet of occupied habitat in which ground disturbance will occur. Surveys will entail searching for evidence of pond turtle nesting, including remnant eggshell fragments, which may be found on the ground following nest depredation.</p> <p>If an active western pond turtle nesting area would be adversely impacted by construction activities, the nesting area with an appropriate buffer shall be avoided. If avoidance of the nesting area is determined to be infeasible, the qualified biologist shall coordinate with the CDFW to identify if it is possible to relocate the pond turtles. Eggs or hatchlings shall not be moved without written authorization from the CDFW.</p> <p>During the design phase of the Project, modifications will be made to the water wheel structure (in coordination with a qualified biologist), to minimize potential access to the structure by aquatic species such as western pond turtle. This may include, but is not limited to, the installation of vertical surfaces where turtles (or other aquatic species) may attempt to access the structure.</p> <p>A qualified biologist with demonstrated expertise with western pond turtles shall monitor construction activities where pond turtles are present. The qualified biologist will be present full-time during all vegetation removal activities immediately adjacent to, or within, habitat that supports populations of western pond turtles, and part time for all remaining activities. If the installation of fencing to prevent turtles from entering the work area is deemed necessary by the qualified biologist, one pre-construction survey for southwestern pond turtles shall be conducted at the time of the fence installation.</p>					
BIO-6	Public Works	<p>Conduct Protocol Surveys for Least Bell's Vireo</p> <p>A qualified avian biologist shall conduct focused protocol surveys in suitable habitat within 500 feet of proposed Project disturbance areas within the breeding season prior to the start of construction.</p>	Prior to construction				



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		The surveys shall be of adequate duration to verify potential nest sites if work is scheduled to occur during the breeding season and follow established protocols. If a territory or nest is confirmed in a previously unoccupied area, the CDFW and USFWS shall be notified within 48 hours. In coordination with the CDFW and USFWS, a 300 foot disturbance-free buffer shall be established and demarcated by fencing or flagging. This buffer may be adjusted as determined by a qualified avian biologist in coordination with the CDFW and USFWS. The City, in consultation with the qualified biologist, shall halt construction if activities outside of but near the 300-foot buffer are determined to be negatively impacting the nesting birds. The qualified biologist shall devise methods to reduce the noise and/or disturbance in the vicinity as needed. This may include methods such as, but not limited to, turning off vehicle engines and other equipment whenever possible to reduce noise, installing a protective noise barrier between the nest site and the construction activities, and working in other areas until the young have fledged. All active nests shall be monitored on a weekly basis until the nestlings fledge.					
BIO-7	Public Works	Install Turbidity Curtains The Project proponent shall install turbidity curtains around the in-water construction area prior to initiation of in-water construction activities (i.e., pile removal or installation). Turbidity curtains shall consist of a hanging weighted curtain with a surface float line and shall extend from the surface to the bottom of the San Diego Creek.	Prior to in-water construction activities				
BIO-8	Public Works	Vegetation Removal and Replacement Construction activities shall be done in such a manner as to minimize the removal of native vegetation. If native vegetation removal cannot be avoided, and the removal is approved by the City of Newport Beach, the impacted plant communities shall be replaced at a mitigation ratio of 1:1. Sensitive communities, including jurisdictional wetlands, shall be replaced at a mitigation ration of 3:1. The compensation for the loss of habitats may be achieved either by a) on-site habitat creation or	Prior to and post-construction				



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		<p>enhancement of impacted communities with similar species compositions to those present prior to construction, b) off-site creation or enhancement of California sycamore woodlands and southern riparian scrub communities, or c) participation in an established mitigation bank program.</p> <p>Prior to the removal of native vegetation, if on or off-site mitigation is required, a Habitat Mitigation and Monitoring Plan shall be prepared that will guide all restoration and monitoring activities. This plan shall include, at a minimum, the following:</p> <ul style="list-style-type: none"> • Proposed species list for creation/enhancement; • Planting/seeding methodology; • Irrigation plan; • Weeding schedule; • Success criteria; • Monitoring methodology and schedule; and • Reporting requirements. 					
CULTURAL RESOURCES							
CR-1	Public Works	<p>Retain a Native American Monitor</p> <p>The project proponent will be required to retain the services of a Tribal monitor approved by the Gabrieleño Band of Mission Indians-Kizh Nation who will be present on-site during the construction phases that involve ground disturbing activities. Ground disturbing activities are defined by the Gabrieleño Band of Mission Indians-Kizh Nation as activities that may include, but are not limited to, pavement removal, pot-holing or auguring, grubbing, tree removals, boring, grading, excavation, drilling, and trenching, within the project area. The Tribal Monitor will complete daily monitoring logs that will provide descriptions of the day's activities, including construction activities, locations, soil, and any cultural materials identified. The on-site monitoring shall end when the project site grading and excavation activities are completed, or when the Tribal Representatives and monitor have indicated that the site has a low potential for impacting Tribal Cultural Resources.</p>	During ground disturbing activities				



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Mitigation Measure	Lead Agency Department	Action(s) Required	Required Time of Compliance	Action Taken	Verified By/Dept.	Date	Further Action Needed
CR-2	Public Works	<p>Unanticipated Discovery of Tribal Cultural and Archaeological Resources</p> <p>Upon discovery of any archaeological resources, cease construction activities in the immediate vicinity of the find until the find can be assessed. All archaeological resources unearthed by project construction activities shall be evaluated by the qualified archaeologist and tribal monitor approved by the Gabrieleño Band of Mission Indians-Kizh Nation. If the resources are Native American in origin, the Gabrieleño Band of Mission Indians-Kizh Nation shall coordinate with the landowner regarding treatment and curation of these resources. Typically, the Tribe will request reburial or preservation for educational purposes. Work may continue on other parts of the project while evaluation and, if necessary, mitigation takes place (CEQA Guidelines Section 15064.5 [f]). If a resource is determined by the qualified archaeologist to constitute a “historical resource” or “unique archaeological resource”, time allotment and funding sufficient to allow for implementation of avoidance measures, or appropriate mitigation, must be available. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources and Public Resources Code Sections 21083.2(b) for unique archaeological resources. Preservation in place (i.e., avoidance) is the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. Any historic archaeological material that is not Native American in origin shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, they shall be offered to a local school or historical society in the area for educational purposes</p>	During construction				



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CR-3	Public Works	Professional Standards Native American monitoring and excavation during construction projects will be consistent with current professional standards. All feasible care to avoid any unnecessary disturbance, physical modification, or separation of human remains and associated funerary objects shall be taken.	During construction				
CR-4	Public Works	Unanticipated Discovery of Human Remains and Associated Funerary Objects Native American human remains are defined in PRC 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in PRC 5097.98, are also to be treated according to this statute. Health and Safety Code 7050.5 dictates that any discoveries of human skeletal material shall be immediately reported to the County Coroner and excavation halted until the coroner has determined the nature of the remains. If the coroner recognizes the human remains to be those of a Native American or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission (NAHC) and PRC 5097.98 shall be followed. Resource Assessment & Continuation of Work Protocol: Upon discovery, the tribal and/or archaeological monitor will immediately divert work at minimum of 50 feet and place an exclusion zone around the burial. The monitor(s) will then notify the Tribe, the qualified lead archaeologist, and the construction manager who will call the coroner. Work will continue to be diverted while the coroner determines whether the remains are Native American. The discovery is to be kept confidential and secure to prevent any further disturbance. If the finds are determined to be Native American, the coroner will notify the NAHC as mandated by state law who will then appoint a Most Likely Descendent (MLD). Kizh-Gabrieleno Procedures for burials and funerary remains: If the Gabrieleno Band of Mission Indians – Kizh Nation is	During construction				



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		<p>designated MLD, the following treatment measures shall be implemented. To the Tribe, the term "human remains" encompasses more than human bones. In ancient as well as historic times, Tribal Traditions included, but were not limited to, the burial of funerary objects with the deceased, and the ceremonial burning of human remains. These remains are to be treated in the same manner as bone fragments that remain intact. Associated funerary objects are objects that, as part of the death rite or ceremony of a culture, are reasonably believed to have been placed with individual human remains either at the time of death or later; other items made exclusively for burial purposes or to contain human remains can also be considered as associated funerary objects.</p> <p>Treatment Measures: Prior to the continuation of ground disturbing activities, the land owner shall arrange a designated site location within the footprint of the project for the respectful reburial of the human remains and/or ceremonial objects. In the case where discovered human remains cannot be fully documented and recovered on the same day, the remains will be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. If this type of steel plate is not available, a 24-hour guard should be posted outside of working hours. The Tribe will make every effort to recommend diverting the project and keeping the remains in situ and protected. If the project cannot be diverted, it may be determined that burials will be removed. The Tribe will work closely with the qualified archaeologist to ensure that the excavation is treated carefully, ethically and respectfully. If data recovery is approved by the Tribe, documentation shall be taken which includes at a minimum detailed descriptive notes and sketches. Additional types of documentation shall be approved by the Tribe for data recovery purposes. Cremations will either be removed in bulk or by means as necessary to ensure completely recovery of all material. If the discovery of human remains includes four</p>					



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		<p>or more burials, the location is considered a cemetery and a separate treatment plan shall be created. Once complete, a final report of all activities is to be submitted to the Tribe and the NAHC. The Tribe does NOT authorize any scientific study or the utilization of any invasive diagnostics on human remains.</p> <p>Each occurrence of human remains and associated funerary objects will be stored using opaque cloth bags. All human remains, funerary objects, sacred objects and objects of cultural patrimony will be removed to a secure container on site if possible. These items should be retained and reburied within six months of recovery. The site of reburial/repatriation shall be on the project site but at a location mitigated between the Tribe and the landowner at a site to be protected in perpetuity. There shall be no publicity regarding any cultural materials recovered.</p>					
HYDROLOGY AND WATER QUALITY							
BIO-7	See above in Biological Resources						
NOISE							
NOI-1	Public Works	<p>Construction Noise Reduction</p> <p>A. Prior to the issuance of any grading permits, the project proponent shall produce evidence acceptable to the Manager, Building and Safety, that:</p> <p>1. All construction vehicles or equipment, fixed or mobile, operated within 1,000 feet of a dwelling shall be equipped with properly operating and maintained mufflers.</p> <p>2. All operations shall comply with the City Noise Ordinance including limiting construction activities between the hours of 7:00 a.m. and 6:30 p.m. during weekdays and 8:00 AM to 6:00 PM on Saturdays.</p> <p>3. Stockpiling and/or vehicle staging areas shall be located as far as practicable from dwellings.</p> <p>B. Notations in the above format, appropriately numbered and included with other notations on the front sheet of the project's permitted grading plans, will be considered as adequate evidence of compliance with this condition.</p>	Prior to grading				



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TRIBAL CULTURAL RESOURCES							
CR-1	See above in Cultural Resources						
CR-2	See above in Cultural Resources						
CR-3	See above in Cultural Resources						
CR-4	See above in Cultural Resources						



PROPOSED FINDING

5.0 PROPOSED FINDING

ENVIRONMENTAL DETERMINATION

On the basis of this initial evaluation:

☐

I find that the proposed Newport Bay Water Wheel Project **COULD NOT** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.

I find that although the proposed Newport Bay Water Wheel Project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A **MITIGATED NEGATIVE DECLARATION** will be prepared. *Attached Mitigation Measures and Monitoring Program.*

☒

I find that the proposed Newport Bay Water Wheel Project **MAY** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.

☐

I find that the proposed Newport Bay Water Wheel Project **MAY** have a significant effect 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, if the effect is a "potentially significant impact" or "potentially significant unless mitigated." An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.

☐

I find that although the proposed Newport Bay Water Wheel 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**, nothing further is required.

☐

Signature:



Date:

8/2/18



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LIST OF PREPARERS

6.0 LIST OF PREPARERS

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Deputy Project Manager	StephAnnie Roberts	Stantec Consulting Services Inc.
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Utilities and Service System	Lindsay McDonough	Stantec Consulting Services Inc.
Mandatory Findings of Significance	Michael Weber	Stantec Consulting Services Inc.



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APPENDICES

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Appendix A PROJECT EMISSIONS ESTIMATES



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CalEEMod Output – Annual Emissions

Newport Bay Water Wheel - Orange County, Annual

Newport Bay Water Wheel

Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	29.18	1000sqft	0.67	29,185.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	8			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total construction area is 0.67 acre

Construction Phase - Construction duration is 6 months

Grading -

Vehicle Trips - Operations are not daily but intermittent and after storms throughout the year.

Fleet Mix - intermittent trips for replacing full trash bin with the empty one and delivering trash to disposal site

Energy Use -

Off-road Equipment - estimates for pile installations. in-water activities not included

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	120.00
tblConstructionPhase	NumDays	2.00	3.00
tblConstructionPhase	NumDays	1.00	2.00
tblConstructionPhase	PhaseEndDate	6/24/2020	7/22/2020
tblConstructionPhase	PhaseEndDate	2/5/2020	2/6/2020
tblConstructionPhase	PhaseEndDate	2/3/2020	2/4/2020
tblFleetMix	HHD	0.02	0.60
tblFleetMix	LDA	0.56	0.00
tblFleetMix	LDT1	0.04	0.10
tblFleetMix	LDT2	0.21	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.7950e-003	0.00
tblFleetMix	MCY	4.8670e-003	0.00
tblFleetMix	MDV	0.12	0.10
tblFleetMix	MH	1.0020e-003	0.00
tblFleetMix	MHD	0.03	0.20
tblFleetMix	OBUS	1.6770e-003	0.00
tblFleetMix	SBUS	5.8600e-004	0.00
tblFleetMix	UBUS	1.5860e-003	0.00
tblLandUse	LandUseSquareFeet	29,180.00	29,185.00
tblOffRoadEquipment	HorsePower	78.00	89.00
tblOffRoadEquipment	LoadFactor	0.42	0.42
tblOffRoadEquipment	LoadFactor	0.48	0.20
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType	Forklifts	Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblVehicleTrips	ST_TR	1.32	1.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	WD_TR	6.97	3.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0781	0.7900	0.6702	1.1400e-003	0.0122	0.0433	0.0554	3.5100e-003	0.0400	0.0435	0.0000	100.9966	100.9966	0.0276	0.0000	101.6875
Maximum	0.0781	0.79	0.6702	1.14E-03	0.0122	0.0433	0.0554	3.51E-03	0.04	0.0435	0.0000	100.9966	100.9966	0.0276	0	101.6875

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0781	0.7900	0.6702	1.1400e-003	0.0122	0.0433	0.0554	3.5100e-003	0.0400	0.0435	0.0000	100.9965	100.9965	0.0276	0.0000	101.6874
Maximum	0.0781	0.7900	0.6702	1.1400e-003	0.0122	0.0433	0.0554	3.5100e-003	0.0400	0.0435	0.0000	100.9965	100.9965	0.0276	0.0000	101.6874

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	2-3-2020	5-2-2020	0.4432	0.4432
2	5-3-2020	8-2-2020	0.4178	0.4178
		Highest	0.4432	0.4432

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	2/3/2020	2/4/2020	5	2	
2	Grading	Grading	2/4/2020	2/6/2020	5	3	
3	Building Construction	Building Construction	2/6/2020	7/22/2020	5	120	
4	Paving	Paving	6/25/2020	7/1/2020	5	5	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Other Construction Equipment	1	4.00	172	0.42
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Air Compressors	1	2.00	89	0.20
Building Construction	Cement and Mortar Mixers	1	2.00	9	0.56
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Aerial Lifts	1	2.00	63	0.31
Building Construction	Forklifts	2	6.00	89	0.20
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	12.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction**3.2 Site Preparation - 2020****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3000e-004	0.0000	5.3000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.9000e-004	8.4300e-003	4.0900e-003	1.0000e-005		3.4000e-004	3.4000e-004		3.1000e-004	3.1000e-004	0.0000	0.8559	0.8559	2.8000e-004	0.0000	0.8628
Total	6.9000e-004	8.4300e-003	4.0900e-003	1.0000e-005	5.3000e-004	3.4000e-004	8.7000e-004	6.0000e-005	3.1000e-004	3.7000e-004	0.0000	0.8559	0.8559	2.8000e-004	0.0000	0.8628

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.5000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0475	0.0475	0.0000	0.0000	0.0475
Total	2.0000e-005	1.0000e-005	1.5000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0475	0.0475	0.0000	0.0000	0.0475

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3000e-004	0.0000	5.3000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.9000e-004	8.4300e-003	4.0900e-003	1.0000e-005		3.4000e-004	3.4000e-004		3.1000e-004	3.1000e-004	0.0000	0.8559	0.8559	2.8000e-004	0.0000	0.8628
Total	6.9000e-004	8.4300e-003	4.0900e-003	1.0000e-005	5.3000e-004	3.4000e-004	8.7000e-004	6.0000e-005	3.1000e-004	3.7000e-004	0.0000	0.8559	0.8559	2.8000e-004	0.0000	0.8628

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.5000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0475	0.0475	0.0000	0.0000	0.0475
Total	2.0000e-005	1.0000e-005	1.5000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0475	0.0475	0.0000	0.0000	0.0475

3.3 Grading - 2020**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.1300e-003	0.0000	1.1300e-003	6.2000e-004	0.0000	6.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3000e-003	0.0118	0.0114	2.0000e-005		7.0000e-004	7.0000e-004		6.7000e-004	6.7000e-004	0.0000	1.5611	1.5611	3.0000e-004	0.0000	1.5685
Total	1.3000e-003	0.0118	0.0114	2.0000e-005	1.1300e-003	7.0000e-004	1.8300e-003	6.2000e-004	6.7000e-004	1.2900e-003	0.0000	1.5611	1.5611	3.0000e-004	0.0000	1.5685

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	4.0000e-005	4.6000e-004	0.0000	1.6000e-004	0.0000	1.7000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1425	0.1425	0.0000	0.0000	0.1426
Total	6.0000e-005	4.0000e-005	4.6000e-004	0.0000	1.6000e-004	0.0000	1.7000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1425	0.1425	0.0000	0.0000	0.1426

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.1300e-003	0.0000	1.1300e-003	6.2000e-004	0.0000	6.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3000e-003	0.0118	0.0114	2.0000e-005		7.0000e-004	7.0000e-004		6.7000e-004	6.7000e-004	0.0000	1.5611	1.5611	3.0000e-004	0.0000	1.5685
Total	1.3000e-003	0.0118	0.0114	2.0000e-005	1.1300e-003	7.0000e-004	1.8300e-003	6.2000e-004	6.7000e-004	1.2900e-003	0.0000	1.5611	1.5611	3.0000e-004	0.0000	1.5685

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	4.0000e-005	4.6000e-004	0.0000	1.6000e-004	0.0000	1.7000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1425	0.1425	0.0000	0.0000	0.1426
Total	6.0000e-005	4.0000e-005	4.6000e-004	0.0000	1.6000e-004	0.0000	1.7000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1425	0.1425	0.0000	0.0000	0.1426

3.4 Building Construction - 2020**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0701	0.7177	0.6039	9.30E-04		0.0410	0.041		0.0379	0.0379	0.0000	81.4698	81.4698	0.0256	0.0000	82.1098
Total	0.0701	0.7177	0.6039	9.3000e-004		0.0410	0.0410		0.0379	0.0379	0.0000	81.4698	81.4698	0.0256	0.0000	82.1098

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.8000e-004	0.0318	8.6500e-003	7.0000e-005	1.8900e-003	1.6000e-004	2.0500e-003	5.4000e-004	1.6000e-004	7.0000e-004	0.0000	7.3028	7.3028	6.1000e-004	0.0000	7.3180
Worker	2.8100e-003	1.9700e-003	0.0223	8.0000e-005	7.9000e-003	5.0000e-005	7.9600e-003	2.1000e-003	5.0000e-005	2.1500e-003	0.0000	6.8412	6.8412	1.6000e-004	0.0000	6.8451
Total	3.79E-03	0.0338	0.031	1.50E-04	9.7900e-003	2.1000e-004	0.01	2.6400e-003	2.1000e-004	2.85E-03	0.0000	14.1439	14.1439	7.7000e-004	0.0000	14.1631

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0701	0.7177	0.6039	9.3000e-004		0.0410	0.0410		0.0379	0.0379	0.0000	81.4697	81.4697	0.0256	0.0000	82.1097
Total	0.0701	0.7177	0.6039	9.3000e-004		0.0410	0.0410		0.0379	0.0379	0.0000	81.4697	81.4697	0.0256	0.0000	82.1097

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.8000e-004	0.0318	8.6500e-003	7.0000e-005	1.8900e-003	1.6000e-004	2.0500e-003	5.4000e-004	1.6000e-004	7.0000e-004	0.0000	7.3028	7.3028	6.1000e-004	0.0000	7.3180
Worker	2.8100e-003	1.9700e-003	0.0223	8.0000e-005	7.9000e-003	5.0000e-005	7.9600e-003	2.1000e-003	5.0000e-005	2.1500e-003	0.0000	6.8412	6.8412	1.6000e-004	0.0000	6.8451
Total	3.7900e-003	0.0338	0.0310	1.5000e-004	9.7900e-003	2.1000e-004	0.0100	2.6400e-003	2.1000e-004	2.8500e-003	0.0000	14.1439	14.1439	7.7000e-004	0.0000	14.1631

3.5 Paving - 2020**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9300e-003	0.0181	0.0178	3.0000e-005		9.9000e-004	9.9000e-004		9.2000e-004	9.2000e-004	0.0000	2.3482	2.3482	6.8000e-004	0.0000	2.3653
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.9300e-003	0.0181	0.0178	3.0000e-005		9.9000e-004	9.9000e-004		9.2000e-004	9.2000e-004	0.0000	2.3482	2.3482	6.8000e-004	0.0000	2.3653

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8000e-004	1.2000e-004	1.3900e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4276	0.4276	1.0000e-005	0.0000	0.4278
Total	1.8000e-004	1.2000e-004	1.3900e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4276	0.4276	1.0000e-005	0.0000	0.4278

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9300e-003	0.0181	0.0178	3.0000e-005		9.9000e-004	9.9000e-004		9.2000e-004	9.2000e-004	0.0000	2.3482	2.3482	6.8000e-004	0.0000	2.3653
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.9300e-003	0.0181	0.0178	3.0000e-005		9.9000e-004	9.9000e-004		9.2000e-004	9.2000e-004	0.0000	2.3482	2.3482	6.8000e-004	0.0000	2.3653

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8000e-004	1.2000e-004	1.3900e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4276	0.4276	1.0000e-005	0.0000	0.4278
Total	1.8000e-004	1.2000e-004	1.3900e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4276	0.4276	1.0000e-005	0.0000	0.4278

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0530	1.7028	0.5291	4.5900e-003	0.1263	7.4100e-003	0.1337	0.0352	7.0800e-003	0.0422	0.0000	456.6867	456.6867	0.0416	0.0000	457.7276
Unmitigated	0.0530	1.7028	0.5291	4.5900e-003	0.1263	7.4100e-003	0.1337	0.0352	7.0800e-003	0.0422	0.0000	456.6867	456.6867	0.0416	0.0000	457.7276

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	87.54	29.18	0.00	295,353	295,353
Total	87.54	29.18	0.00	295,353	295,353

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.000000	0.100000	0.000000	0.100000	0.000000	0.000000	0.200000	0.600000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	3.2900e-003	0.0299	0.0251	1.8000e-004		2.2700e-003	2.2700e-003		2.2700e-003	2.2700e-003	0.0000	32.5501	32.5501	6.2000e-004	6.0000e-004	32.7436
NaturalGas Unmitigated	3.2900e-003	0.0299	0.0251	1.8000e-004		2.2700e-003	2.2700e-003		2.2700e-003	2.2700e-003	0.0000	32.5501	32.5501	6.2000e-004	6.0000e-004	32.7436

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	609967	3.2900e-003	0.0299	0.0251	1.8000e-004		2.2700e-003	2.2700e-003		2.2700e-003	2.2700e-003	0.0000	32.5501	32.5501	6.2000e-004	6.0000e-004	32.7436
Total		3.2900e-003	0.0299	0.0251	1.8000e-004		2.2700e-003	2.2700e-003		2.2700e-003	2.2700e-003	0.0000	32.5501	32.5501	6.2000e-004	6.0000e-004	32.7436

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	609967	3.2900e-003	0.0299	0.0251	1.8000e-004		2.2700e-003	2.2700e-003		2.2700e-003	2.2700e-003	0.0000	32.5501	32.5501	6.2000e-004	6.0000e-004	32.7436
Total		3.2900e-003	0.0299	0.0251	1.8000e-004		2.2700e-003	2.2700e-003		2.2700e-003	2.2700e-003	0.0000	32.5501	32.5501	6.2000e-004	6.0000e-004	32.7436

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	246613	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	246613	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1190	0.0000	3.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.2000e-004	7.2000e-004	0.0000	0.0000	7.7000e-004
Unmitigated	0.1190	0.0000	3.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.2000e-004	7.2000e-004	0.0000	0.0000	7.7000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0135					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1055					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.0000e-005	0.0000	3.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.2000e-004	7.2000e-004	0.0000	0.0000	7.7000e-004
Total	0.1190	0.0000	3.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.2000e-004	7.2000e-004	0.0000	0.0000	7.7000e-004

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0135					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1055					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.0000e-005	0.0000	3.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.2000e-004	7.2000e-004	0.0000	0.0000	7.7000e-004
Total	0.1190	0.0000	3.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.2000e-004	7.2000e-004	0.0000	0.0000	7.7000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2.1408	0.2199	5.1900e-003	9.1850
Unmitigated	2.1408	0.2199	5.1900e-003	9.1850

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	6.74787 / 0	2.1408	0.2199	5.1900e-003	9.1850
Total		2.1408	0.2199	5.1900e-003	9.1850

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	6.74787 / 0	2.1408	0.2199	5.1900e-003	9.1850
Total		2.1408	0.2199	5.1900e-003	9.1850

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	7.3442	0.4340	0.0000	18.1950
Unmitigated	7.3442	0.4340	0.0000	18.1950

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	36.18	7.3442	0.4340	0.0000	18.1950
Total		7.3442	0.4340	0.0000	18.1950

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	36.18	7.3442	0.4340	0.0000	18.1950
Total		7.3442	0.4340	0.0000	18.1950

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

Emissions Result Summary

Calculation of Construction Maximum Daily Emissions

Phase - No. of days	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Site Prep - 2 days	tons/yr					
On-site	6.90E-04	8.43E-03	4.09E-03	1.00E-05	7.00E-04	3.50E-04
Off-site	2.00E-05	1.00E-05	1.50E-04		6.00E-05	1.00E-05
	lbs/day					
On-site	0.69	8.43	4.09	0.01	0.7	0.35
Off-site	0.02	0.010	0.150	0.000	0.060	0.010
Total	0.71	8.44	4.24	0.01	0.76	0.36
Grading - 3 days	tons/yr					
On-site	1.30E-03	0.0118	0.0114	2.00E-05	1.83E-03	1.29E-03
Off-site	6.00E-05	4.00E-05	4.60E-04	0	1.70E-04	4.00E-05
	lbs/day					
On-site	0.87	7.87	7.6	0.01	1.22	0.86
Off-site	0.04	0.03	0.31	0.00	0.11	0.03
Total	0.91	7.89	7.91	0.01	1.33	0.89
Building Construction - 130 days	tons/yr					
On-site	0.070	0.718	0.604	0.001	0.041	0.038
Off-site	0.004	0.034	0.031	0.000	0.010	0.003
	lbs/day					
On-site	1.168	11.962	10.065	0.016	0.683	0.632
Off-site	0.063	0.563	0.517	0.003	0.167	0.048
Total	1.232	12.525	10.582	0.018	0.850	0.679
Paving - 5 days	tons/yr					
On-site	0.002	0.018	0.018	0.000	0.001	0.001
Off-site	0.000	0.000	0.001	0.000	0.001	0.000
	lbs/day					
On-site	0.77	7.24	7.12	0.01	0.396	0.368
Off-site	0.07	0.05	0.56	0.00	0.20	0.05
Total	0.84	7.29	7.68	0.01	0.60	0.42
Construction Maximum Daily Emissions (lbs/day)						
On-site	1.168	11.962	10.065	0.016	1.220	0.860
Total	1.232	12.525	10.582	0.018	1.333	0.887

Calculation of Maximum Operational Emissions

Category	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total	Total CO2	CH4	N2O	CO2e
	tons/yr						MT/yr			
Area	0.119	0	3.700E-04	0	0	0	7.20E-04	0	0	7.700E-04
Energy	3.29E-03	0.0299	0.0251	1.800E-04	2.270E-03	2.270E-03	32.5501	6.200E-04	6.000E-04	32.7436
Mobile	0.053	1.7028	0.5291	4.59E-03	0.1337	0.0422	456.6867	0.0416	0	457.7276
Waste					0	0	7.3442	0.434	0	18.195
Water					0	0	2.1408	0.2199	5.19E-03	9.185
Total	0.1753	1.7327	0.5546	4.77E-03	0.136	0.0445	498.7226	0.6962	5.79E-03	517.8519

517.85903*

* Total GHG emissions - Operational emissions plus Construction emissions amortised over 20 years (project lifetime)

Daily Operational Emissionsof Criteria Pollutants

Operation	lbs/day					
Average Daily	0.961	9.494	3.039	0.026	0.745	0.244
Maximum Daily	1.68	16.61	5.32	0.05	1.30	0.43

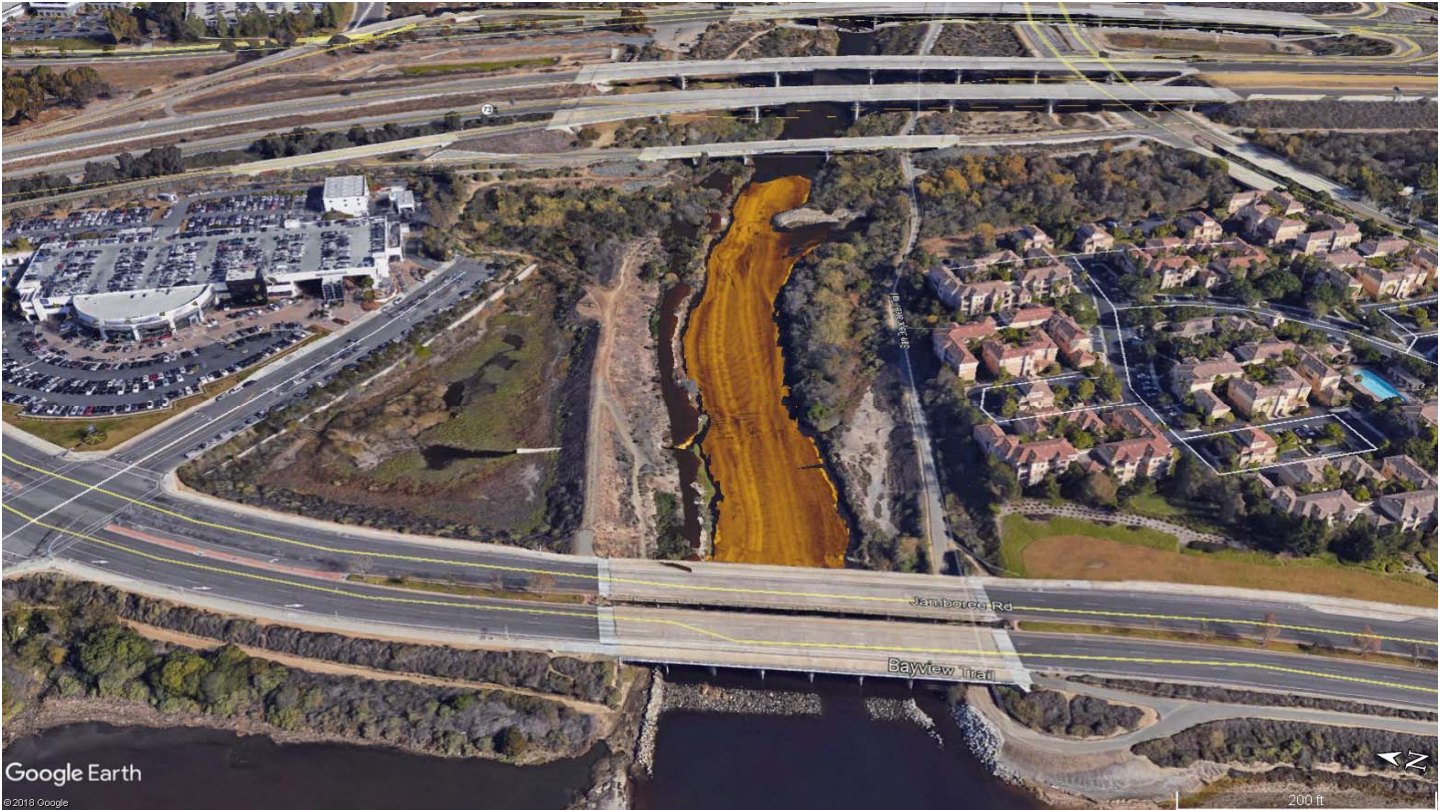
Appendix B AQUATIC RESOURCES FIELD SURVEY REPORT



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SAN DIEGO CREEK AQUATIC RESOURCES FIELD SURVEY REPORT

5/2/2018



Prepared for:



Stantec Consulting Services

290 Conejo Ridge Ave,
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1.0 INTRODUCTION

On 27 April 2018, Pi Environmental (Pi) helped support Stantec scientific personnel conduct a site inspection of a portion of the extreme upper Newport Bay/lower portion of San Diego Creek to support the installation of a trash wheel for the collection and removal of trash from the creek (Figure 1). The surveys were undertaken to provide information on the existing biological conditions of the creek area identified for possible Trash Wheel installation. Specifically, Pi field crews were assessing the in-water biota, including the presence/absence of eelgrass (*Zostera marina*), presence/absence of the invasive species *Caulerpa*, and generally, the quality of fish habitat within the area of targeted installation (herein area of potential effect [APE]).

Eelgrass serves as critical habitat for many marine fish and invertebrates and is important to several fish species managed under the Magnuson-Stevens Fisheries Conservation and Management Act (MSA). The important ecological role eelgrass has in the lifecycles of juvenile and adult fish, has led to it being designated as Essential Fish Habitat (EFH), and subsequently managed federally by the National Marine Fisheries Service (NMFS). Therefore, if it is present within the APE, there would be concern that the presence of the Trash Wheel or activities associated with trash wheel installation may directly or indirectly impact eelgrass, necessitating mitigation and monitoring in accordance with the NMFS California Eelgrass Management Policy (CEMP 2014).

In addition to the biological sensitivities associated with eelgrass, if the invasive species *Caulerpa taxifolia* is present at the site, then physical disturbance of the algae may lead to spreading, which can possibly overwhelm endemic species. *Caulerpa* is a cultured aquarium alga that has been detected, and subsequently eradicated, from both Huntington Beach Harbor and Agua Hedionda Lagoon in Carlsbad.

The sale of *Caulerpa* has been restricted in California since 2001 (AB 1334). Coastal construction projects are required to perform a pre-construction *Caulerpa* survey in accordance with the California *Caulerpa* Control Protocol (CCP), administered jointly by NMFS and the California Department of Fish and Wildlife (CDFW). Surveys are to be conducted within 30 to 90 days of an action. The intensity of the required *Caulerpa* survey is based on site history, with Level 1 surveillance surveys (lowest threat level) required to inspect at a minimum 20 percent of the project APE. Level 1 surveys are deemed appropriate for areas that have never been directly exposed to *Caulerpa* (CCP 2008), as in the current case of the APE for the Trash Wheel.



Figure 1. Dense Foliage on the Banks of San Diego Creek

2.0 MATERIALS AND METHODS

To begin the survey, Pi and Stantec field crews participated in a pre-survey safety meeting at 7:30am. The weather at the time of survey was overcast, with a temperature of 58 degrees throughout the morning surveys. The wind was less than 3 knots, and the surface waters were calm and glassy. The tide at the time of survey was +4.7 feet and falling.

2.1 In-Water Survey

Pi scientists surveyed San Diego Creek bottom using both video and acoustic methods. Surveys were performed from the 13-ft Pi kayak (Pi-yak). The Pi-yak is fitted with a hull mounted 455 MHz/800 MHz side scan sonar, variable frequency single beam Chirp sonar, and a 10 Hertz (Hz) Global Positioning System (GPS). The small work platform of the Pi-yaks allows scientists access to the waters of the creek, along vegetated areas, and is small enough to hand load into the creek. In total, five in-water survey transects were completed using the Pi-yak. Acoustic coverage was greater than 90 percent in the APE.

Side scan sonar surveys were visually verified using a wifi enabled High Definition (HD) Video camera. The camera was connected to the scientist's smartphone via an Android app that was capable of viewing in real time and recording either HD video or still images. Visibility at the time of survey was poor, less than 1 foot at times. Collectively, the equipment and methodology used on this survey is compliant with NMFS recommendations for a valid survey for both eelgrass and/or *Caulerpa*.

2.2 Shoreline/Diffuser Rock Survey

Concurrent with in-water acoustic survey transects, a field biologist investigated the water to land interface, and recorded animals observed around the surveyed habitat. Two shoreline transects were completed of the creek edges. Surrounding the brackish waters are mostly coastal chaparral, succulents and weeds. Trees and bushes that like the moist soil conditions found on and near stream banks like this include two main plant communities in the uplands surrounding the Bay, they are grassland and coastal sage scrub. Characteristic native coastal sage scrub plants observed included California sagebrush and buckwheat. Small amounts of marine encrusting animals were present on the diffuser rocks at the terminus of the creek. These principally included Mussels (*Mytilus sp.*) and Barnacles (*Balanus sp.*).

3.0 RESULTS

Results of the acoustic survey suggest the creek bottom is uniform throughout most of the APE, and largely devoid of structure. There were a series of remnant support piles, extending from the bottom and breaching the creek surface. Results of the side scan sonar survey suggest there less than a dozen piles, extending 2 to 4 feet up from the bottom. Figure 2 shows the longest of the piles breaking the surface on a +3.8 ft tide.



Figure 2. Remnant Pilings in San Diego Creek

3.1 Shoreline/Diffuser Rock Survey

Aquatic animals encountered during transects of these brackish waters was sparse for the most part. Mussels (*Mytilus sp.*) and small clam and snail shells sporadically accompanied the rocky substrate along the jetty underneath Jamboree bridge. Mussels were the dominant fauna on the dissipation rocks, and also found in higher abundances around the old pilings in the middle of the creek. Using the underwater camera, scientists were able to identify algal species of *Entromorpha* and *Ulva*. In addition to some small branching Bryozoans were also visible on the tops of the remaining piles. Striped Mullet (*Mugil cephalus*) were observed jumping out of the water both in Newport Bay proper and further into the creek throughout transects.

3.2 Inwater Survey

Side scan sonar result did not identify eelgrass or the invasive *Caulerpa* anywhere within or adjacent to the trash wheel APE. Most of the creek bottom was uniform in composition (Figure 3), with only minor outcrops from the old timber piles, and from the concrete and rock armor stone to the north of the site. There was what appeared to be a submerged PVC pipe (or line) in the Northern part of the site as well, although outside the possible location for the trash wheel. Figure 4 provides a channel wide image generated from the side scan sonar survey.



Figure 3. San Diego Creek Bottom

The bathymetry of the creek section is provided as Figure 5. Single beam data was interpolated using ARC GIS and was tidally adjusted for the purpose of depth averaging. The results suggest it is shallower near the bridge, and deeper on the west side of the armor rock. The results here are for discussion purpose only, and survey level accuracy bathymetry would require more resolute equipment.

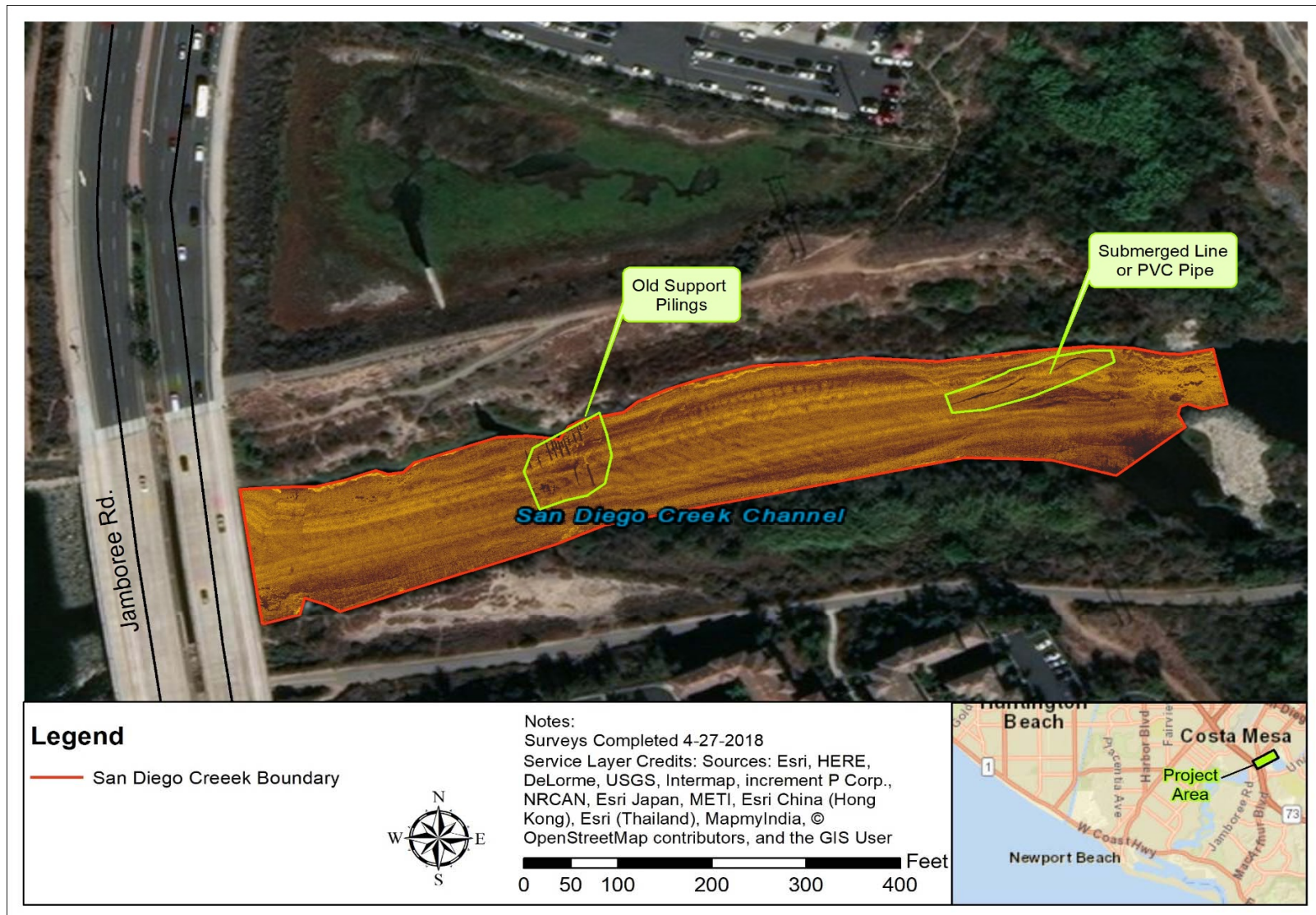


Figure 4. Side Scan Sonar Results

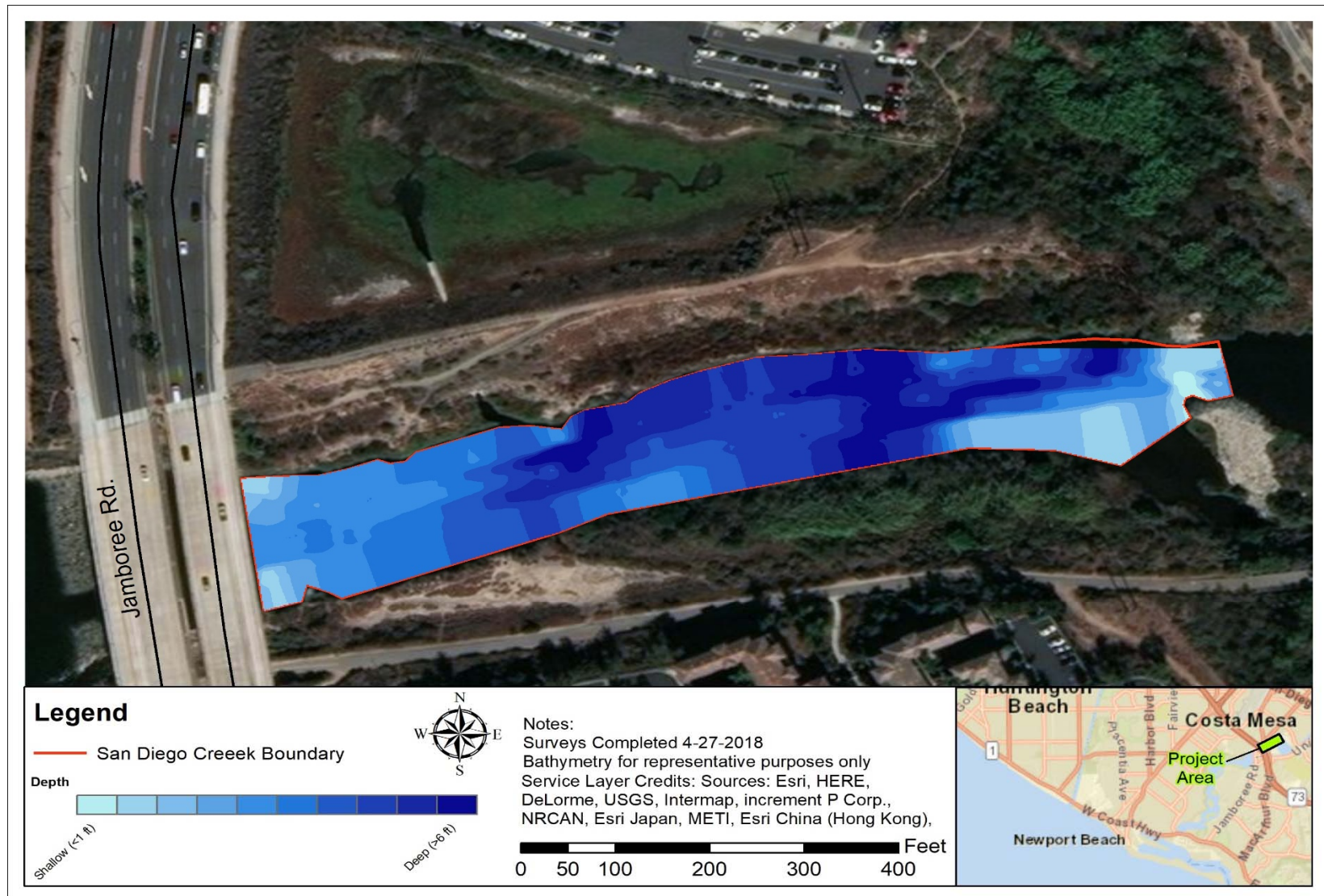


Figure 5. Bathymetric Survey Results of the San Diego Creek APE

4.0 DISCUSSION

Based on the results of the side scan sonar survey and visual inspection, the in-water habitat of the San Diego creek is primarily soft bottom sediment. The soft bottom substrate is terminated at either end by concrete structures, the Jamboree Rd. bridge to the southwest and armor rock and additional freeway support pilings to the northeast. In the middle of the APE there is a small set (less than a dozen) residual timber piles, most likely remnants from a previous construction project or support platform. The pilings are possibly the only hard substrate in the creek and are covered with mussels and algae.

The only large fish observed during the survey were Mullet, otherwise, fish were largely absent from the survey. Visibility was limited making distance observations difficult, but it is suspected the dense foliage on the banks of the creek may serve as high quality protective habitat for fish, providing cover and structure for juveniles. There were no signs of invasive species (i.e., *Caulerpa*) or eelgrass. The periodic brackish water of the creek likely limits the presence of eelgrass, therefore additional shading or overwater structures would not have an impact on submerged aquatic vegetation.

5.0 REFERENCES

California Department of Fish and Wildlife (CDFW) and the National Marine Fisheries Service (NMFS) 2004, California Caulerpa Control Protocol (CCP), Revision 4 revised 2004.

National Marine Fisheries Service (NMFS). California Eelgrass Mitigation Policy (CEMP), Adopted October 2014.

Appendix C PRELIMINARY JURISDICTIONAL WETLANDS/WATERS DELINEATION REPORT



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**Newport Bay Water Wheel
Project**

Preliminary Jurisdictional Wetlands/Waters
Delineation Report

July 11, 2018

Prepared for:


City of Newport Beach
Public Works Department
100 Civic Center Drive
Newport Beach, CA 92660

Prepared by:

Stantec Consulting Services Inc.
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Thousand Oaks, CA 91361

Sign-off Sheet

This document entitled Newport Bay Water Wheel Project Preliminary Jurisdictional Wetlands/Waters Delineation Report was prepared by Stantec Consulting Services Inc. ("Stantec") for the account of City of Newport Beach (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

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**NEWPORT BAY WATER WHEEL PROJECT
PRELIMINARY JURISDICTIONAL WETLANDS/WATERS DELINEATION REPORT**

Executive Summary

This Jurisdictional Delineation (JD) Report serves as guidance in establishing baseline conditions for resources under the jurisdiction of the U.S. Army Corps of Engineers (USACE), the California Department of Fish and Wildlife (CDFW), the California Coastal Commission (CCC), and the Regional Water Quality Control Board (RWQCB) for the Newport Bay Water Wheel Project (Project). Specifically, the purpose of the JD was to determine the location and extent of waters and/or wetlands subject to potential jurisdictional authority within and adjacent to the Project site (Biological Survey Area or BSA) along the northern bank of San Diego Creek in the City of Newport Beach (refer to Appendix A, Figures 1 - 4 for the location and boundaries of the BSA). The BSA is approximately 4.52 acres.

The City of Newport Beach proposes to install a trash collecting water wheel within San Diego Creek that would be secured to a pile system and would be constructed as a floating system that can accommodate forecast sea level rise impact. Potentially jurisdictional features observed during the survey included portions of San Diego Creek just prior to its confluence with Upper Newport Bay. Several areas within the BSA features exhibited conditions that would meet the requirements to be considered wetland waters of the U.S. and CCC jurisdictional wetlands. Some areas also likely qualify as potential non-wetland waters of the U.S. and CDFW jurisdictional waters.

Based on the field observations and data collected, approximately 0.005 acres of potential non-wetland waters of the U.S., 2.365 acres of federal jurisdictional wetlands, 0.168 acres of CCC jurisdictional wetlands, and 4.280 acres of CDFW jurisdictional waters subject to the jurisdiction of the USACE/RWQCB, CCC, and CDFW occur within the BSA. If these areas are directly or indirectly impacted during construction of the Project, the City of Newport Beach would be required to procure a USACE Section 404 Permit, RWQCB Section 401 Water Quality Certification, CCC Coastal Development Permit, and CDFW Section 1602 Streambed Alteration Agreement. The jurisdictional boundaries provided here are subject to verification by the above-mentioned regulatory agencies.

1.0 INTRODUCTION

1.1 PURPOSE OF THE REPORT

This report presents the findings of an investigation of potential jurisdictional features conducted by Stantec Consulting Services Inc. (Stantec) for the Project. The assessment of jurisdictional wetlands, other “waters of the U.S.,” waters of the State, CCC jurisdictional wetlands, and CDFW jurisdictional waters was conducted on 27 April 2018, by Stantec Principal Biologist Jared Varonin and Environmental Scientist Colleen Hulbert and included the Project site and surrounding areas. This assessment was conducted to determine the extent of resources under the jurisdiction of the USACE, RWQCB, CCC, and CDFW that occur within the BSA.

1.2 PROJECT LOCATION

As shown in Figure 1, the Project site is located on approximately one acre in and along San Diego Creek between the Jamboree Road bridge and California State Route 73 within the City of Newport Beach, Orange County, California. The Project is located on and along a stretch of San Diego Creek with the uplands owned by the County of Orange for flood control purposes and submerged tidelands under the leasing authority of the City of Newport Beach. The Project site is approximately 800 feet upstream of Upper Newport Bay at 33.651283000 N, -117.864558000 W.

1.3 PROJECT DESCRIPTION

The Project entails siting the Water Wheel within San Diego Creek secured to a pile system. The Water Wheel will be constructed within San Diego Creek as a floating system that can accommodate forecast sea level rise impact. Landside improvements will be located above elevation ten feet (NAVD88), to limit impacts of sea level rise during the life of the Water Wheel. Through engineering design, it was determined, a pile system can be designed that can easily handle the maximum current flows in San Diego Creek. The Water Wheel is designed for an expected useful life of 20 years.

The proposed 40-foot long, 30-foot wide, 14-foot high Water Wheel and conveyer belts will be secured to a pile system along the north shore of the San Diego Creek. A buoy collection system of floating trash booms will be deployed along the full width of the creek (approximately 140 feet wide within the area of the Project site). The booms will be situated to guide floating waste towards a rake and conveyor belt system powered by the Water Wheel. The rake and conveyor belt system will lift the floating waste from the water and deposit it on a second conveyor belt that will transport the waste to a dumpster located on a landside concrete pad adjacent to the Water Wheel.

The Water Wheel will generate its own power from the flowing current of the San Diego Creek to the Upper Newport Bay. Supplemental power can be provided by an array of solar panels located atop the Water Wheel. The power generated through the solar panels will be sufficient to turn the Water Wheel during times of diminished current in order to operate the conveyor belts. The system can store excess energy in a battery array to be utilized during periods of little to no sunlight.

1.4 LEAD AGENCY NAME AND ADDRESS

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1.5 CONTACT PERSON AND PHONE NUMBER

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2.0 REFERENCES

2.1 TOPOGRAPHY AND SURROUNDING LAND USES

The BSA is situated in a developed area in the northern portion of the City of Newport Beach in western Orange County; the BSA occurs in southwestern corner of the Tustin United States Geological Survey (USGS) 7.5-minute topographic quadrangle (USGS, 2015). The Project site occurs along the elevated banks and within the channel of San Diego Creek at an elevation range of 7 – 24 feet above mean sea level (MSL).

The BSA is located immediately above the confluence of San Diego Creek and Upper Newport Bay. Lands surrounding the BSA include a small portion of open space to the north and east, Upper Newport Bay to the west, and residential lands to the south. The uplands portion of the Project is located on lands owned by the County of Orange for flood control purposes.

2.2 VEGETATION

The Manual of California Vegetation, 2nd Edition (Sawyer et al., 2009), was utilized to classify vegetation/land cover types present in the BSA. Twelve vegetation/land cover types were identified within the BSA as described below and depicted in Figure 2 (Appendix A).

Arroyo Willow Thickets

This vegetation type occurs along the margins of the south bank of San Diego Creek in the southeastern portion of the BSA; this community is dominated by arroyo willow (*Salix lasiolepis*). Species such as giant reed (*Arundo donax*), Mulefat (*Baccharis salicifolia*), pickleweed (*Salicornia pacifica*), and California fan palm (*Washingtonia robusta*) were also present.

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Fennel Patches

This habitat type occurs primarily along the northern bank of San Diego Creek, within the central portion of the BSA, along an elevated terrace and is dominated by sweet fennel (*Foeniculum vulgare*). Commonly observed species in this community included western ragweed (*Ambrosia psilostachya*), California sagebrush (*Artemisia californica*), blue elderberry (*Sambucus nigra* ssp. *caerulea*).

Giant Reed Break

Giant reed breaks were found in one distinct location within the western extent of the BSA. This community consisted of a monoculture of the non-native giant reed with no other species observed.

Ice Plant Mats

This community occurs within sloped areas below the existing access road in the central and eastern portions of the BSA. The dominant species within this community was crystalline ice plant (*Mesembryanthemum crystallinum*); no other species were observed within this community.

Marsh Jaumea Mats

Marsh jaumea mats were present along the fringes of the northern banks of San Diego Creek within the BSA. While marsh jaumea (*Jaumea carnosa*) was the dominant species, pickleweed was present as a near co-dominant species in some areas.

Mulefat Thickets

Mulefat thickets occur at one location in the eastern extent of the BSA where mulefat was the dominant species. Understory species within the mulefat thickets included annual fireweed (*Epilobium brachycarpum*) and iceplant (*Carpobrotus edulis*).

Pampas Grass Patches

Pampas grass patches, dominated by non-native pampas grass (*Cortaderia selloana*), occur within the eastern extent of the BSA along the northern banks of San Diego Creek; no other species were associated with this community.

Pepper Tree Grove

A single area mapped as pepper tree grove, occurring within one distinct location in the eastern extent of the BSA, is dominated by Brazilian pepper trees (*Schinus terebinthifolius*). Understory vegetation was dominated by non-native species such as iceplant and annual fireweed.

Pickleweed Mats

Occurring within one location along the southern bank of San Diego Creek in the eastern extent of the BSA, this community is dominated by pickleweed; marsh jaumea was interspersed within this community but in much lower numbers.

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Quailbush Scrub

Occurring within multiple locations along the upper portions of the northern banks of San Diego Creek within the BSA, this shrubland vegetation community, while dominated by quailbush (*Atriplex lentiformis*), included other species such as California sagebrush and coyote brush (*Baccharis pilularis*). This community was observed to integrate with other shrubland vegetation types mapped in the BSA.

Open Water

Areas of San Diego Creek within the main channel, below the terraces and banks, were mapped as open water.

Disturbed/Developed

Within the BSA, this classification was used to map roads, shoulders, and other anthropogenic land uses. Where vegetated these areas are composed of ruderal pioneer plant species that readily colonize open disturbed soil and thrive as a result of anthropogenic impacts. Some of the plants present within this cover type are red-stem filaree (*Erodium cicutarium*) and various non-native grasses.

2.3 CLIMATE

The City of Newport Beach has a Mediterranean climate characterized by mild winters, when most rainfall occurs, and warm, dry summers. Average summer high and low temperatures (July) in the Newport Beach area are 74°F (23°C) and 61°F (16°C), respectively. Average winter high and low temperatures (January) are 63°F (17°C) and 45°F (7°C), respectively. Rainfall averages approximately 12 inches (0.30 meters) per year. Most of the annual rainfall occurs between November and April, with minor precipitation during summer months. [USACE, 2000]

2.4 HYDROLOGY AND GEOMORPHOLOGY

Newport Bay is a combination of two distinct bodies of water, termed "Lower" and "Upper" Newport Bay. The Lower Bay, where the majority of commerce and recreational boating exists, was formerly a coastal lagoon (Stevenson and Emery 1958). Upper Newport Bay is a drowned river valley and is geologically much older than the Lower Bay. The Upper Bay is bounded by high bluffs on the San Joaquin Terrace on the east and the Newport Mesa on the west. The Pacific Coast Highway (PCH) bridge divides Newport Bay into Upper and Lower sections. The Lower Bay is heavily developed (predominantly as residential properties), while the Upper Bay contains both a diverse mix of development in its lower reach, and an undeveloped ecological reserve to the north. [USACE, 2000]

The Upper Bay is primarily a marine saltmarsh with freshwater inflows from San Diego Creek, the Santa Ana - Delhi Channel, local springs, and drainage from adjacent areas. The primary source of freshwater flowing into Upper Newport Bay is San Diego Creek. The San Diego Creek watershed drains an area of 118 square miles (sq mi) (305.6 square kilometers [sq km]). The flows from this stream are seasonally variable, generally averaging about 30 cubic feet per second (cfs) during the dry summer months. Flows from extreme storm events can exceed 20,000 cfs during the 50-year event (Boyle Engineering Corporation 1982). Given the continual (albeit highly variable) freshwater flows into the Upper Bay, water salinities are less than those in the ocean a majority of the time. Thus, the impact of San Diego Creek on the water properties of the Upper Bay is continual, with significant seasonal variations. Because of the variability of

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flows from San Diego Creek from year to year, the environment of the Upper Bay is also variable, and baseline conditions may change from one year to the next. [USACE, 2000]

The San Diego Creek Watershed is approximately 118 square miles in size and includes all of the cities of Irvine and Tustin, and portions of Lake Forest, Laguna Hills, Newport Beach, Orange, Santa Ana, and unincorporated Orange County. San Diego Creek drains about 77 percent of the 154 square miles that are tributary to Upper Newport Bay. [IRMP, 2005]

2.5 GEOLOGY

Regional Geology

The BSA, located at the upstream extent of Upper Newport Bay, is located in a region that is tectonically active and complex. The complexity of this region is due to the orientation of the physiographic provinces that have been created in southern California from the movement of the North American and Pacific tectonic plates. These provinces include the Transverse Ranges, the Peninsular Ranges, and the Coastal Ranges. The Transverse Ranges consist of a series of east-west trending ranges and valleys that truncate the prevailing north-northwest trending Southern Coastal and Peninsular Ranges. The Peninsular and Coastal Ranges have dominant northwest trending faults characterized by right-lateral strike-slip separation (UCI 1995). [USACE, 2000]

Local Geology

Newport Bay is located at the southeastern end of the Los Angeles coastal plain and crosses the southeastern edge of the Inglewood-Newport Uplift. Three formations of bedrock have been exposed during the erosive periods in which the bay was excavated. Because of rapid sedimentation, the formations are visible only on Coney Island (a small outcrop located just south of Shellmaker Island) and surrounding bluffs. The formations include the Monterey, the Capistrano, and an unnamed formation (Corps 1993a). These three formations appear to represent the underlying bedrock formations within the bay and are underlain by approximately 15 feet (ft.) (4.6 meters [m]) to 45 ft. (13.7 m) of Holocene (within the last 10,000 years) and Pleistocene (from 10,000 to 2 million years ago) alluvium material. [USACE, 2000]

The oldest exposed bedrock in Upper Newport Bay is the Monterey Formation. The Monterey Formation is characterized as a well bedded, diatomaceous shale deposited during the Miocene (about 5 to 24 million years ago). It can be found along the bluffs between the PCH Bridge and Middle Island, and along Coney Island. The Capistrano Formation lies over the Monterey Formation and has been dated at Upper Miocene (about 5 to 15 million years ago) to Lower Pleistocene (about 1 to 2 million years ago). The Capistrano Formation consists of a clay siltstone matrix and is of marine origin. The Capistrano Formation is exposed along bluffs near Upper Island. The unnamed formation consists of a lightly colored, fine to medium grained silty sandstone that overlies the Capistrano Formation. This sandstone has been dated at Late Pliocene (about 2 to 3.5 million years ago) to Lower Pleistocene, and is exposed along the bluffs north of Upper Island. [USACE, 2000]

2.6 SOILS

Soils within the BSA were observed to be dominated by silty and sandy loam soils. Prior to conducting the delineation, historic soils data from the Natural Resources Conservation Service (NRCS) was used to determine potential soil types

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that may occur within the BSA and included determining where hydric soils have historically occurred (refer to Appendix A, Figure 3). Characteristics of soils present on the site are summarized in Appendix C. Table 1 identifies the soils historically known to occur within the BSA.

Soils underlying the BSA are mapped as tidal flats, which is listed as a hydric soil. Tidal flats are nearly level areas adjacent to bays and lagoons along the coast. Periodically they are covered by tidal overflow. Some of the higher areas are covered only during very high tides. Tidal flats are stratified clayey to sandy deposits. They are poorly drained and are high in salts.

Table 1. Soil Units Occurring in the BSA

Map Unit Symbol	Map Unit Name	Description	Acres Within BSA	Acres Within Project Impact Areas
211	Tidal flats	A soil that occurs on tidal flats at or near sea level; prone to frequent flooding; depth to water table is 0"; stratum makeup is highly variable.	4.52	0.664

3.0 REGULATORY BACKGROUND

The USACE Regulatory Program regulates activities pursuant to Section 404 of the federal Clean Water Act (CWA); the CCC regulates wetland habitats under the California Coastal Act; the CDFW regulates activities under California Fish and Game Code Sections 1600-1607; and the RWQCB regulates activities under Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act. Refer to Appendix E for additional details on regulatory authorities and background.

4.0 WATERS/WETLANDS DELINEATION

4.1 DELINEATION METHODOLOGY

This section describes the methods employed by Stantec during the survey conducted on 27 April 2018, to determine the extent of potentially jurisdictional wetlands and/or waters that occur within the BSA. Prior to conducting the field assessment, Stantec reviewed current and historic aerial photographs, detailed topographic maps, and soil maps of the BSA (USDA, 2018), the National Wetlands Inventory (USFWS, 2018), and local and state hydric soil lists (NRCS, 2018a and 2018b) to evaluate the potential active channels and wetland features that may occur in the BSA. During the field assessment, hydrophytic vegetation and hydrologic features were mapped using a global positioning system (GPS) unit and identified on aerial photographs (refer to Appendix A, Figure 4). Field maps were digitized using geographic information systems (GIS) technology and the total jurisdictional area for each regulatory jurisdiction was calculated.

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Federal Wetlands/Waters

Jurisdictional non-wetland “waters of the U.S.” were delineated based on the limits of the ordinary high water mark (OHWM) as determined by changes in physical and biological features, such as bank erosion, deposited vegetation or debris, and vegetative characteristics. Where present, jurisdictional wetlands are delineated using a routine determination in accordance with the methods outlined in the USACE Wetland Delineation Manual (Environmental Laboratory, 1987) and the Arid West Supplement (Environmental Laboratory, 2011) and based on three wetland parameters: dominant hydrophytic vegetation, wetland hydrology, and hydric soils. See Tables 1 and 2 in Appendix D (Potential Geomorphic and Vegetative Indicators of Ordinary High Water Marks for the Arid West) for a list of key physical features used to determine the OHWM identified by the Arid West Manual.

CDFW Jurisdictional Waters

CDFW jurisdiction was delineated to the top of the banks of the channel and/or to the edge of contiguous riparian canopy/riparian habitat. For portions of the proposed BSA, the CDFW jurisdictional boundary mirrors the OHWM, though for the most part, the tops of the banks extend beyond the OHWM. Therefore, the total acreage of CDFW jurisdictional waters is greater than the combined acreage of federal jurisdictional waters/wetlands.

CCC Jurisdictional Wetlands

Wetlands under the jurisdiction of the CCC are delineated using the same methodology as described above for federal wetlands. The CCC, however, requires that only one of the three wetland criteria (hydrophytic vegetation, hydric soils, and wetland hydrology) need be present to qualify as a wetland. Therefore, portions of the BSA not meeting the federal criteria for wetlands may fall under the jurisdiction of the CCC.

4.1.1.1 Wetland Vegetation

Vegetation percent cover was visually estimated for plant species in each of the four strata (tree, sapling/shrub, herb, and woody vine), and species in each stratum were ranked based on canopy dominance (USACE, 20016). Species with a total percent cover of at least 50 percent and species with 20 percent coverage within each stratum were recorded on the Field Data Sheets (50/20 Rule). Wetland indicator status was assigned to each dominant species using the USACE Arid West Regional Wetland Plant List (2016), the California subregion of the National List of Vascular Plant Species that Occur in Wetlands: 1996 National Summary (USFWS, 1997), and Wetland Plants of Specialized Habitats in the Arid West (USACE 2007). If greater than 50 percent of the dominant species from all strata were Obligate, Facultative-Wetland, or Facultative species, the criteria for wetland vegetation was considered to be met (refer to Appendix D, Table 3). Plants observed within the BSA are listed below in Section 4.2, along with their wetland indicator status.

4.1.1.2 Wetland Hydrology

The presence of wetland hydrology was evaluated by recording the extent of observed primary and secondary indicators, as listed in Tables 4 and 5 of Attachment 4 (Environmental Laboratory, 2011). Wetland hydrology indicators are divided into two categories (primary and secondary indicators) and presence of one primary indicator from any of the groups is considered evidence of wetland hydrology. If only secondary indicators are present, two or more must be observed to conclude presence of wetland hydrology. Indicators are intended to be one-time observations of site

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conditions representing evidence of wetland hydrology when hydrophytic vegetation and hydric soils are present (Environmental Laboratory, 2011).

4.1.1.3 Wetland Soils

Soils data from the NRCS was referenced to determine if hydric soils have been previously documented and/or historically occurred in or near the Study Area. Based on this review hydric soils were expected to occur within the BSA. Appendix D, Tables 6 and 7, includes a complete list of hydric soils indicators. A total of three soil test pits were excavated within distinct locations in the BSA; the locations of each soil test pit are depicted on Figure 4 (Appendix A). A routine small area, the type of delineation chosen for this site (based on USACE guidance), requires a soil test pit within each distinct habitat type in the area to be surveyed.

4.2 RESULTS

Four types of jurisdictional features were recorded within the BSA. These included USACE/RWQCB non-wetland waters of the U.S., USACE/RWQCB/CCC jurisdictional wetlands, CCC jurisdictional wetlands, and CDFW jurisdictional waters, as summarized in Table 2 and Figure 4 (refer to Appendix A). According to the NRCS Hydric Soils List, one hydric soil association has been historically mapped in the BSA (refer to Section 2.6 above); soil pits dug within the BSA confirmed the presence of hydric soils within portions of the BSA. Vegetation occurring within portions of the BSA did satisfy the 50/20 Rule required to meet the hydrophytic vegetation threshold; therefore, wetland vegetation was present where indicated.

The National Wetlands Inventory has mapped Estuarine and Marine Deepwater, Estuarine and Marine Wetland, and Freshwater Forested/Shrub Wetlands within portions of the BSA. While the areas mapped as Estuarine and Marine Wetland Freshwater Forested/Shrub Wetland generally correlate with on-site conditions, no Estuarine and Marine Deepwater habitat was observed during the 27 April 2018 survey. This wetland type would be more applicable to the conditions within the adjacent Upper Newport Bay. The National Wetlands Inventory data is dated March 2006.

Table 2. Acreage of Potential Jurisdictional Waters and Wetlands within the Survey and Project Areas.

Drainage Feature/Type	USACE/RWQCB /CCC Wetlands		USACE/RWQCB Non-Wetland Waters (acres)		CDFW Jurisdictional Waters (acres)		CCC Jurisdictional Wetlands**		Cowardin Type*
	BSA	Project Impact Area	BSA	Project Impact Area	BSA	Project Impact Area	BSA	Project Impact Area	
San Diego Creek/Perennial	2.365	0.081	0.005	0	4.280	0.542	0.168	0	E1UBL; E2USP; and PFO/SSC

* Cowardin et al. 1979

** Due to the Project's location within the Coastal Zone it falls under the jurisdiction of the CCC. The CCC only requires one of the three USACE wetland criteria to be considered a CCC jurisdictional wetland. These acreages are in addition to the federally jurisdictional wetlands within other sections of the Project site.

**NEWPORT BAY WATER WHEEL PROJECT
PRELIMINARY JURISDICTIONAL WETLANDS/WATERS DELINEATION REPORT**

Federal Non-Wetlands Waters

Based on Stantec's professional opinion following an assessment of hydrology, soil characteristics, vegetation, and the limits of the OHWM, no portion of the BSA that will be impacted by the Project supports non-wetland waters of the United States; a total of 0.005 acres are present within the BSA. Hydrologic indicators observed during the delineation within the BSA included Sediment Deposits (B2) and Drift Deposits (B3), both secondary indicators of wetland hydrology.

Federal Wetlands

Approximately 2.365 acres of federally jurisdictional wetlands occur within the BSA. See Figure 4 (Attachment 1) for a graphical representation of this area. Based on Stantec's professional opinion following an assessment of hydrology, vegetation, and soils, the Project would impact approximately 0.081 acres that satisfy the criteria to be considered wetlands (Environmental Laboratory, 1987 and 2008). The majority of the vegetation observed within the established plots at each soil pit included species that were Facultative (FAC), Facultative Wetland (FACW), and Obligate Wetland (OBL); refer to Attachment 4, Table 3 for a description of wetland plant categories. A complete list of species observed within the BSA is presented above in Table 4-2.

Oxidized root channels, a wetland hydrology indicator, were observed within several of the soil pits dug within the BSA. Wetland hydrology indicators such as inundation visible on aerial imagery, drainage patterns, and a dry-season water table were noted within the BSA. Perennial surface water was present within the San Diego Creek channel. The presence of surface water and sediment deposits within portions of the BSA qualify as primary indicators of wetland hydrology (refer to Attachment 4, Table 5). Evidence of saturation visible on aerial imagery, the presence of a dry season water table, and drainage patterns (Group B and Group C indicators, refer to Attachment 4, Table 5) were also observed. Portions of the BSA were found to meet the wetland soils and/or hydrology criteria but did not express a dominance of wetland vegetation and therefore do not met the federal wetland definition as outlined in the Arid West Supplement.

Areas of open water within San Diego Channel could not be sampled for the presence of wetland soils. Although not sampled during the aquatic survey plant species observed within the inundated channel are assumed to be OBL or FACW. Given the presence of perennial surface water (meeting wetland hydrology requirements) and the soils present along the banks of the creek, for the purposes of this delineation, it is assumed that hydric soils are present. Based on this information the open water areas of San Diego Creek within the BSA are assumed to be jurisdictional wetlands.

Table 3. Wetland Indicator Status of Plant Species Observed within the BSA

Scientific Name	Common Name	Wetland Indicator Status**
<i>Ambrosia psilostachya</i>	Western ragweed	FACU
<i>Artemisia californica</i>	California sagebrush	--
<i>Arundo donax*</i>	giant reed	FACW
<i>Atriplex lentiformis</i>	quailbush	FAC
<i>Baccharis pilularis</i>	coyote bush	--
<i>Baccharis salicifolia</i>	mulefat	FAC
<i>Carpobrotus edulis*</i>	iceplant	--

**NEWPORT BAY WATER WHEEL PROJECT
PRELIMINARY JURISDICTIONAL WETLANDS/WATERS DELINEATION REPORT**

Scientific Name	Common Name	Wetland Indicator Status**
<i>Cortaderia selloana</i> *	pompas grass	FACU
<i>Encelia californica</i>	bush sunflower	--
<i>Epilobium brachycarpum</i>	Annual fireweed	--
<i>Erodium cicutarium</i> *	red-stemmed filaree	--
<i>Eucrypta chrysanthemifolia</i>	common eucrypta	--
<i>Euthamia occidentalis</i>	western goldentop	FACW
<i>Foeniculum vulgare</i> *	sweet fennel	--
<i>Frankenia salina</i>	alkali heath	FACW
<i>Glebionis segetum</i> *	corndaisy	--
<i>Heliotropium curassavicum</i>	seaside heliotrope	FACU
<i>Hirschfeldia incana</i> *	short pod mustard	--
<i>Jaumea carnosa</i>	marsh jaumea	OBL
<i>Lepidium latifolium</i> *	perennial pepperweed	FAC
<i>Mesembryanthemum crystallinum</i> *	crystalline iceplant	FACU
<i>Nicotiana glauca</i> *	tree tobacco	FAC
<i>Phacelia distans</i>	common phacelia	--
<i>Pseudognaphalium stramineum</i>	cottonbatting plant	FAC
<i>Ricinus communis</i> *	castor bean	FAC
<i>Salicornia pacifica</i>	pickleweed	OBL
<i>Salix lasiolepis</i>	arroyo willow	FACW
<i>Schoenoplectus californicus</i>	California bullrush	OBL
<i>Sambucus nigra</i> ssp. <i>caerulea</i>	blue elderberry	FACU
<i>Schinus terebinthifolius</i>	Brazilian pepper tree	FAC
<i>Washingtonia robusta</i>	Mexican fan palm	FACW

* Non-native/invasive species

** Wetland Indicator Status codes are defined in Appendix D

CDFW Jurisdictional Waters

Based on Stantec's professional opinion following an assessment of hydrology and the presence of bed and bank, there are approximately 0.542 acres of CDFW jurisdictional waters present within the Project impact area; a total of 4.280 acres of CDFW Jurisdictional Waters are present within the BSA.

CCC Jurisdictional Wetlands

Portions of the BSA meeting at least one of the three criteria for federal wetlands (dominance of hydrophytic vegetation, evidence of wetland hydrology, and hydric soils) fall under the jurisdiction of the CCC. Approximately 0.168 acres of

NEWPORT BAY WATER WHEEL PROJECT PRELIMINARY JURISDICTIONAL WETLANDS/WATERS DELINEATION REPORT

CCC jurisdictional wetlands are present within the BSA however, they do not occur within the Project impact area (refer to Attachment 1, Figure 4).

5.0 SUMMARY AND CONCLUSIONS

The BSA supports USACE/RWQCB non-wetland waters, USACE/RWQCB/CCC jurisdictional wetlands, CCC jurisdictional wetlands, and CDFW jurisdictional waters. Surface water was present within the main channel of San Diego Creek during the survey event. Based on Stantec's professional opinion following an assessment of hydrology, soil characteristics, vegetation, and the limits of the OHWM, there are approximately 0.005 acres of non-wetland waters of the United States present within the BSA; these areas would not be impacted by the Project. Based on an assessment of hydrology, vegetation, and soils, approximately 2.365 acres of federally jurisdictional wetlands occur within the BSA. The Project would impact approximately 0.081 acres that satisfy the criteria to be considered wetlands (USACE, 1987 and USACE, 2008);.

Portions of the BSA meeting at least one of the three criteria for federal wetlands (dominance of hydrophytic vegetation, evidence of wetland hydrology, and hydric soils) fall under the jurisdiction of the CCC. Approximately 0.168 acres of CCC jurisdictional wetlands are present within the BSA however, they do not occur within the Project impact area. Following an assessment of hydrology and the presence of bed and bank, it was determined that there are approximately 0.542 acres of CDFW jurisdictional waters would be impacted by the Project. Project-related impacts to jurisdictional areas would require the Project proponent to procure regulatory permits from the USACE, CDFW, CCC, and RWQCB. These include Clean Water Act Section 401 and 404, CDFW Lake and Streambed Alteration Agreement, and CCC Coastal Development permits.

The conclusions presented above represent Stantec's professional opinion based on our knowledge and experience with the applicable regulatory agencies, including their technical guidance documents and manuals. However, the USACE, CDFW, CCC, and RWQCB have final authority in determining the status and presence of jurisdictional wetlands/waters and the extent of their boundaries.

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PRELIMINARY JURISDICTIONAL WETLANDS/WATERS DELINEATION REPORT**

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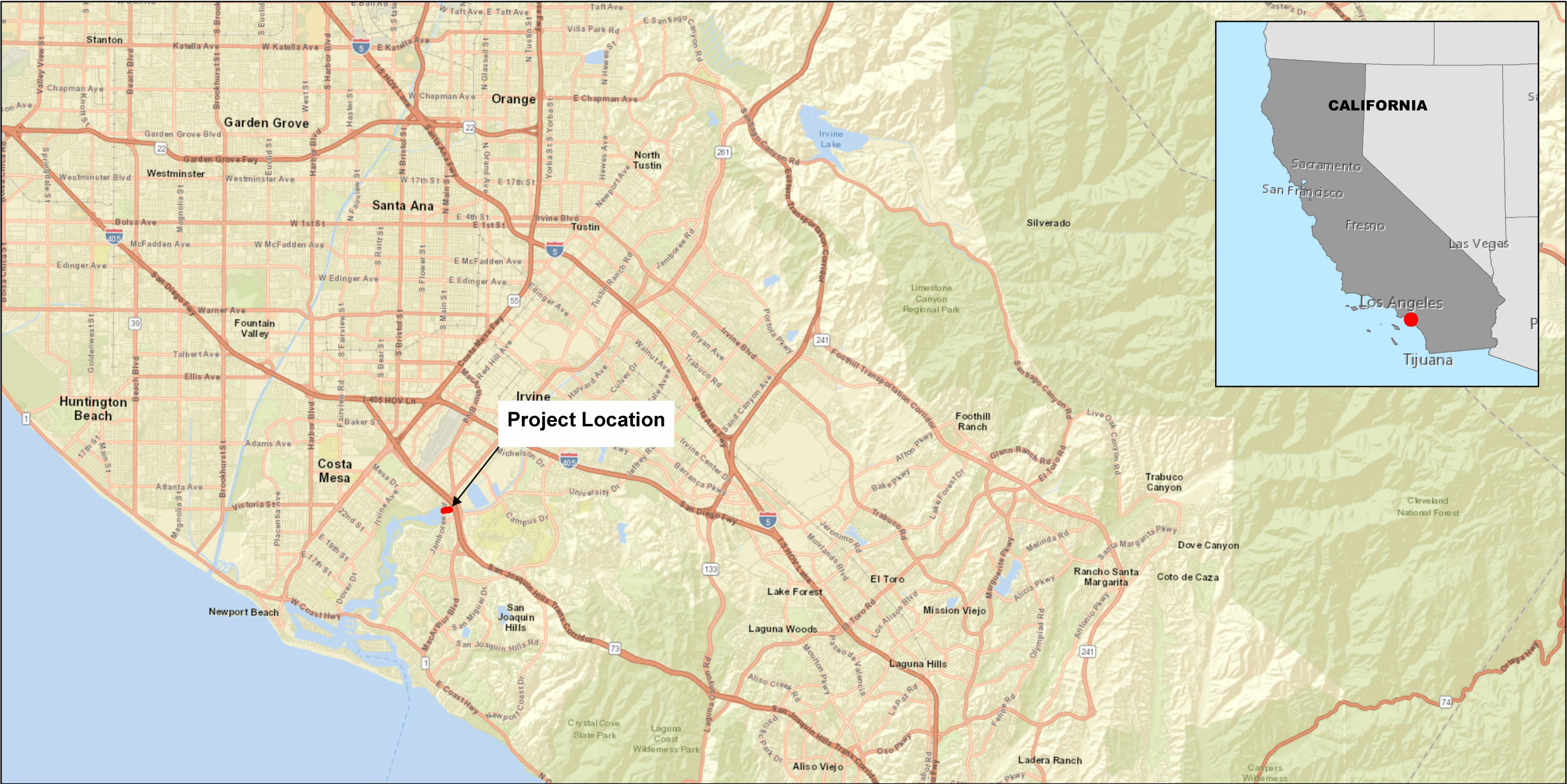
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APPENDICES

**NEWPORT BAY WATER WHEEL PROJECT
PRELIMINARY JURISDICTIONAL WETLANDS/WATERS DELINEATION REPORT**

Appendix A Figures

Appendix A **FIGURES**



Biological Survey Area



0 6,400 12,800 Feet

1:150,000 (At original document size of 8.5x11)

Notes
1. NAD 1983 COR94 StatePlane California VI FIPS 0406 FT US
2. Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community
Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community



Project Location
San Diego Creek
Newport Beach, CA

Prepared by JV on 2018-07-03
Technical Review by RB on 2018-07-03
Independent Review by MW on 2018-07-05

Client/Project

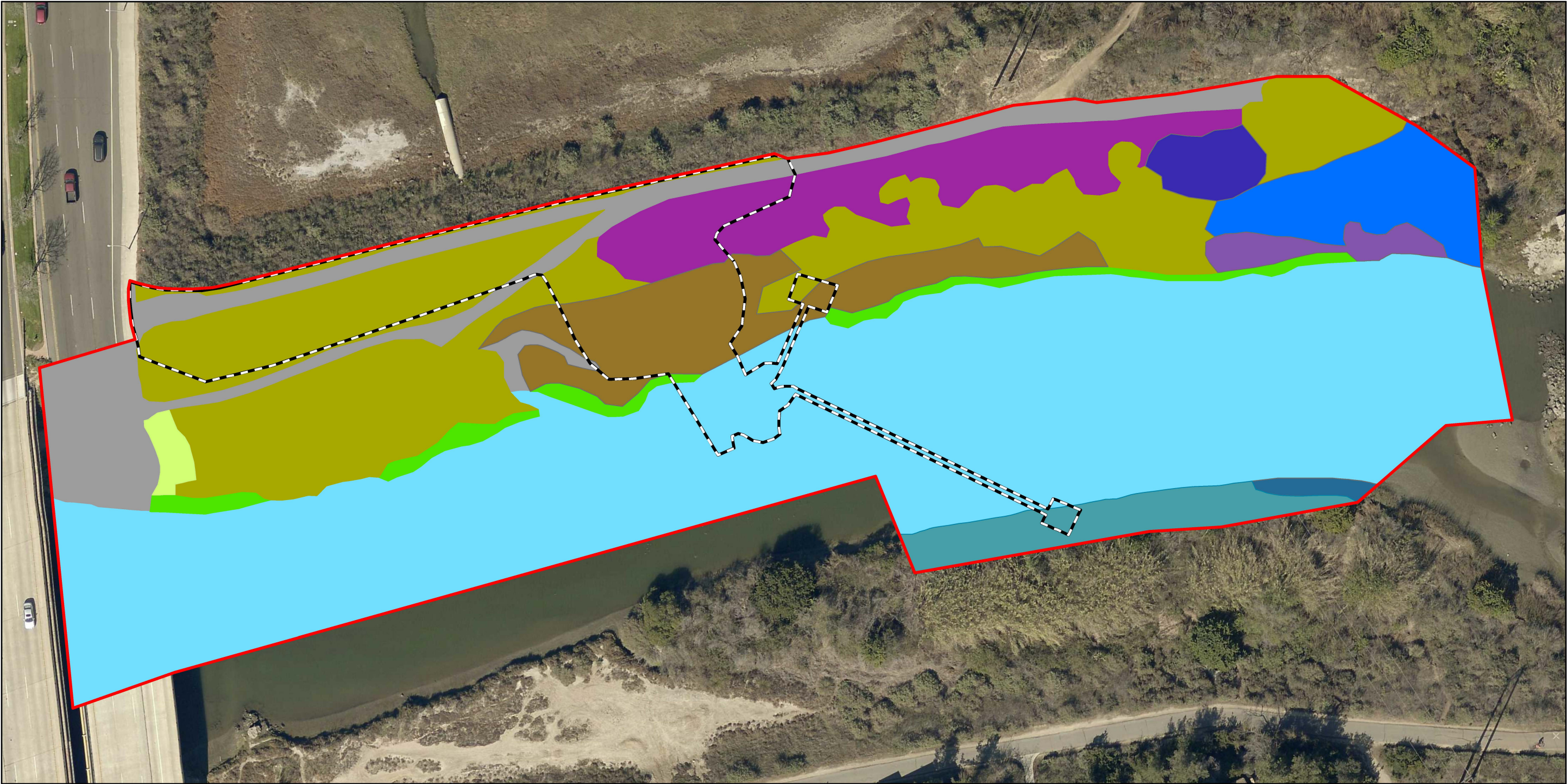
City of Newport Beach
Newport Bay Water Wheel Project
Potential Jurisdictional Areas

Figure No.

1

Title

Project Location



- | | | | | | |
|---|---------------------------------|---|-------------------|---|----------------------|
|  | Biological Survey Area |  | Giant Reed Break |  | Pampas Grass Patches |
|  | Project Impact Area (Permanent) |  | Ice Plant Mats |  | Pepper Tree Grove |
|  | Arroyo Willow Thickets |  | Marsh Jaumea Mats |  | Pickleweed Mats |
|  | Disturbed/Developed |  | Mulefat Thickets |  | Quailbush Scrub |
|  | Fennel Patches |  | Open Water | | |



0 30 60 Feet

Notes
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2. Service Layer Credits:



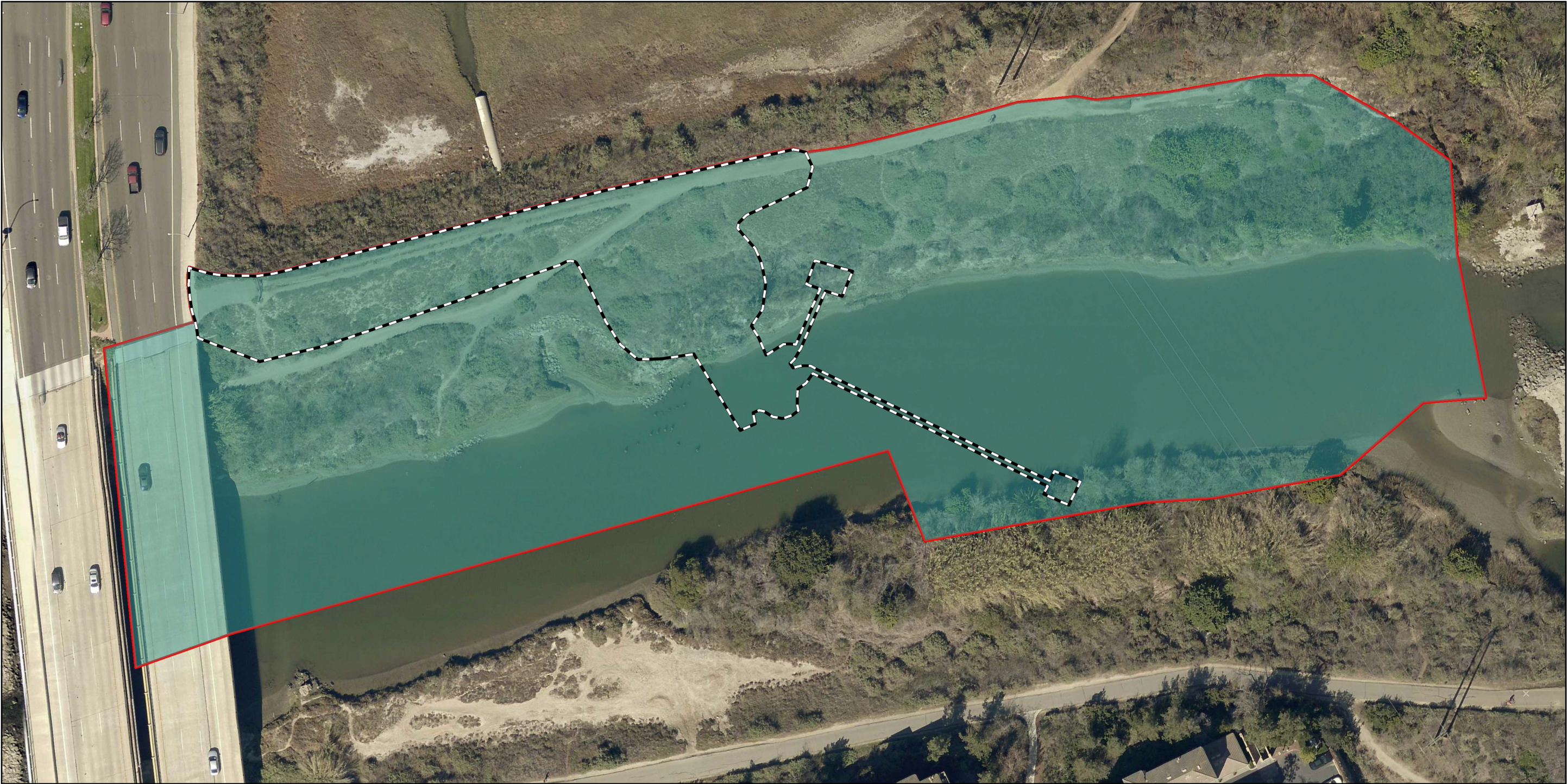
Project Location
San Diego Creek
Newport Beach, CA

Prepared by JV on 2018-07-03
Technical Review by R8 on 2018-07-03
Independent Review by MW on 2018-07-05

Client/Project
City of Newport Beach
Newport Bay Water Wheel Project
Potential Jurisdictional Areas

Figure No.
2

Title
Vegetation Communities and Land Cover Types



Biological Survey Area



Project Impact Area

Soil Map Units



211 (Refer to Section 2.6 of the report for additional information on this soil type)



0 30 60 Feet

Notes
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2. Service Layer Credits:

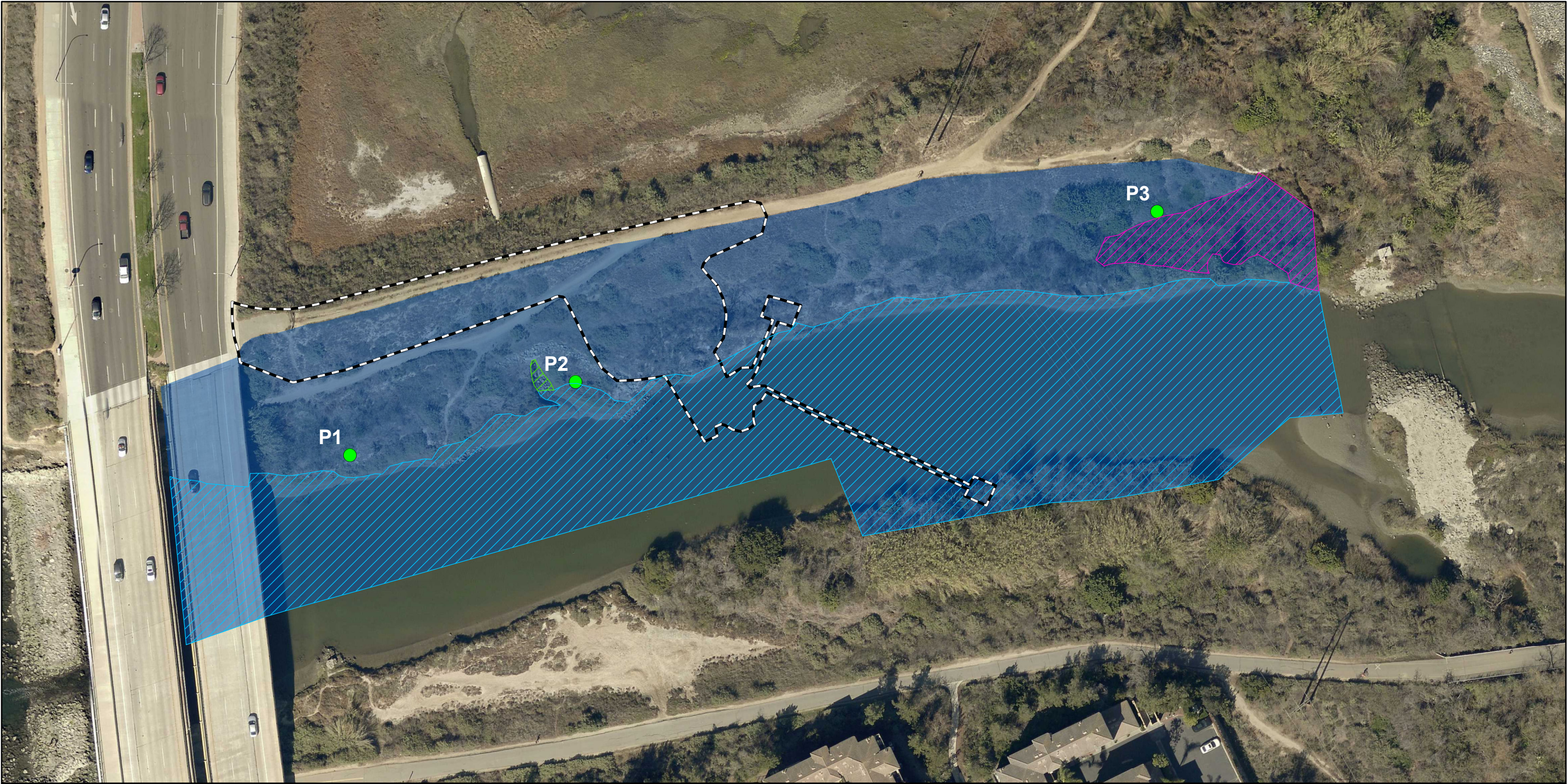




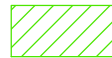



Project Location
San Diego Creek
Newport Beach, CA
Prepared by JV on 2018-07-03
Technical Review by R8 on 2018-07-03
Independent Review by MW on 2018-07-05


Client/Project
City of Newport Beach
Newport Bay Water Wheel Project
Potential Jurisdictional Areas

Figure No.
3

Title
Soils



-  Soil Test Pit
-  Project Impact Area (Permanent)
-  USACE Non-Wetland Waters
-  CCC Wetlands
-  USACE/RWQCB/CCC Wetlands
-  CDFW Jurisdictional Waters


0 30 60 Feet
1:933 (At original document size of 8.5x11)
Notes
1. NAD 1983 COR596 StatePlane California VI FIPS 0406 FT US
2. Service Layer Credits:



Project Location
San Diego Creek
Newport Beach, CA
Prepared by JV on 2018-07-03
Technical Review by R8 on 2018-07-03
Independent Review by MW on 2018-07-05

Client/Project
City of Newport Beach
Newport Bay Water Wheel Project
Potential Jurisdictional Areas

Figure No.
4

Title
Potentially Jurisdictional Waters

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Appendix B Site Photographs

Appendix B **SITE PHOTOGRAPHS**

**NEWPORT BAY WATER WHEEL PROJECT
PRELIMINARY JURISDICTIONAL WETLANDS/WATERS DELINEATION REPORT**

Appendix B Site Photographs



Photo 1 - View looking upstream at San Diego Creek from atop the northern bank of the creek in the western portion of the BSA.

**NEWPORT BAY WATER WHEEL PROJECT
PRELIMINARY JURISDICTIONAL WETLANDS/WATERS DELINEATION REPORT**

Appendix B Site Photographs



Photo 2 – View from the western extent of the BSA, from atop the northern bank of San Diego Creek, looking upstream.

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PRELIMINARY JURISDICTIONAL WETLANDS/WATERS DELINEATION REPORT**

Appendix B Site Photographs



Photo 3 - View looking at the southern bank of San Diego Creek from a location within the BSA on the northern bank of the creek.

**NEWPORT BAY WATER WHEEL PROJECT
PRELIMINARY JURISDICTIONAL WETLANDS/WATERS DELINEATION REPORT**

Appendix B Site Photographs



Photo 4 – View of Soil Test Pit No. 2; low chroma soils, sediment deposits, and the presence of wetland vegetation led to the determination that this location occurs within a potentially jurisdictional wetland.

**NEWPORT BAY WATER WHEEL PROJECT
PRELIMINARY JURISDICTIONAL WETLANDS/WATERS DELINEATION REPORT**

Appendix B Site Photographs



Photo 5 - View looking downstream at San Diego Creek from atop the northern bank of the creek within the BSA.

**NEWPORT BAY WATER WHEEL PROJECT
PRELIMINARY JURISDICTIONAL WETLANDS/WATERS DELINEATION REPORT**

Appendix B Site Photographs



Photo 6 - View looking at Soil Test Pit No. 3; low chroma soils, redox features, and wetland the presence of wetland vegetation. The lack if wetland hydrology indicators did not meet the criteria for federally jurisdictional wetlands but do meet the criteria for jurisdictional wetlands by the CCC.

**NEWPORT BAY WATER WHEEL PROJECT
PRELIMINARY JURISDICTIONAL WETLANDS/WATERS DELINEATION REPORT**

Appendix C Historic Soils Information

Appendix C HISTORIC SOILS INFORMATION

Orange County and Part of Riverside County, California

211—Tidal flats

Map Unit Composition

Tidal flats: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tidal Flats

Setting

Landform: Tidal flats

Down-slope shape: Linear

Across-slope shape: Linear

Typical profile

H1 - 0 to 60 inches: variable

Properties and qualities

Slope: 0 to 2 percent

Depth to water table: About 0 inches

Frequency of flooding: Frequent

Salinity, maximum in profile: Moderately saline to strongly saline (8.0 to 16.0 mmhos/cm)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8w

Hydric soil rating: Yes

**NEWPORT BAY WATER WHEEL PROJECT
PRELIMINARY JURISDICTIONAL WETLANDS/WATERS DELINEATION REPORT**

Appendix D Arid West Indicator Tables

Appendix D ARID WEST INDICATOR TABLES

Table 1. Potential Geomorphic Indicators of Ordinary High Water Marks for the Arid West

(A) Below OHW	(B) At OHW	(C) Above OHW
1. In-stream dunes	1. Valley flat	1. Desert pavement
2. Crested ripples	2. Active floodplain	2. Rock varnish
3. Flaser bedding	3. Benches: low, mid, most prominent	3. Clast weathering
4. Harrow marks	4. Highest surface of channel bars	4. Salt splitting
5. Gravel sheets to rippled sands	5. Top of point bars	5. Carbonate etching
6. Meander bars	6. Break in bank slope	6. Depositional topography
7. Sand tongues	7. Upper limit of sand-sized particles	7. Caliche rubble
8. Muddy point bars	8. Change in particle size distribution	8. Soil development
9. Long gravel bars	9. Staining of rocks	9. Surface color/tone
10. Cobble bars behind obstructions	10. Exposed root hairs below intact soil layer	10. Drainage development
11. Scour holes downstream of obstructions	11. Silt deposits	11. Surface relief
12. Obstacle marks	12. Litter (organic debris, small twigs and leaves)	12. Surface rounding
13. Stepped-bed morphology in gravel	13. Drift (organic debris, larger than twigs)	
14. Narrow berms and levees		
15. Streaming lineations		
16. Desiccation/mud cracks		
17. Armored mud balls		
18. Knick Points		

Table 2. Potential Vegetation Indicators of Ordinary High Water Marks for the Arid West

	(D) Below OHW	(E) At OHW	(F) Above OHW
Hydroriparian indicators	1. Herbaceous marsh species 2. Pioneer tree seedlings 3. Sparse, low vegetation 4. Annual herbs, hydromesic ruderals 5. Perennial herbs, hydromesic clonals	1. Annual herbs, hydromesic ruderals 2. Perennial herbs, hydromesic clonals 3. Pioneer tree seedlings 4. Pioneer tree saplings	1. Annual herbs, xeric ruderals 2. Perennial herbs, non-clonal 3. Perennial herbs, clonal and non-clonal co-dominant 4. Mature pioneer trees, no young trees 5. Mature pioneer trees w/upland species 6. Late-successional species
Mesoriparian Indicators	6. Pioneer tree seedlings 7. Sparse, low vegetation 8. Pioneer tree saplings 9. Xeroriparian species	5. Sparse, low vegetation 6. annual herbs, hydromesic ruderals 7. Perennial herbs, hydromesic clonals 8. Pioneer tree seedlings 9. Pioneer tree saplings 10. Xeroriparian species 11. Annual herbs, xeric ruderals	7. Xeroriparian species 8. Annual herbs, xeric ruderals 9. Perennial herbs, non-clonal 10. Perennial herbs, clonal and non-clonal codominant 11. Mature pioneer trees, no young trees 12. Mature pioneer trees, xeric understory 13. Mature pioneer trees w/upland species 14. Late-successional species 15. Upland species
Xeroriparian indicators	10. Sparse, low vegetation 11. Xeroriparian species 12. Annual herbs, xeric ruderals	12. Sparse, low vegetation 13. Xeroriparian species 14. Annual herbs, xeric ruderals	16. Annual herbs, xeric ruderals 17. Mature pioneer trees w/upland species 18. Upland species

Table 3. Summary of Wetland Indicator Status

Category		Probability
Obligate Wetland	OBL	Almost always occur in wetlands (estimated probability >99%)
Facultative Wetland	FACW	Usually occur in wetlands (estimated probability of 67–99%)
Facultative	FAC	Equally likely to occur in wetlands/non-wetlands (estimated probability of 34–66%)
Facultative Upland	FACU	Usually occur in non-wetlands (estimated probability 67–99%)
Obligate Upland	UPL	Almost always occur in non-wetlands (estimated probability >99%)
Non-Indicator	NI	No indicator status has been assigned

Source: Reed, 1988; USFWS, 1997; USACE, 2012.

Table 4. Wetland Hydrology Indicators*

Primary Indicators	Secondary Indicators
Watermarks	Oxidized Rhizospheres Associated with Living Roots
Water-Borne Sediment Deposits	FAC-Neutral Test
Drift Lines	Water-Stained Leaves
Drainage Patterns Within Wetlands	Local Soil Survey Data

*Table adapted from 1987 USACE Manual and Related Guidance Documents.

Table 5. Wetland Hydrology Indicators for the Arid West*

	Primary Indicator (any one indicator is sufficient to make a determination that wetland hydrology is present)	Secondary Indicator (two or more indicators are required to make a determination that wetland hydrology is present)
Group A – Observation of Surface Water or Saturated Soils		
A1 – Surface Water	X	
A2 – High Water Table	X	
A3 – Saturation	X	
Group B – Evidence of Recent Inundation		
B1 – Water Marks	X (Non-riverine)	X (Riverine)
B2 – Sediment Deposits	X (Non-riverine)	X (Riverine)
B3 – Drift Deposits	X (Non-riverine)	X (Riverine)
B6 – Surface Soil Cracks	X	
B7 – Inundation Visible on Aerial Imagery	X	
B9 – Water-Stained Leaves	X	
B10 – Drainage	X	X
B11 – Salt Crust	X	
B12 – Biotic Crust	X	
B13 – Aquatic Invertebrates	X	

Table 5. Wetland Hydrology Indicators for the Arid West*

	Primary Indicator (any one indicator is sufficient to make a determination that wetland hydrology is present)	Secondary Indicator (two or more indicators are required to make a determination that wetland hydrology is present)
Group C – Evidence of Current or Recent Soil Saturation		
C1 – Hydrogen Sulfide Odor	X	
C2 – Dry-Season Water Table		X
C3 – Oxidized Rhizospheres along Living Roots	X	

*Table adapted from Regional Supplement to the USACE of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0.

Table 6. Field Indicators of Hydric Soil Conditions*

1. Indicators of Historical Hydric Soil Conditions	2. Indicators of Current Hydric Soil Conditions
a. Histosols b. Histic epipedons; c. Soil colors (e.g., gleyed or low-chroma colors, soils with bright mottles (Redoximorphic features) and/or depleted soil matrix d. High organic content in surface of sandy soils e. Organic streaking in sandy soils f. Iron and manganese concretions g. Soil listed on county hydric soils list	a. Aquic or peraquic moisture regime (inundation and/or soil saturation for *7 continuous days) b. Reducing soil conditions (inundation and/or soil saturation for *7 continuous days) c. Sulfidic material (rotten egg smell)

*Table adapted from 1987 USACE Manual and Related Guidance Documents.

Table 7. Hydric Soil Indicators for the Arid West*

Hydric Soil Indicators	Hydric Soil Indicators	Hydric Soil Indicators	Hydric Soil Indicators
A1 – Histosol	S1 – Sandy Mucky Mineral	F1 – Loamy Mucky Mineral	A9 – 1 cm Muck
A2 – Histic Epipedon	S4 – Sandy Gleyed Matrix	F2 – Loamy Gleyed Matrix	A10 – 2 cm Muck
A3 – Black Histic	S5 – Sandy Redox	F3 – Depleted Matrix	F18 – Reduced Verti
A4 – Hydrogen Sulfide	S6 – Stripped Matrix	F6 – Redox Dark Surface	TF2 – Red Parent Material
A5 – Stratified Layers	—	F7 – Depleted Dark Surface	Other (See Section 5 of Regional Supplement, Version 2.0)
A9 – 1 cm Muck	—	F8 – Redox Depressions	—
A11 – Depleted Below Dark Surface	—	F9 – Vernal Pools	—
A12 – Thick Dark Surface	—	—	—

* Table adapted from Regional Supplement to the USACE of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0. ** Indicators of hydrophytic vegetation and wetland hydrology must be present

Appendix E REGULATORY BACKGROUND

Regulatory Background Information

Section 404 of the Clean Water Act (CWA)

Section 404 of the CWA regulates the discharge of dredged material, placement of fill material, or certain types of excavation within “waters of the U.S.” (resulting in more than incidental fallback of material) and authorizes the Secretary of the Army, through the Chief of Engineers, to issue permits for such actions. Permits can be issued for individual projects (individual permits) or for general categories of projects (general permits). “Waters of the U.S.” are defined by the CWA as “rivers, creeks, streams, and lakes extending to their headwaters and any associated wetlands.” Wetlands are defined by the CWA as “areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions.” The USACE has adopted several revisions to their regulations in order to more clearly define “waters of the U.S.” Until the beginning of 2001, “waters of the U.S.” included, among other things, isolated wetlands and lakes, intermittent streams, prairie potholes, and other waters that are not part of a tributary system to interstate waters or to navigable “waters of the U.S.”

The jurisdictional extent of USACE regulation changed with the 2001 SWANCC (Solid Waste Agency of Northern Cook County) ruling. The U.S. Supreme Court held that the USACE could not apply Section 404 of the CWA to extend their jurisdiction over an isolated quarry pit. The Court ruled that the CWA does not extend Federal regulatory jurisdiction over non-navigable, isolated, intra-state waters. However, the Court made it clear that non-navigable wetlands adjacent to navigable waters are still subject to USACE jurisdiction.

Section 401 of the CWA

Section 401 of the CWA requires that any applicant for a Federal permit for activities that involve a discharge to ‘waters of the State,’ shall provide the Federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the Federal Clean Water Act. Therefore, before the USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 Water Quality Certification from the RWQCB. Applications to the RWQCB must include a complete CEQA document (e.g., Initial Study/Mitigated Negative Declaration).

Section 1602 of the California Fish and Game Code

Section 1602 of the California Fish and Game Code requires any person, State or local governmental agency, or public utility which proposes a project that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake, or use materials from a streambed, or result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake, to first notify the CDFW of the proposed project. Notification is generally required for any project that will take place in or in the vicinity of a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation. Based on the notification materials

submitted, the CDFW will determine if the proposed project may impact fish or wildlife resources. If the CDFW determines that a proposed project may substantially adversely affect existing fish or wildlife resources, a Lake or Streambed Alteration Agreement (SAA) will be required. A completed CEQA document must be submitted to CDFW before a SAA will be issued.

Coastal Zone Management Act

Section 309 of the federal Coastal Zone Management Act of 1990 required coastal states with certified coastal zone management programs to develop "enhancement objectives" for specific issue areas. Wetlands was one of the issue areas specified in Section 309, and subsequently the California Coastal Commission (CCC) adopted an enhancement strategy that proposed strengthening the Agency's wetlands decision-making process. This wetlands procedural guidance document is the mechanism for implementing the required program changes.

This wetlands procedural guidance document has two main purposes: 1) to provide specific updated interpretations of the enforceable California Coastal Management Program (CCMP) wetlands policies and their associated procedures for Commission staff, applicants, local governments, and/or other wetlands management authorities; and 2) to refine and supplement the wetlands ecology and management issues discussed in the Coastal Commission's Statewide Interpretive Guidelines For Wetlands And Other Wet Environmentally Sensitive Habitat Areas, which were adopted in 1981.

The CCC environmental review process either follows guidelines of the California Environmental Quality Act (CEQA) or the National Environmental Protection Act (NEPA) depending on the lead agency, and the location and type of project. The following description is for CEQA, but the NEPA process is very similar. CEQA review involves three main steps:

- 1) A lead agency is identified, which is responsible for examining the project to determine if it is subject to CEQA (CEQA Guidelines, Section 15061). If the project is exempt, a notice of exemption (CEQA Guidelines, Section 15062) is prepared.
- 2) For non-exempt projects, the lead agency conducts an initial study to determine if the project has any potential significant impacts (CEQA Guidelines, Sections 15063 and 15065). If it is determined the project will have no significant impacts, then a negative declaration is prepared (CEQA Guidelines, Sections 15070–15075).
- 3) If the initial study shows the project may have a significant impact, the lead agency then prepares either a mitigated negative declaration or a notice of preparation of an environmental impact report (EIR).

**NEWPORT BAY WATER WHEEL PROJECT
PRELIMINARY JURISDICTIONAL WETLANDS/WATERS DELINEATION REPORT**

Appendix F Field Data Sheets

Appendix F FIELD DATA SHEETS

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Waterwheel Project Site City/County: Newport Beach/Orange Sampling Date: 27 APR 2018
 Applicant/Owner: City of Newport Beach State: CA Sampling Point: P1
 Investigator(s): Jared Varonin, Colleen Hulbert Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): C - Mediterranean California Lat: 33°39'4.15"N Long: 117°51'58.68"W Datum: WGS84
 Soil Map Unit Name: Tidal Flats NWI classification: E1UBL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>	Is the Sampled Area within a Wetland?	Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>		
Wetland Hydrology Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>		
Remarks: <u>Upland terrace above main channel of San Diego Creek.</u>				

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1. <i>Sambucus nigra ssp. caerulea</i>	5	No	FACU	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)			
2.				Total Number of Dominant Species Across All Strata: <u>2</u> (B)			
3.				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0 %</u> (A/B)			
4.							
Total Cover: <u>5 %</u>							
<u>Sapling/Shrub Stratum</u>				Prevalence Index worksheet:			
1. <i>Euthamia occidentalis</i>	5	No	FACW	Total % Cover of: _____ Multiply by: _____			
2. <i>Atriplex lentiformis</i>	15	Yes	FAC	OBL species	<u>5</u>	x 1 =	<u>0</u>
3. <i>Nicotiana glauca</i>	5	No	FAC	FACW species	<u>20</u>	x 2 =	<u>10</u>
4. <i>Encelia californica</i>	2	No	Not Listed	FAC species	<u>5</u>	x 3 =	<u>60</u>
5.				FACU species	<u>32</u>	x 4 =	<u>20</u>
Total Cover: <u>27 %</u>				UPL species	<u>62</u>	x 5 =	<u>160</u>
<u>Herb Stratum</u>				Column Totals:	<u>62</u>	(A)	<u>250</u> (B)
1. <i>Hirschfeldia incana</i>	30	Yes	Not Listed	Prevalence Index = B/A = <u>4.03</u>			
2.				Hydrophytic Vegetation Indicators:			
3.				<input checked="" type="checkbox"/> Dominance Test is >50%			
4.				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹			
5.				<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)			
6.				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)			
7.				¹ Indicators of hydric soil and wetland hydrology must be present.			
8.							
Total Cover: <u>30 %</u>							
<u>Woody Vine Stratum</u>				Hydrophytic Vegetation Present?			
1.				Yes <input checked="" type="radio"/> No <input type="radio"/>			
2.							
Total Cover: _____ %							
% Bare Ground in Herb Stratum <u>0 %</u>		% Cover of Biotic Crust <u>0 %</u>					

Remarks:

SOIL

Sampling Point: P1**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	2.5YR 4/2	100					Silty Sand	
5-6.5	10YR 2/1	100					Organic	
6.5-14	2.5YR 4/2	100					Sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Vernal Pools (F9) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |

Indicators for Problematic Hydric Soils:⁴

- ☐
- 1 cm Muck (A9) (
- LRR C**
-)
-
- ☐
- 2 cm Muck (A10) (
- LRR B**
-)
-
- ☐
- Reduced Vertic (F18)
-
- ☐
- Red Parent Material (TF2)
-
- ☐
- Other (Explain in Remarks)

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks: _____

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (2 or more required)

- ☐
- Water Marks (B1) (
- Riverine**
-)
-
- ☐
- Sediment Deposits (B2) (
- Riverine**
-)
-
- ☐
- Drift Deposits (B3) (
- Riverine**
-)
-
- ☐
- Drainage Patterns (B10)
-
- ☒
- Dry-Season Water Table (C2)
-
- ☐
- Thin Muck Surface (C7)
-
- ☐
- Crayfish Burrows (C8)
-
- ☐
- Saturation Visible on Aerial Imagery (C9)
-
- ☐
- Shallow Aquitard (D3)
-
- ☐
- FAC-Neutral Test (D5)

Field Observations:Surface Water Present? Yes ☐ No ☒ Depth (inches): _____Water Table Present? Yes ☐ No ☒ Depth (inches): _____Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)**Wetland Hydrology Present?** Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: _____

Remarks: _____

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Waterwheel Project Site City/County: Newport Beach/Orange Sampling Date: 27 APR 2018
 Applicant/Owner: City of Newport Beach State: CA Sampling Point: P2
 Investigator(s): Jared Varonin, Colleen Hulbert Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): C - Mediterranean California Lat: 33°39'4.72"N Long: 117°51'56.70"W Datum: WGS84
 Soil Map Unit Name: Tidal Flats NWI classification: E1UBL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>		
Wetland Hydrology Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>		
Remarks: <u>Wet area adjacent to the active channel of San Diego Creek</u>				

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1. <i>Sambucus nigra ssp. caerulea</i>	5	No	FACU	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A)			
2.				Total Number of Dominant Species Across All Strata: <u>4</u> (B)			
3.				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0 %</u> (A/B)			
4.							
Total Cover: <u>5 %</u>							
<u>Sapling/Shrub Stratum</u>				Prevalence Index worksheet:			
1. <i>Euthamia occidentalis</i>	5	No	FACW	Total % Cover of:		Multiply by:	
2. <i>Atriplex lentiformis</i>	5	Yes	FAC	OBL species	<u>65</u>	x 1 =	<u>65</u>
3.				FACW species	<u>35</u>	x 2 =	<u>70</u>
4.				FAC species	<u>5</u>	x 3 =	<u>15</u>
5.				FACU species	<u>5</u>	x 4 =	<u>20</u>
Total Cover: <u>10 %</u>				UPL species		x 5 =	<u>0</u>
				Column Totals:	<u>110</u>	(A)	<u>170</u> (B)
				Prevalence Index = B/A = <u>1.55</u>			
<u>Herb Stratum</u>				Hydrophytic Vegetation Indicators:			
1. <i>Frankenia salina</i>	30	Yes	FACW	<input checked="" type="checkbox"/> Dominance Test is >50%			
2. <i>Salicornia pacifica</i>	30	Yes	OBL	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹			
3. <i>Jaumea carnosa</i>	35	Yes	OBL	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)			
4.				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)			
5.							
6.							
7.							
8.							
Total Cover: <u>95 %</u>							
<u>Woody Vine Stratum</u>				¹ Indicators of hydric soil and wetland hydrology must be present.			
1.				Hydrophytic Vegetation Present?			
2.				Yes <input checked="" type="radio"/> No <input type="radio"/>			
Total Cover: <u> </u> %							
% Bare Ground in Herb Stratum <u>0 %</u>		% Cover of Biotic Crust <u>0 %</u>					

Remarks: Full coverage of known wetland species.

SOIL

Sampling Point: P2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	2.5YR 5/2	100					Silty Sand	
2-3	2.5Y 3/1	100					Organic	
3-14	2.5YR 4/2	100					Sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Vernal Pools (F9) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |

Indicators for Problematic Hydric Soils:⁴

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.**Restrictive Layer (if present):**

Type: Root Zone

Depth (inches): 14

Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- | | |
|---|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input checked="" type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☒ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:Surface Water Present? Yes ☐ No ☒ Depth (inches):Water Table Present? Yes ☐ No ☒ Depth (inches):Saturation Present? Yes ☐ No ☒ Depth (inches):
(includes capillary fringe)**Wetland Hydrology Present?** Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Waterwheel Project Site City/County: Newport Beach/Orange Sampling Date: 27 APR 2018
 Applicant/Owner: City of Newport Beach State: CA Sampling Point: P3
 Investigator(s): Jared Varonin, Colleen Hulbert Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): C - Mediterranean California Lat: 33°39'6.04"N Long: 117°51'51.60"W Datum: WGS84
 Soil Map Unit Name: Tidal Flats NWI classification: E1UBL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>	Is the Sampled Area within a Wetland?	Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present?	Yes <input checked="" type="radio"/>	No <input type="radio"/>		
Wetland Hydrology Present?	Yes <input type="radio"/>	No <input checked="" type="radio"/>		
Remarks: <u>Terrace away from the main channel of the creek.</u>				

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1. <i>Salix lasiolepis</i>	5	No	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)			
2.				Total Number of Dominant Species Across All Strata: <u>3</u> (B)			
3.				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7 %</u> (A/B)			
4.							
Total Cover: <u>5 %</u>							
<u>Sapling/Shrub Stratum</u>				Prevalence Index worksheet:			
1. <i>Baccharis salicifolia</i>	40	Yes	FAC	Total % Cover of:		Multiply by:	
2. <i>Atriplex lentiformis</i>	10	Yes	FAC	OBL species		x 1 =	<u>0</u>
3.				FACW species		x 2 =	<u>10</u>
4.				FAC species		x 3 =	<u>165</u>
5.				FACU species		x 4 =	<u>20</u>
Total Cover: <u>50 %</u>				UPL species		x 5 =	<u>100</u>
				Column Totals:		<u>85</u> (A)	<u>295</u> (B)
				Prevalence Index = B/A = <u>3.47</u>			
<u>Herb Stratum</u>				Hydrophytic Vegetation Indicators:			
1. <i>Heliotropium curassavicum</i>	5	No	FACU	<input checked="" type="checkbox"/> Dominance Test is >50%			
2. <i>Lepidium latifolium</i>	5	No	FAC	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹			
3. <i>Carpobrotus edulis</i>	20	Yes	Not Listed	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)			
4.				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)			
5.							
6.							
7.							
8.							
Total Cover: <u>30 %</u>							
<u>Woody Vine Stratum</u>				¹ Indicators of hydric soil and wetland hydrology must be present.			
1.				Hydrophytic Vegetation Present?			
2.				Yes <input checked="" type="radio"/> No <input type="radio"/>			
Total Cover: <u> % </u>							
% Bare Ground in Herb Stratum <u>50 %</u>		% Cover of Biotic Crust <u>0 %</u>					

Remarks:

SOIL

Sampling Point: P3**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture ³	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1.5	2.5Y 3/1	100					Silty Sand	
1.5-16	2.5Y 4/3	100					Organic	
16-20	2.5YR 4/1	100	7.5YR 5/8	100	D	RC	Sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, M=Matrix.³Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Vernal Pools (F9) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | |

Indicators for Problematic Hydric Soils:⁴

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

⁴Indicators of hydrophytic vegetation and wetland hydrology must be present.**Restrictive Layer (if present):**

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks: _____

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- | | |
|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Plowed Soils (C6) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:Surface Water Present? Yes ☐ No ☒ Depth (inches): _____Water Table Present? Yes ☐ No ☒ Depth (inches): _____Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)**Wetland Hydrology Present?** Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: _____

Remarks: _____