LOS CERRITOS WETLANDS RESTORATION PLAN

Final Program Environmental Impact Report
State Clearinghouse Number: 2019039050

Prepared for
Los Cerritos Wetlands Authority

September 2020



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COVER PHOTO CREDIT: Tidal Influence, Looking east at Steamshovel Slough

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TABLE OF CONTENTS

Los Cerritos Wetlands Restoration Plan
Final Program Environmental Impact Report

Chapter 1, Introduction to the Final EIR.....1-1
- 1.1 Purpose of the Final EIR.....1-1
- 1.2 Format of the Final EIR.....1-1
- 1.3 CEQA Requirements Regarding Comments and Responses.....1-2
- 1.4 Public Meeting During the Draft PEIR Public Comment Period.....1-3

Chapter 2, Response to Comments.....2-1
- Introduction.....2-1
- Acronyms.....2-3
- Comments and Responses.....2-4

Chapter 3, Draft EIR Revisions.....3-1

Chapter 4, Mitigation Monitoring and Reporting Program.....4-1
- 4.1 Introduction to the Mitigation Monitoring and Reporting Program.....4-1
- 4.2 Mitigation Monitoring and Reporting Program Matrix.....4-1

Appendices

A Revised Draft PEIR
B Monitoring and Adaptive Management Plan

List of Tables

2-1 Commenters on the Draft PEIR.....2-2
3-1 Draft EIR Revisions.....3-1
4-1 Mitigation Monitoring and Reporting Program.....4-2

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CHAPTER 1
Introduction to the Final EIR

1.1 Purpose of the Final EIR

This Final Program Environmental Impact Report (Final PEIR) has been prepared in conformance to the environmental policy guidelines for the implementation of the California Environmental Quality Act (CEQA) to evaluate the environmental effects that may result from the implementation of conceptual restoration designs for approximately 503 acres of land and water located on the border of Orange County and Los Angeles and County in the cities of Seal Beach and Long Beach.

According to *CEQA Guidelines* Section 15132, the Final EIR shall consist of:

(a) The Draft EIR or a revision of the Draft;

(b) Comments and recommendations received on the Draft EIR, either verbatim or in summary;

(c) A list of persons, organizations, and public agencies commenting on the Draft EIR;

(d) The responses of the lead agency to significant environmental points raised in the review and consultation process;

(e) Any other information added by the lead agency.

This document contains responses to comments received on the circulated Draft PEIR for the proposed project during the public review period which began May 8, 2020, and closed July 6, 2020. This document has been prepared in accordance with CEQA and the *CEQA Guidelines* and represents the independent judgment of the lead agency, the Los Cerritos Wetlands Authority (LCWA). This document and the circulated Draft PEIR comprise the Final PEIR in accordance with *CEQA Guidelines* Section 15132.

1.2 Format of the Final EIR

The following chapters are contained within this document:

- **Chapter 1, *Introduction to the Final PEIR*.** This chapter describes CEQA requirements and the content of the Final PEIR.
- **Chapter 2, *Responses to Comments*.** This chapter provides a list of agencies, organizations, and interested individuals who commented on the Draft PEIR; copies of their comment letters received during the public review period; and responses to their individual comments. To facilitate review of the responses, each comment letter has been assigned a code, and each individual comment within these letters has been assigned a number.

- **Chapter 3, *Draft PEIR Revisions*.** This chapter contains a table identifying the sections of the Draft PEIR that have been revised as a result of the comments received by tribes, agencies, organizations and individuals as described in Chapter 2, and/or errors and omissions discovered subsequent to release of the Draft PEIR for public review.

  LCWA has determined that none of this material constitutes significant new information that requires recirculation of the Draft PEIR for further public comment under *CEQA Guidelines* Section 15088.5. The additional material clarifies existing information prepared in the Draft PEIR and does not present any new substantive information. None of this new material indicates that the project would result in a significant new environmental impact not previously disclosed in the Draft PEIR. Additionally, none of this material indicates that there would be a substantial increase in the severity of a previously identified environmental impact that would not be mitigated, nor that there would be any of the other circumstances requiring recirculation described in Section 15088.5.

- **Chapter 4, *Mitigation Monitoring and Reporting Program*.** This chapter includes the Mitigation Monitoring and Reporting Program (MMRP). CEQA requires lead agencies to "adopt a reporting and mitigation monitoring program for the changes to the project which it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment" (CEQA Section 21081.6, *CEQA Guidelines* Section 15097). The MMRP was prepared based on the mitigation measures included in this Final PEIR.

- **Appendix A, *Revised Draft PEIR*.** This appendix includes the chapters and sections from the Draft PEIR that have been revised in response to comments received by tribes, agencies, organizations and individuals. Changes made to the Draft EIR are identified in ~~strikeout text~~ to indicate deletions and in <u>single-underlined text</u> to signify additions.

- **Appendix B, *M Monitoring and Adaptive Management Plan.*** This appendix provides a framework for the Los Cerritos Wetlands Restoration Program for monitoring, assessing, and managing potential hydrodynamic and water and sediment quality impacts to biological resources and human health from and to the program after construction.

1.3 CEQA Requirements Regarding Comments and Responses

CEQA Guidelines Section 15204(a) outlines parameters for submitting comments, and reminds persons and public agencies that the focus of review and comment of Draft EIRs should be "on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the project might be avoided or mitigated. Comments are most helpful when they suggest additional specific alternatives or mitigation measures that would provide better ways to avoid or mitigate the significant environmental effects. At the same time, reviewers should be aware that the adequacy of an EIR is determined in terms of what is reasonably feasible … CEQA does not require a lead agency to conduct every test or perform all research, study, and experimentation recommended or demanded by commenters. When responding to comments, lead agencies need only respond to significant environmental issues and do not need to provide all information requested by reviewers, as long as a good faith effort at full disclosure is made in the EIR."

CEQA Guidelines Section 15204(c) further advises, "Reviewers should explain the basis for their comments, and should submit data or references offering facts, reasonable assumptions based on

facts, or expert opinion supported by facts in support of the comments. Pursuant to Section 15064, an effect shall not be considered significant in the absence of substantial evidence." Section 15204(d) also states, "Each responsible agency and trustee agency shall focus its comments on environmental information germane to that agency's statutory responsibility." Section 15204 (e) states, "This section shall not be used to restrict the ability of reviewers to comment on the general adequacy of a document or of the lead agency to reject comments not focused as recommended by this section."

In accordance with CEQA, Public Resources Code (PRC) Section 21092.5, copies of the written responses to public agencies will be forwarded to those agencies at least 10 days prior to certification of the environmental impact report. The responses will be forwarded with copies of this Final EIR document, as permitted by CEQA, and will conform to the legal standards established for response to comments on the Draft EIR.

1.4 Public Meeting During the Draft PEIR Public Comment Period

LCWA conducted a two-part virtual public meeting during the Draft PEIR comment period. Both virtual meetings were recorded and posted on the LCWA website.

The first public meeting took place on May 21st, 2020. This meeting covered the CEQA process and the project description (Chapter 2 of the Draft PEIR). Meeting attendees asked questions regarding land ownership, the no action alternative, habitat designations, nesting trees, proposed visitor centers, and the LCWA logo.

The second public meeting took place on June 4th, 2020. This meeting covered the impact analysis (Chapter 3 of the Draft PEIR) and alternatives (Chapter 5 of the Draft PEIR). Meeting attendees asked questions regarding tribal cultural resources and Native American tribal entities, earthwork, berm height and footprint, existing oil operations, and flooding of existing habitats.

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CHAPTER 2
Response to Comments

Introduction

CEQA Guidelines Section 15088 requires the Lead Agency, Los Cerritos Wetlands Authority (LCWA), to evaluate comments on environmental issues received from public agencies and interested parties who reviewed the Draft PEIR and prepared written responses. This chapter provides all written responses received on the Draft PEIR and the LCWA's response to each comment. Comment letters and specific comments are coded with letters and numbers for reference purposes.

Table 2-1, Commenters on the Draft PEIR, lists the agencies, organizations, and individuals who submitted comments on the Draft PEIR during the public review period. Comments received on the Draft EIR and responses to those comments are provided on the following pages.

TABLE 2-1
COMMENTERS ON THE DRAFT PEIR

Tribe/Agency/Organization/Individual Name	Letter Code	Date of Comment
Tribes		
Gabrielino Tongva Tribe	GTT	6/22/2020
Gabrieleno/Tongva San Gabriel Band of Mission Indians and Acjachemen Tribal Elder	GABACJ	7/6/20
Juaneno Band of Mission Indians, Acjachemen Nation – Belardes	JBMIANB	8/20/20
Agencies		
South Coast Air Quality Management District	AQMD	5/22/20
California Department of Transportation, Division 12	DOT12	6/19/20
California Department of Transportation, Division 7	DOT7	6/22/20
Orange County Public Works	OCPW	6/22/20
Santa Ana Water Quality Control Board	SAWQCB	6/23/20
City of Long Beach	LBC	6/29/20
California Department of Fish and Wildlife	CDFW	7/6/20
City of Seal Beach	CSB	7/6/20
Los Angeles County Sanitation District	LASD	7/6/20
California State Lands Commission	SLC	7/6/20
California Coastal Commission	CCC	8/6/20
Organizations		
Signal Hill Petroleum	SHP	7/3/20
El Dorado Audubon	EDAUD	6/9/20; 7/6/20
Los Cerritos Wetland Land Trust	LCWLT	7/6/20
Sierra Club Wetland Task Force	SCWTF	7/6/20
Individuals		
Ken Husting	Husting	6/7/20
William Napier	Napier	6/20/20
Melanie Sinclair	Sinclair	6/30/20
Dianne Sundstrom	Sundstrom	7/6/20
Mary Zeiser	Zeiser	7/6/20
Margot Griswold	Griswold	7/7/20

Acronyms

The list below identifies commonly used acronyms in the response to comments.

BOMP	Beach Oil Minerals Partners
Caltrans	California Department of Transportation
CCC	California Coastal Commission
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDB	California National Diversity Database
CNPS	California Native Plant Survey
CRC	Coastal Restoration Consultants
CWA	Clean Water Act
dBA	decibel
FCAM	Functional Condition and Assessment Method
FEMA	Federal Emergency Management Agency
HMMMP	Habitat Mitigation, Maintenance and Monitoring Program
LACSD	Los Angeles County Sanitation District
LCWA	Los Cerritos Wetland Authority
LOS	Level of Service
LSA	Lake or Streambed Alteration Agreement
MAMP	Monitoring and Adaptive Management Plan
NMFS	National Marine Fisheries Service
OCFCD	Orange County Flood Control District
PEIR	Program Environmental Impact Report
RWQCB	Regional Water Quality Control Board
SCAQMD	South Coast Air Quality Management District
SGR	San Gabriel River
USACE	United States Army Corps of Engineers
VMT	Vehicle Miles Traveled
WQC	Water Quality Certification

Comments and Responses

Comments received on the Draft PEIR and response to those comments are provided on the following pages.

Comment Letter GTT

From:	sam dunlap
To:	Sally Gee
Cc:	lcandelaria1@gabrielinotribe.org
Subject:	LOS CERRITOS WETLANDS RESTORATION PLAN - DRAFT PEIR - TRIBAL COMMENTS
Date:	Monday, June 22, 2020 2:57:48 PM

Re: SCH No. 20190309050

Sally Gee
Los Cerritos Wetlands Authority
100 N. Old San Gabriel Canyon Rd.
Azusa, CA 91702

Dear Ms Gee,

GTT-1 The Gabrielino Tongva Tribe would like to take this opportunity to comment on the Draft Program EIR for the Los Cerritos Wetlands Restoration Plan. As you are aware, the Gabrielino Tongva Tribe has participated in the Tribal consultation process per AB52 for this project and the Gabrielino Tongva Tribe expressed our concerns regarding Tribal Cultural Resources.

However, we see that the Draft PEIR has included language in Mitigation Measure CUL-6 (Native American Monitoring) that is unacceptable to our tribal group. As you recall, the purpose of the AB52 consultation with the Gabrielino Tongva Tribe was to express our concerns for the protection and identification of any Tribal Cultural Resources that may be impacted by construction activity during the course of this project. In addition, the Gabrielino Tongva Tribe stated that there are 5 different Gabrielino tribal groups that are identified by the Native American Heritage Commission (NAHC) that have cultural affiliation to the project area. The Gabrielino Tongva Tribe also stated that we would have interest in providing Native American monitors from our tribe that could be incorporated into the Native American monitoring schedule.

GTT-2 However, Mitigation Measure CUL-6 of the Draft PEIR clearly designates the "Gabrieleno Band of Mission Indians - Kizh Nation" as the Native American monitoring group to be contracted by the City to provide Native American monitors for this project. I believe the Gabrielino Tongva Tribe made it very clear that the designation of one tribal group over another is unfair and discriminatory in nature. The unfair designation of one tribal group in this situation violates equal opportunity for the Gabrielino Tongva Tribe.

With that said, the Gabrielino Tongva Tribe requests that the language of Mitigation Measure CUL-6 be changed to include any Gabrielino tribal group that requests to be included in the Native American monitoring schedule, and the reference to a sole tribal group such as the "Gabrieleno Band of Mission Indians - Kizh Nation" be stricken from the mitigation measure. As I recall, these types of concerns of the Gabrielino Tongva Tribe were expressed to your agency and to that of Environmental Science Associates, the company that produced and provided the Draft PEIR.

GTT-3 The Gabrielino Tongva Tribe will weigh what options are available to counter and remedy this issue.

Sincerely,

Sam Dunlap
Cultural Resource Director
Gabrielino Tongva Tribe
(909)262-9351 mobile

From: sam dunlap
To: Sally Gee
Subject: RE: LOS CERRITOS WETLANDS RESTORATION PLAN - DRAFT PEIR - TRIBAL COMMENTS
Date: Monday, August 24, 2020 4:08:33 PM

Sally,

GTT-4 I apologize for the late response. The Tribe has reviewed the PEIR and concurs with the language as written regarding Cultural Resources and Tribal Cultural Resources in the document.

GTT-5 The Gabrielino Tongva Tribe wishes to remain informed of the project's progress and is ready to become involved in Native monitoring when that time arrives.

Sincerely,

Sam Dunlap
Cultural Resource Director
Gabrielino Tongva Tribe
909-262-9351

Gabrielino Tongva Tribe, June 22, 2020

Comment Letter GTT

Response GTT-1

The commenter acknowledges receipt of the Draft PEIR and participation in the Tribal Consultation process per AB52 wherein objections to the Tribal Cultural Resources were expressed. Specific comments regarding the Draft PEIR are provided and responded to below.

Response GTT-2

The commenter notes that the Draft PEIR language in Mitigation Measure CUL6 (Native American Monitoring) that designates one tribal group over another is unfair and discriminatory in nature. Draft PEIR Mitigation Measure CUL6 is related to Phase II Archaeological Investigations, not Native American monitoring. Native American monitoring is addressed in Mitigation Measure CUL13, which states "LCWA shall retain a Native American monitor(s) from a California Native American Tribe that is culturally and geographically affiliated with the program area (according to the California Native American Heritage Commission) to conduct the monitoring. If more than one Tribe is interested in monitoring, LCWA shall contract with each Tribe that expresses interest and prepare a monitoring rotation schedule. LCWA shall rotate monitors on an equal and regular basis to ensure that each Tribal group has the same opportunity to participate in the monitoring program." Mitigation Measure CUL13 does not name a specific Tribe.

Response GTT-3

The commenter provides a general statement that they will explore options but does not raise any specific issues regarding the content and adequacy of the Draft PEIR. As such, no further response is warranted. Please also see Response to Comment No. GTT-2 above.

Response GTT-4

The commenter concurs with the language as written regarding Cultural Resources and Tribal Cultural Resources, and is noted for the record.

Response GTT-5

The comment states that the Gabrielino Tongva Tribe wishes to remain informed of the project's progress and Native American monitoring. The LCWA will continue to engage the tribe as the project progresses.

Comment Letter GABACJ

July 6, 2020

To: Sally Gee, Los Cerritos Wetlands Authority

From, Anthony Morales, Tribal Chair, Gabrieleno/Tongva San Gabriel Band of Mission Indians

Rebecca Robles, Acjachemen Tribal Elder

Regarding:: The Los Cerritos Wetlands Restoration Plan PEIR

It is challenging to respond to continued threats to our lands, history, and culture that are justified and legalized by state actors. They come before us as Environmental Impact Reports and Local Coastal Plans required by CEQA and the California Coastal Act and include public and private projects - dams, highways, oil and gas infrastructure, power plants, massive residential and commercial sprawl, and so-called "restoration" projects. In responding to the Los Cerritos Wetlands Restoration Plan PEIR, we retain our inherent right as indigenous peoples to seek a resolution that is most protective of our Traditional Tribal Landscape and Sacred Site. Our connection to Puvungna cannot be determined piecemeal, as it is timeless and inclusive of all manifestations of being. Our relationship to this place defines us as a people, we rely on it to heal and comfort us, we speak to our Ancestors through the gifts given to us by all our relations, and we depend on them to teach our children how to live in balance.

GAB ACJ -1

The 500 acre Tribal Cultural Landscape and Sacred Site of Puvungna, "the gathering place," is central to our spirituality, our history and our survival and it is our responsibility to protect and preserve it as a place where all our relations can find sanctuary. We appreciate that the LCWA has acknowledged that the program area lies within this significant tribal cultural landscape and concurs that our tribal cultural concerns include waterways, plants, and animals as well as the remains of our Ancestors and our ancient communities. We agree that proposed ground disturbance, including dredging and digging channels, scraping and bulldozing, and burying the existing landscape under berms, parking lots, and buildings, will do irreversible harm. We appreciate the determination that "There is no feasible mitigation for cumulative impacts to archaeological resources other than not undertaking the proposed program." We concur that both individually and cumulatively, "Potential impacts from the proposed program on the tribal cultural landscape are considered significant and unavoidable... and there is no feasible mitigation to lessen this impact to a level of less than significant." We agree with PEIR that, "When taken together, past, present, and foreseeable projects result in a significant cumulative impact to the tribal cultural landscape." There is precious little of Puvungna that has not been erased, including community and burial sites, natural areas that support human and animal life, springs, and waterways that once flowed freely to the sea. Considering that the PEIR acknowledges that the negative impacts, not only to our tribal cultural sites, but to waterways, plant, and animal life, will be significant and unavoidable, we question why the LCWA has chosen this path as the "Preferred Alternative" for "restoring" the Los Cerritos Wetlands.

Unfortunately, we see no evidence that the LCWA sought to include tribal members with expertise in tribal culture or tribal ethnobotany, or tribal individuals with a previous history of involvement in protecting the Los Cerritos Wetlands, in drafting either the Initial Study or the PEIR. Although Julia Bogany, Tribal Cultural Representative for the Gabrieleno/Tongva San Gabriel Band of Mission Indians, contributed to the Los Cerritos Wetlands Final Conceptual Restoration Plan, she was not include in the preparation of either the Initial Study or the PEIR, nor was

GAB ACJ -2

the information that she provided regarding tribal salt works included in these documents. Also ignored was staff's identification of specific salt flats and proposals for incorporating them into educational programming. Instead the remaining ten acres of salt flats are to be entirely eliminated. Although the PEIR references information provided by tribal leaders to the California Coastal Commission regarding the impact of the Los Cerritos Wetland Restoration and Oil Consolidation Project on the wetlands, including the Program Areas, the commenters were not invited to participate in designing the LCWA's current restoration program.

GAB ACJ -3

The Cultural and Tribal Cultural Resources Sections are written from an outdated Eurocentric perspective. Established policies and practices, including CEQA, intentionally ignore the reality that California Indian Tribes are sovereign living nations capable of planning and engaging in cultural resource management over lands within their tribal territories and/or with which they maintain a cultural connection. Our tribes are not acknowledged as living communities and governing bodies with a legal right to maintain a physical and spiritual connection to the Los Cerritos Wetlands. Nor are past and present tribal efforts to protect and use the wetlands for spiritual, cultural, and recreational purposes included in the PEIR. Ignoring tribal cultural perspectives and historic and current tribal involvement in the Los Cerritos Wetlands, the PEIR fails to fully identify the program's potentially significant impacts to the wetlands themselves and to those tribal peoples having physical and cultural connections to the project area. The proposed mitigation measures fail to acknowledge comments by numerous tribal leaders and members that the disruption and destruction of natural areas does harm and must be avoided.

GAB ACJ -4

Restoration plans that include increased public access at the expense of wildlife, that involve the removal of existing plant communities supporting wildlife, that employ pesticides and involve extensive flooding, excavation and bulldozing, are in and of themselves disrespectful measures. Realistically, restoring the Los Cerritos Wetlands to the once magnificent river estuary beloved by its tribal occupants is not possible. To include tribal peoples in protecting what remains is essential. Failing to do so, the PEIR reveals a continued mindset of dominion over, rather than true appreciation for, the natural world and the original peoples of the land. We advise the LCWA to abandon its current "restoration" plan as presented in this PEIR and rethink your approach to wetlands restoration. We recommend that you devise a plan to co-manage the Los Cerritos Wetlands with tribes having a territorial or cultural connection to them and invite you to consider returning jurisdiction over the wetlands under your control to the the tribal peoples who are affiliated with this Traditional Tribal Landscape.

GAB ACJ -5

Additional Concerns regarding the Los Cerritos Wetlands Restoration Plan PEIR:

1. The history of our public "wilderness" areas, including Regional, State and National Parks, and conservation areas such as the Los Cerritos Wetlands, is one of the dispossession and exclusion of tribal peoples and a hunger for their lands. Current policies and future plans are based on the racist illusion that tribal people have no legitimate place in or inherent right to inhabit these landscapes. "Restoration" that seeks to eliminate "invasive" plants and animals while advocating for exclusively "native" ones, fails to take into account the interdependency that now exists between these communities. It is ironic that while "Native" Americans have not been invited to reclaim our homelands, "invasive" public access is now encouraged.

GABACJ-6

2. The Restoration Plan Goals and Objectives for this Traditional Tribal Landscape lack any reference to tribal involvement or tribal cultural preservation.

GABACJ-7

3. To identify our tribal nations exclusively by names "imposed by the Spanish Missionaries," is disrespectful and denies us the inherent right to self-identify as Tongva and Acjachemen. In addition, the failure to identify additional tribes with a cultural connection to the program area, including the Payómkawichum, the Yuhaaviatam, the Tatviam, and the Kumeyaay, while referencing their homelands as counties, lacks accuracy and sensitivity.

GABACJ-8

4. The Cultural Resources section improperly questions whether tribal cultural resources exist within the program area. It describes known villages, burial, and cultural sites as being "nearby" the program area, rather than including the Los Cerritos Wetlands area within the Sacred Site of Puvungna.

GABACJ-9

5. The Los Cerritos Wetlands Restoration Plan is not restoration. It is a flood control project involving a massive reconfiguration of seasonal brackish/freshwater wetlands and uplands into salt marsh habitat. The introduction of water requires bulldozing existing wetlands and wildlife habitat and the construction of massive berms across the wetlands to protect current oil operations. Eventually the existing wetlands will be flooded and/or buried under berms protecting oil drilling operations, power plants, and commercial development from sea rise.

GABACJ-10

6. The Plan conforms to (includes) the Los Cerritos Wetlands Restoration and Oil Consolidation Project which expands existing oil operations. Beach Oil Minerals oil production will increase from 300 to 23,000 barrels a day, and release 70, 000 tons of GHG emissions annually. State environmental agencies such as the LCWA, the RMC, and the Coastal Conservancy are partnering with the fossil fuel industry to allow continued and expanded gas and oil operations endangering the wetlands, the general public, and the planet.

GABACJ-11

7. This proposed "restoration" of the Los Cerritos denies the history and the value of the existing landscape, as the intention is to erase it and create a model that accommodates a larger human footprint with visitors centers, parking lots, bike and walking trails. Along with numerous other tribal members, we object to any development which unearths or further disturbs tribal remains or cultural materials, disrupts the ecosystem, and/or puts public health and safety at risk.

GABACJ-12

From: Rececca Robles
To: Sally Gee
Subject: Letters to LCWA from Anthony Morales and Rebecca Robles
Date: Monday, July 6, 2020 3:04:48 PM
Attachments: Untitled document.pdf

Gabrieleno/Tongva San Gabriel Band of Mission Indians and Acjachemen Tribal Elder, July 6, 2020

Comment Letter GABACJ

Response GABACJ-1

The commenter states they are writing in response to the Los Cerritos Wetlands Restoration Plan PEIR and that they seek to protect the Tribal Cultural Landscape and Sacred Site of Puvungna. The 500-acre Tribal Cultural Landscape and Sacred Site of Puvungna are central to the tribe's spirituality, history, and survival, and the tribe appreciates that the LCWA has acknowledged that the program area lies within a tribal cultural landscape and concurs that it includes waterways, plants, and animals, in addition to the remains of their Ancestors and ancient communities. The tribe also concurs with the determination of significant and unavoidable impacts to cultural resources and the tribal cultural landscape in the program due to the proposed ground disturbance. Therefore, the tribe questions why the LCWA would proceed with the proposed program if there will be significant and unavoidable impacts to cultural sites and the waterways, plants, and animals.

The LCWA has noted these concerns, and recognizes the importance of the Los Cerritos Wetlands to the tribe. The LCWA acknowledges impacts to cultural resources and the tribal cultural landscape would be significant and unavoidable at the program level. However, with implementation of Mitigation Measures CUL-1 through CUL-16 and Mitigation Measures BIO1 through BIO11, there is a potential that project-level impacts to resources could be mitigated to a less than significant level. At the project level LCWA would conduct focused surveys and employ strategies to minimize or avoid impacts to cultural resources. LCWA believes that the restoration program outlined in the PEIR, while it would result in impacts to sensitive resources, would also restore the salt marshes historically present in the program area and provide important and valuable benefits for wildlife and tribal uses.

Response GABACJ-2

The commenter states that tribal input/expertise was not included in the development of the Initial Study or the proposed program in the PEIR, and that the tribe was not invited to participate in designing LCWA's current restoration program. The LCWA conducted AB 52 consultation with all tribes who requested consultation pursuant to Public Resources Code Section 21080.3.1 during the development of the PEIR. Tribes consulted and a summary of information provided is summarized in **Table 3.15-2**, *Summary of Tribes Consulted*, of the Draft PEIR. However, LCWA recognizes that it is important to engage tribal members as we move forward in project level designs, especially early on in the process. PEIR Mitigation Measure CUL16 requires that LCWA consult with California Native American Tribes during the future design of project-level components, plant and native plant selections or palettes, and development of content for educational and interpretative elements. Also, the LCWA is pursuing the initiation of a tribal council/advisory group as the project moves forward that would consult on the design of the program and results of future studies.

Additionally, the commenter writes that information regarding tribal salt works contributed by Julia Bogany during the development of the Los Cerritos Wetlands Final Conceptual Restoration Plan was not included in the PEIR. In a follow-up tribal consultation meeting on August 17, 2020 between LCWA and the tribe, information regarding the importance of salt marshes and salt flats to the tribe was shared, and Chapter 3.14, Section 3.14.2 Environmental Setting, of the Draft PEIR was revised.

The commenter informs that identification of specific salt flats and proposals for incorporating them into educational programming were not included in the PEIR's restoration program, and instead the remaining ten acres of salt flats are to be eliminated. While the existing salt flats could be affected by the proposed program, one of the program's goals is to restore and expand tidal salt marshes. It is LCWA's intent to preserve as much existing habitat and special status species as possible while enhancing degraded habitats. Salt flats and pannes are important parts of the tidal salt marsh ecosystem that will be enhanced and improved by the program.

Response GABACJ-3

The commenter states that established policies and practices, including CEQA, ignore that tribes are living nations capable of planning and engaging in cultural resource management within their tribal territories. LCWA recognizes that California Indian Tribes are living communities with a connection to the Los Cerritos Wetlands and understands that tribes have expertise concerning their tribal cultural resources. In response to this comment and others, Chapter 3.4 Cultural Resources, Section 3.4.2.2, of the Draft PEIR has been revised to acknowledge current tribal groups and their active participation in preservation of their tribal resources. To engage tribal participation in preparation of the Draft PEIR, LCWA conducted AB 52 consultation with all tribes who requested consultation pursuant to Public Resources Code Section 21080.3.1. Tribes consulted and a summary of information provided is summarized in **Table 3.15-2**, *Summary of Tribes Consulted*, of the Draft PEIR. LCWA also met with tribal representatives on August 17, 2020.

The commenter also states that the PEIR fails to fully identify the program's potentially significant impacts to the wetlands and tribal peoples, and that the mitigation measures fail to acknowledge tribal comments regarding the avoidance of disruption and destruction of natural areas. Chapter 3.15 Tribal Cultural Resources, Section 3.15.2.3, of the Draft PEIR acknowledges that the biological resources present, including the wetlands, are sacred to tribal peoples and integral components of tribal resources. Section 3.15.5 Program Impacts and Mitigation Measures, of the Draft PEIR also acknowledges that even with mitigation, impacts to tribal cultural resources would be significant and unavoidable at the program level. However, in response to this comment, the Draft PEIR has been revised to acknowledge that avoidance and preservation is the preferred approach to avoid or minimize significant adverse effects and that any changes to the existing wetlands affects values that tribes ascribe to the tribal cultural landscape within and surrounding the program area.

Response GABACJ-4

The commenter states their concern about impacts to existing wildlife and plant communities from increased public access and disturbance associated with restoration activities. The commenter further states that fully restoring the Los Cerritos Wetlands is not possible. The commenter advises LCWA to abandon its restoration plans and devise an alternative plan to co-manage the Los Cerritos Wetlands with tribes having a territorial or cultural connection to them. LCWA is committed to avoiding, minimizing and mitigating impacts to existing sensitive wildlife and plant communities, and acknowledges the challenges in restoring a landscape where ecosystem processes are constrained and there have been many extreme alterations. LCWA believes that the restoration program outlined in the PEIR, while it would result in impacts to sensitive resources, would also provide important and valuable benefits for wildlife and the public. LCWA did consult with all tribes that requested consultation as part of the preparation of the PEIR. LCWA is committed to inviting and incorporating input from Native American tribes as project-specific planning occurs, and is pursuing the creation of a tribal advisory group for that purpose. LCWA would welcome proposals for involvement of Native American tribes in the management of the wetlands.

Response GABACJ-5

The commenter states that plans and current policies regarding the Los Cerritos Wetlands exclude and dispossess tribal peoples and do not recognize their legitimate place in or right to inhabit these landscapes. The commenter further states that the interdependency between invasive and native wildlife should be accounted for, and that public access is invasive and should be discouraged, while Native Americans should be invited to reclaim the wetlands. As stated above, LCWA would welcome proposals for involvement of Native American tribes in the management and use of the wetlands. LCWA is committed to inviting and incorporating input from Native American tribes as project-specific planning occurs, and is pursuing the creation of a tribal advisory group for that purpose. The impacts of removing invasive species and restoring native species, and the impacts of public access, were considered in the PEIR and will also be evaluated in project-specific environmental analysis. LCWA seeks to avoid and minimize adverse impacts, while realizing the benefits to wildlife and the public that can result from restoration and increased public access. In additional response to the commenter, Mitigation Measure CUL18 has been added to Chapter 3.4 Cultural Resources, Section 3.4.5 Program Impacts and Mitigation Measures of the Draft PEIR.

Response GABACJ-6

The commenter points out that the Restoration Plan Goals and Objectives for the program lack any reference to tribal involvement or tribal cultural preservation. LCWA acknowledges that this is the case and has revised the goals and objectives in Chapter 2, Section 2.5 Project Objectives of the PEIR, to include a reference to Native American tribes. In addition, the LCWA will work with tribal representatives during the project-specific planning phases to consider other revisions to the Goals and Objectives.

Response GABACJ-7

The commenter states that using Spanish names to refer to tribal entities is disrespectful. The commenter further states that the PEIR fails to identify other tribes with a cultural connection to the program area, such as the Payomkawichum, Yuhaaviatam, Tataviam, and Kumeyaay. LCWA acknowledges that the tribe prefers to use indigenous terms when referring to tribal groups. The PEIR has been revised to indicate that the terms Tongva, Kizh, and Acjachemen are preferred by many descendant groups over the Spanish words that have historically been used to describe them. With regards to the failure to identify other tribes with a cultural connection to the program area, Chapter 3.15 Cultural Resources, Section 3.15.2.3, lists all the tribes who were contacted as part of the AB 52 process for the Draft PEIR. A total of 26 tribes were contacted, including those who are Payomkawichum, Yuhaaviatam, Tataviam, and Kumeyaay. The only tribal groups who requested consultation are Tongva, Kizh, and Acjachemen tribes, and these are the tribes who were included in the ethnographic section. However, the LCWA sees the LCW as a regional resource and will not limit future coordination and consultation to just those tribal groups that responded to AB52. The LCWA would welcome other regional tribal representatives to participate in the forthcoming tribal advisory group.

Response GABACJ-8

The commenter states that the PEIR improperly questions whether tribal cultural resources exist within the program area and that the Los Cerritos Wetlands are within Puvungna. Chapter 3.4 Cultural Resources and Chapter 3.15 Tribal Cultural Resources, indicate that a tribal cultural landscape is present within and surrounding the program area, and that LCWA determined that the landscape is a historical resource pursuant to CEQA Guidelines Section 15064.5(a)(4) and a tribal cultural resource pursuant to Public Resources code section 21074(a)(2). The sections also acknowledge that there is one known Native American archaeological site within the program area and an additional four sites that appear to overlap or partially overlap the program area, as well as seven other sites within 150 feet of the program area. The sections further acknowledge that there could be as yet unidentified sites on the surface or subsurface in the program area. The sections state that these sites are potential contributors to the landscape. As such, these sites are part of the historical resource and tribal cultural resource identified as the tribal cultural landscape. However, in response to this comment and others, Section 2.4.2 Cultural History of the Los Cerritos Wetlands Complex, has been modified to indicate that the wetlands are within the Puvungna and Motuucheyngna village sites community. Chapters 3.4 and 3.15 have also been modified to indicate that the Los Cerritos Wetlands are located in between the archaeological manifestations of Puvungna and Motuucheyngna, and the wetlands were identified by tribes to be part of the larger cultural landscape of Puvungna and surrounding villages.

Response GABACJ-9

The commenter states that the Los Cerritos Wetlands Restoration Plan is not restoration, but a flood control project that will convert seasonal brackish/freshwater wetlands and uplands into salt marsh habitat and will have significant impacts from ground disturbance to existing habitat and wildlife. The LCWA acknowledges there will be impacts to existing habitats from the program, but believes that restoring tidal wetlands and associated habitats will have very important benefits for wildlife and the public that outweigh the impacts of the program. One of the goals of the

proposed program is to restore tidal salt marshes. Although there are existing jurisdictional wetlands on site, most of them are degraded and low functioning habitat. The LCWA would also look to preserve as much existing habitat and special status species as possible while enhancing the degraded habitats. Some areas of the LCW are completely cut off from historic tidal influence, thus LCWA is looking to reintroduce tides. In the Central Area, the opportunity for tidal influence is a connection to the San Gabriel River (SGR). Breaching the SGR levee would require equal flood protection and more to account for sea level rise, which is why the footprint of the levees are so large. However, the exact height of the levees and the exact connection from the SGR to the site are to be determined at the project level and could be smaller than what is currently proposed.

Response GABACJ-10

The commenter notes that the LCW Restoration Plan includes the Los Cerritos Wetlands Restoration and Oil Consolidation Project which expands existing oil operations, with a resulting increase in GHG emissions that will endanger the wetlands, the general public, and the planet, The environmental effects associated with oil operations described in the Los Cerritos Wetlands Oil Consolidation and Restoration Project are evaluated in the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse No. 2016041083) and were not further evaluated in this PEIR. As such, no further response is warranted.

Response GABACJ-11

The commenter states that the program denies the history and value of the existing landscape, and will result in a larger human footprint. The commenter further objects to any development which unearths or further disturbs tribal remains or cultural materials, disrupts the ecosystem, and/or puts public health and safety at risk. LCWA designed the program to restore and enhance tidal wetlands and associated habitats, and seeks to bring back some of the habitat values and ecosystem services that historically were provided by the Los Cerritos Wetlands before they were drained, filled, and disrupted by oil production and other human uses, consistent with the Goals and Objectives in the PEIR. This program is designed to reduce the human footprint by creating large swaths of core habitat areas that will be inaccessible to humans in locations that are currently fragmented/disturbed by a variety of human uses. Implementation of Mitigation Measures CUL1 through CUL16 will ensure that LCWA avoids, minimizes and mitigates any impacts to tribal remains or cultural materials. LCWA plans to work with tribes on project-specific design and implementation to avoid and minimize impacts and to include tribal monitoring. LCWA believes that the program will not disrupt the ecosystem, but will restore important ecosystem processes and services that have been lost due to human disturbances. LCWA believes that public health and safety will not be put at risk by the program, but will benefit from increased access to open space and stewardship opportunities.

Response GABACJ-12

Responses to the referenced letter are provided above in Responses to Comments Nos. GABACJ-1 through GABACJ-12.

Comment Letter JBMIANB

From: Joyce Perry
To: Sally Gee
Cc: Candace Ehringer
Subject: Re: Los Cerritos Wetland PEIR
Date: Thursday, August 20, 2020 1:29:36 PM

Good Afternoon Ms. Gee,

JBMIANB-1 Thank you for clearing up the confusion and I appreciate the extension to review. On behalf of the Juaneno Band of Mission Indians, Acjachemen Nation- Belardes, our comments are as follows:

We have great concerns regarding the proposed Los Cerritos Restoration project. This project appears to be to the main benefit of the oil industry. While the PEIR does define the Los Cerritos Wetlands as part of the "greater cultural landscape of Puvungna and Motuucheyngna" we urge you to consider Raymond White's ethnographic data for criteria of defining a village-- which he refers to as a "Rancheria"

JBMIANB-2

> "...each ranchería is composed of several definite topological units, arranged so that all necessary types of terrain are included within these boundaries, for example, oak groves, chaparral covered slopes, river bottoms, springs, and so forth. None is so large that a man could not reach any part of it on foot in about half a day, starting from the major dwelling site or village; each includes all features necessary for maximum efficiency in the harvesting of food and other resources according to daily need, seasonal availability, accessibility, and defensibility (White 1963:116–117).

His criteria of a village site which spans an area able to be reached in half a day's walk would include the project area as a part of Puvungna and Motuucheyngna.

JBMIANB-3 Further, even with implementation of mitigation measures CUL-1 through CUL-9 the impacts are defined as "significant and unavoidable." This is unacceptable. The destruction and degradation of Traditional Cultural Properties and Landscapes is the continued reality for southern California's indigenous peoples, with an estimated 90 percent of our ancestral sites having been destroyed in the path of development. While we support efforts to restore the wetlands, we cannot stand behind any project that both enhances the oil industry while allowing bulldozing and further degradation of our sacred sites. Any efforts towards restoration should be undertaken in collaboration with Native American experts who have ancestral ties to the land. Avoiding further impacts to our significant cultural sites is the only appropriate option.

JBMIANB-4 As this project moves through the process, we wish to continue to consult in order to find options that we all can live with.

Húu'uni 'óomaqati yáamaqati.
Teach peace
Joyce Stanfield Perry
Payomkawichum Kaamalam - President
Juaneño Band of Mission Indians, Acjachemen Nation
Tribal Manager, Cultural Resource Director

Juaneno Band of Mission Indians, Acjachemen Nation – Belardes, August 20, 2020

Comment Letter JBMIANB

Response JBMIANB-1

The commenter acknowledges an extension to review the Draft PEIR. Specific comments regarding the Draft PEIR are provided and responded to below.

Response JBMIANB-2

The commenter provides a general statement that they have concerns about the project and that the project appears to benefit the oil industry. The commenter provides criteria for defining a village site and indicates that this definition would include the program area as part of Puvungna and Motuucheyngna.

With regards to the first part of the comment, the commenter does not raise any specific issues regarding the content and adequacy of the Draft PEIR. As such, no further response is warranted.

With regards to the second part of the comment, in response to this comment and others, Chapter 2 Project Description, Section 2.4.2 Cultural History of the Los Cerritos Wetlands Complex, of the Draft EIR has been modified to indicate that the wetlands are within the Puvungna and Motuucheyngna village sites community. Chapters 3.4 and 3.15 have also been modified to indicate that the Los Cerritos Wetlands are located in between the archaeological manifestations of *Puvungna* and *Motuucheyngna*, and the wetlands were identified by tribes to be part of the larger cultural landscape of *Puvungna* and surrounding villages.

Response JBMIANB-3

The commenter expresses opposition to the proposed program based on significant and unavoidable impacts to Cultural Resources and to the degradation of Traditional Cultural Properties and Landscapes. Additionally, commenter raises the issue that any efforts toward restoration should involve collaboration with Native American experts/tribes to avoid further impacts to significant cultural sites.

The LCWA acknowledges that at the program level, impacts to cultural resources and the tribal cultural landscape would be significant and unavoidable. However, with implementation of Mitigation Measures CUL1 through CUL16 and Mitigation Measures BIO1 through BIO11, there is a potential that project-level impacts to resources could be mitigated to a less than significant level. At the project level we would conduct focused surveys and employ strategies to minimize or avoid impacts to cultural resources. Additionally, Mitigation Measures CUL12 and CUL16 specifically points to continued Native American coordination and input for this project. The LCWA recognizes that it is important to engage tribal members as we move forward in project level designs, especially early on in the process. The LCWA is pursuing the creation of a tribal council/advisory group as the program moves forward that would consult on the design of the site and results of future studies. The LCWA will continue to include the Juaneno Band of Mission Indians, Acjachemen Nation- Belardes tribe in future communications on this project.

Response JBMIANB-4

The commenter states that they wish to continue to consult on this project. The LCWA will continue to include the Juaneno Band of Mission Indians, Acjachemen Nation- Belardes tribe in future communications on this project.

Comment Letter AQMD

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

SENT VIA E-MAIL:
sgee@rmc.ca.gov
Sally Gee, Project Planner
Los Cerritos Wetlands Authority
100 North Old San Gabriel Canyon Road
Azusa, CA 91702

May 22, 2020

Draft Program Environmental Impact Report (Draft PEIR) for the Proposed Los Cerritos Wetlands Restoration Plan

South Coast Air Quality Management District (South Coast AQMD) staff appreciates the opportunity to comment on the above-mentioned document. The following comments are meant as guidance for the Lead Agency and should be incorporated into the Final PEIR. AQMD-1

The Lead Agency proposes to develop programs to guide wetland restoration, habitat conservation, and flood management with a planning horizon of 2040 (Project Project). The Proposed Project will include, among others, removal and relocation of oil pipelines. The Proposed Project encompasses 503 acres and is located in the East Long Beach and North Seal Beach area along the border of Los Angeles County and Orange County.

Based on a review of the Hazards and Hazardous Materials Section in the Draft PEIR, the Lead Agency is committed to developing and implementing a Health and Safety Plan and a Soil, Landfilled Materials, and Groundwater Management Plan that includes a materials disposal plan specifying how the contractor will remove, handle, transport, and dispose of all excavated material in a safe, appropriate, and lawful manner[1]. If on-site or earth-moving activities involve equipment or operations which either emits or controls air pollution, South Coast AQMD staff should be consulted in advance of the project start to determine the need for any permits or plans are required to be filed and approved by South Coast AQMD prior to start of operation. AQMD-2 Disturbing soils containing toxic air contaminants are subject to the requirements of South Coast AQMD Rule 1466 – Control of Particulate Emissions from Soils with Toxic Air Contaminants[2]. Therefore, in addition to the discussions of South Coast AQMD Rules 401, 402, 403, 1113, 1166, and 1186[3], it is recommended that the Lead Agency include a discussion to demonstrate compliance with Rule 1466 in the Air Quality Section of the Final PEIR. AQMD-3

Pursuant to California Public Resources Code Section 21092.5(a) and CEQA Guidelines Section 15088(b), South Coast AQMD staff requests that the Lead Agency provide South Coast AQMD staff with written responses to all comments contained herein prior to the certification of the Final PEIR. In addition, issues raised in the comments should be addressed in detail giving reasons why specific comments and suggestions are not accepted. There should be good faith, reasoned analysis in response. Conclusory statements unsupported by factual information will not suffice (CEQA Guidelines Section 15088(c)). Conclusory statements do not facilitate the purpose and goal of CEQA on public disclosure and are not meaningful, informative, or useful to decision makers and to the public who are interested in the Proposed Project. AQMD-4

[1] Draft PEIR. Page 3.7-38.
[2] South Coast AQMD. Rule 1466. Accessed at: http://www.aqmd.gov/docs/default-source/rule-book/reg-xiv/rule-1466.pdf.
[3] Draft PEIR. Page 3.2-19.

South Coast AQMD staff is available to work with the Lead Agency to address any air quality questions that may arise from this comment letter. Please contact me at lsun@aqmd.gov if you have any questions. AQMD-5

Sincerely,

Lijin Sun

Lijin Sun, J.D.
Program Supervisor, CEQA IGR
Planning, Rule Development & Area Sources

LS
LAC200514-08
Control Number

From:	Lijin Sun
To:	Sally Gee
Subject:	South Coast AQMD Staff"s Comments on Draft Program Environmental Impact Report for the Los Cerritos Wetlands Restoration Plan
Date:	Friday, May 22, 2020 7:40:43 AM
Attachments:	LAC200514-08 DPEIR Los Cerritos Wetlands Restoration Plan_20200522.pdf

Dear Ms. Gee,

Attached are South Coast AQMD staff's comments on the Draft Program Environmental Impact Report for the Los Cerritos Wetlands Restoration Plan (South Coast AQMD Control Number: LAC200514-08). Please contact me if you have any questions regarding these comments.

Thank you,
Lijin Sun, J.D.
Program Supervisor, CEQA IGR
South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765
Direct: (909) 396-3308
Fax: (909) 396-3324
**Please note that the building is closed to the public and I am working remotely.*
I will be responding to emails and voice messages during my scheduled work hours,
Tuesday through Friday 7:00 am to 5:30 pm. Thank you.

South Coast Air Quality Management District, May 22, 2020

Comment Letter AQMD

Response AQMD-1

The commenter expresses South Coast Air Quality Management District (SCAQMD) appreciation to provide comments on the LCWA's Draft PEIR. The commenter provides a summary of the proposed program and does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response AQMD-2

The commenter cites to the Hazards and Hazardous Materials Section in the Draft PEIR, which indicates that the Lead Agency is committed to developing and implementing a Health and Safety Plan and a Soil, Landfilled Materials, and Groundwater Management Plan that includes a materials disposal plan specifying how the contractor will remove, handle, transport, and dispose of all excavated material in a safe, appropriate, and lawful manner. The commenter states that SCAQMD staff should be consulted in advance of the project start to determine the need for any permits or plans are required to be filed and approved by South Coast AQMD prior to start of operation. As described in Chapter 2 Project Description, Section 2.7 Program Characteristics, the program would require remediation of contaminated soil and groundwater, grading, and excavation. The program would use heavy duty construction equipment to handle such earth-moving activities. A list of off-road equipment including specialized construction equipment is shown in **Table 5**, *Off-Road Equipment List*, in the Air Quality Technical Report, provided in Appendix B of the Draft PEIR. In accordance with the use of such heavy-duty construction equipment, it is understood that certain discretional approvals would be required. As shown in **Table 2-17**, *Required Permits and Approvals*, of the Draft PEIR, permits/approvals from multiple agencies, including South Coast AQMD's permits to construct and operate, would be obtained as necessary according to specific detailed designs for the proposed restoration activity. These permits/approvals would be determined on a project level basis and subsequent to the preparation of this PEIR

Response AQMD-3

The comment recommends that the Lead Agency include a discussion of compliance with Rule 1466 in the Air Quality Section of the Final PEIR. A description of Rule 1466 has been added to Chapter 3.2 Air Quality, Section 3.2.3 Regulatory Framework, of the Draft PEIR following Rules 401, 402, 403, 1113, 1166, and 1186.

While no implementing project is proposed under the Draft PEIR, subsequent implementing projects will be required to provide a project-level analysis and demonstrate compliance with applicable SCAQMD rules, which may include Rule 1466.

Response AQMD-4

The commenter requests that the Lead Agency provide SCAQMD staff with written responses to all comments contained herein prior to the certification of the Final PEIR. In addition, issues raised in the comments should be addressed in detail giving reasons why specific comments and

suggestions are not accepted. Please see Responses to Comments Nos. AQMD-2 and AQMD-3. The Draft PEIR provides an accurate and objective analysis based upon substantial evidence in the record. The Draft PEIR details specific methodologies used to determine the significance of impacts and makes conclusions that are well explained and supported by facts. The responses in this PEIR represent a good faith response to the SCAQMD's comments, including providing the additional requested information regarding SCAQMD Rule 1466 (see Response to Comment No. AQMD-3), as required pursuant to CEQA Guidelines Section 15088.

Response AQMD-5

The commenter expresses the SCAQMD willingness to work with the Lead Agency on any questions relating to this comment letter and does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response AQMD-6

The commenter sent an introductory email stating that comments have been submitted on behalf of the SCAQMD staff and does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Comment Letter DOT12

DEPARTMENT OF TRANSPORTATION
DISTRICT 12
1750 EAST FOURTH STREET, SUITE 100
SANTA ANA, CA 92705
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FAX (657) 328-6510
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life.

June 19, 2020

Sally Gee
Los Cerritos Wetlands Authority
100 N. Old San Gabriel Canyon Road
Azusa, CA 91702

File: IGR/CEQA
SCH: 2019039050
12-ORA-2020-01376
SR 1; 33.717

Dear Ms. Gee

Thank you for including the California Department of Transportation (Caltrans) in the review of the Draft Program Environmental Impact Report (DPEIR) for the proposed Los Cerritos Wetlands Restoration Plan. The mission of Caltrans is to provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability.

The Los Cerritos Wetlands Authority (LCWA), as the Lead Agency pursuant to CEQA, is proposing to implement a restoration program for the Los Cerritos Wetlands Complex. The proposed program identifies conceptual restoration designs for approximately 503 acres of land located on the border of Orange County and Los Angeles County in the cities of Seal Beach and Long Beach. The program area consists of the South, Isthmus, Central and North areas. The proposed program would restore wetland, transition, and upland habitats throughout the program area. This would involve remediation of contaminated soil and groundwater, grading, revegetation, construction of new public access opportunities (including trails, visitor center, parking lots, and viewpoints), construction of flood management facilities (including earthen levees and berms, and walls), and modification of existing infrastructure and utilities.

DOT12-1

The proposed program is located within the cities of Seal Beach and Long Beach. The City of Seal Beach is within the northwestern portion of Orange County, California. The City of Long Beach is within the southeastern portion of Los Angeles County, California. The City of Seal Beach is bounded by the City of Long Beach to the west; the City of Los Alamitos and the neighborhood of Rossmoor to the north; and the cities of Huntington Beach, Westminster and Garden Grove to the east. The Pacific Ocean borders the City of Seal Beach to the south. The U.S. Navy Naval Weapons Station Seal Beach is located within Seal Beach city boundaries to the southeast of the program area. Pacific Coast Highway (SR 1) traverses the area from the northwest corner to the southeast corner. Pacific Coast Highway is owned

and operated by Caltrans. Caltrans is a responsible/commenting agency and has the following comments:

Stormwater Compliance:

DOT12-2

- Pacific Coast Highway (PCH) boarders both the north and south portions of the propose wetland restoration. Surface flow runoff at these locations on PCH flow towards where the proposed restoration is to take place. Runoff from this location on PCH is covered under the Caltrans NPDES permit and will ultimately discharge to what is anticipated to be the proposed wetlands under this restoration plan.

Permits:

DOT12-3

- Any project work proposed in the vicinity of the State right of way will require an encroachment permit, and all environmental concerns must be adequately addressed. Please coordinate with Caltrans in order to meet the requirements for any work within or near State Right-of-Way. A fee may apply. If the cost of work within the State right of way is below one Million Dollars, the Encroachment Permit process will be handled by our Permits Branch; otherwise the permit should be authorized through the Caltrans's Project Development Department. When applying for Encroachment Permit, please incorporate all Environmental Documentation, SWPPP/ WPCP, NPDES, Hydraulic Calculations, R/W certification and all relevant design details including design exception approvals. For specific details for Encroachment Permits procedure, please refer to the Caltrans's Encroachment Permits Manual. The latest edition of the Manual is available on the web site: http://www.dot.ca.gov/hq/traffops/developserv/permits/

DOT12-4

Please continue to coordinate with Caltrans for any future developments that could potentially impact State transportation facilities. If you have any questions, please do not hesitate to contact Julie Lugaro at Julie.lugaro@dot.ca.gov.

Sincerely,



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

DOT12-5

From: Lugaro, Julie M@DOT
To: Sally Gee
Cc: Shelley, Scott@DOT
Subject: Comment Letter for the Los Cerritos Wetlands Authority
Date: Friday, June 19, 2020 1:03:21 PM
Attachments: Comment Letter for LCWA 6-19-2020.pdf

Hello Ms. Gee

I have attached the Comment Letter for the Los Cerritos Wetlands Authority.

A hardcopy of the letter will be coming to you by mail.

If you have any questions, please feel free to contact me.

Thank you,

Julie Lugaro, M.S.
Associate Transportation Planner
California Department of Transportation; LD-IGR
Caltrans District 12
1750 E. 4th Street
Santa Ana, CA. 92705

California Department of Transportation, Division 12, June 19, 2020

Comment Letter DOT12

Response DOT12-1

The commenter acknowledges receipt of the Draft PEIR by the California Department of Transportation, Division 12. Specific comments regarding the Draft PEIR are provided and responded to below.

The commenter provides a summary of the proposed program and does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response DOT12-2

The commenter notes that surface runoff from the Pacific Coast Highway flows towards where the proposed restoration is to take place. The commenter also notes this runoff is currently covered under the Caltrans NPDES permit. As discussed within Section 2.7.4.2 Ecosystem Restoration, of the Draft PEIR, "The levee [in the Central Area] would be offset from the property boundaries by 30 feet to allow for road drainage to the area between the road and the levee..." The levee in the North Area would also be offset from the Pacific Coast Highway to provide room for stormwater management. Under Section 2.7.4.3, of the Draft PEIR the following statement is included "With the construction of the proposed levees, storage volume for the excess overflow drainage from the roads would be eliminated. Replacement stormwater storage volume would be provided by creating low areas (e.g., basins or swales) between the roads and the proposed levee. These storage basins or bioswales would be sized to accommodate the local area drainage. These basins would also function as water quality treatment measures for a portion of the runoff from the existing paved areas." Therefore, while the runoff from the Pacific Coast Highway would not be altered by the proposed program, the program would be designed to ensure that runoff does not adversely affect the proposed restoration through design elements than include buffers and overflow drainage swales.

Response DOT12-3

The commenter notes that an encroachment permit is required. As shown in **Table 2-17**, *Required Permits and Approvals*, of the Draft PEIR, permits/approvals from multiple agencies, including the California Department of Transportation's permits to construct and operate, would be obtained as necessary according to specific detailed designs for the proposed restoration activity. These permits/approvals would be determined on a project level basis and subsequent to the preparation of this PEIR.

Response DOT12-4

The commenter provides contact information and is noted for the record.

Response DOT12-5

Responses to the referenced letter are provided above in Responses to Comments Nos. DOT12-1 to DOT12-4.

DEPARTMENT OF TRANSPORTATION
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www.dot.ca.gov

Making Conservation a California Way of Life.

June 22, 2020

Sally Gee
Los Cerritos Wetland Authority
100 N. Old San Gabriel Canyon Rd.,
Azusa, CA 91702

RE: Los Cerritos Wetlands Restoration Plan –
Draft Environmental Impact Report (DEIR)
SCH# 2019039050
GTS # 07-LA-2019-03251
Vic. LA-1/PM: 0.08

Dear Sally Gee:

DOT07-1 Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced project's DEIR. The proposed program would restore wetland, transitional, and upland habitats throughout the program area. This would involve remediation of contaminated soil, grading, revegetation, construction of new public access opportunities, construction of flood management facilities, and modification of existing infrastructure and utilities.

After reviewing this project's DEIR Caltrans has the following comments:

DOT07-2 1. Since future developments will be implemented after SB-743 is in full effect (July 2020), the analysis of traffic impacts must use Vehicle miles traveled (VMT) as a metric. Los Cerritos Wetland Authority, as the lead agency, has discretion to develop and adopt its own thresholds of significance or rely on thresholds of significance recommended or used by other agencies.

2. When future project level documents become available, Caltrans suggests utilizing the following guidelines for project level studies and analysis on the State Highway System:

- Please consider utilizing the latest version of the Technical Advisory and Guidelines on Evaluating Transportation Impacts in CEQA by the Governor's Office of Planning and Research.

DOT07-3

- Please consider utilizing the latest version of Caltrans' Transportation Impact Study Guide.

3. Each project will be evaluated separately. The intersections and freeway segments to be studied and type of analysis to be included, will depend on the location and type of development

4. Once SB-743 is in full effect, safety and conflict analysis, such as queuing analysis at intersections and off-ramps impacted by the project, may still be required depending on trips generated by the project.

Further information included for your consideration:

DOT07-4 Caltrans seeks to promote safe, accessible multimodal transportation. Methods to reduce pedestrian and bicyclist exposure to vehicles improve safety by lessening the time that the user is in the likely path of a

DOT07-4 cont.

motor vehicle. These methods include, but are not limited to, the construction of physically separated facilities such as sidewalks, raised medians, refuge islands, and off-road paths and trails, or a reduction in crossing distances through roadway narrowing.

Caltrans recommends the project to consider the use of methods such as, but not limited to, pedestrian and bicyclist warning signage, flashing beacons, crosswalks, signage and striping, be used to indicate to motorists that they should expect to see and yield to pedestrians and bicyclists. Visual indication from signage can be reinforced by road design features such as lane widths, landscaping, street furniture, and other design elements.

DOT07-5

An encroachment permit will be required for any project on, or in the vicinity of, the Caltrans right of way. Please note that any modifications to the State facility (SR-1 or SR-22) will be subject to additional review by the Office of Permits prior to issuance of the permit.

DOT07-6

Storm water run-off is a sensitive issue for Los Angeles County. Please be mindful that projects should be designed to discharge clean run-off water. Discharge of storm water run-off is not permitted onto State Highway facilities without a storm water management plan.

DOT07-7

If you have any questions regarding these comments, please contact project coordinator Reece Allen, at reece.allen@dot.ca.gov and refer to GTS# 07-LA-2019-03251

Sincerely,

MIYA EDMONSON
IGR/CEQA Branch Chief
cc: Scott Morgan, State Clearinghouse

DOT07-8

From: Allen, Reece@DOT
To: Sally Gee; state.clearinghouse@opr.ca.gov
Subject: Caltrans" Comment Letter - Los Cerritos Wetlands Restoration Plan - SCH# 2019039050
Date: Monday, June 22, 2020 5:03:33 PM
Attachments: Los Cerritos Wetlands - 03251.pdf

Good Afternoon,

Attached, please find Caltrans' comment letter for the above referenced project.

Thank you,

Reece Allen
Associate Environmental Planner
Caltrans District 7, Office of Regional Planning
100 S. Main Street
Los Angeles, CA 90012
(213) 897-9140 Office
(213) 897-1337 Fax

California Department of Transportation, Division 7, June 22, 2020

Comment Letter DOT07

Response DOT07-1

The commenter acknowledges receipt of the Draft PEIR by the California Department of Transportation, Division 7. Specific comments regarding the Draft PEIR are provided and responded to below.

The commenter provides a summary of the proposed program and does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted

Response DOT07-2

The commenter suggests that the analysis of traffic impacts must use vehicle miles traveled as a metric. The commenter also asserts that LCWA has the discretion to adopt its own thresholds of significance or rely on thresholds of significance recommended or used by other agencies. Chapter 3.14 Transportation, Section 3.14.2 Regulatory Setting, of the Draft PEIR provides a description of Senate Bill (SB) 743, which mandates that the significance of the transportation impacts of proposed development projects under CEQA be determined based on vehicle miles travelled (VMT), rather than on delay- and capacity-based metrics, such as level of service (LOS). Consistent with CEQA Guidelines Section 15064.3, lead agencies have until July 1, 2020 to develop and adopt new analytical procedures and threshold criteria to implement VMT as the primary transportation impact metric. Sections 15064.3(c) and 15007 also states that the provisions of this Section shall apply prospectively, i.e. new requirements in CEQA Guidelines amendments will apply to steps in the CEQA process not yet undertaken by the date when agencies must comply with the amendments. The Notice of Preparation was issued on March 8, 2019, prior to the adoption of Section 15064.3. Since the Draft PEIR was released before July 1, 2020 and prior to LCWA's adoption of VMT thresholds, a VMT analysis is not required for the proposed program. In the future, as restoration designs are finalized and ready to be implemented, project-specific environmental review will be required. Such environmental review would occur after July 1, 2020, and would therefore be required to comply with CEQA Guidelines Section 15064.3, which would include a transportation impact evaluation/determination related to VMT. At such time, LCWA will determine whether to adopt its own VMT thresholds, adopt thresholds already established by the relevant local jurisdiction(s), or follow guidance provided in the Governor's Office of Planning and Research's (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA*.[1]

Response DOT07-3

The commenter does not raise an issue regarding the transportation analysis in the Draft PEIR. Rather, the comment provides Caltrans' recommendations on how to evaluate transportation impacts on the State Highway System for future project-specific environmental documents. These

[1] https://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf

recommendations are noted and will be considered, along with all applicable Federal, State, and local regulations at the time project-specific environmental documents are prepared.

Response DOT07-4

The commenter recommends specific methods for the lead agency to consider incorporating into the project to reduce pedestrian and bicyclist exposure to vehicles to improve safety

With respect to pedestrian and bicycle access to/from the program area, Chapter 3.14 Transportation, Section 3.14.5 Project Impacts and Mitigation Measures of the Draft PEIR states that:

"...the proposed program could install new sidewalks around the perimeter of the program area where there are currently none and a crosswalk at the intersection of Shopkeeper Road and 2nd Street to improve public access between the North Area, Long Beach Visitor Center, and Central Area. These components would increase connectivity and safety for pedestrians and bicyclists."

In the future, as restoration designs are finalized and ready to be implemented, project-specific environmental review will be required. Such environmental review would consider the specific design elements listed in the comment (i.e., bicycle warning signage, flashing beacons, crosswalks, signage and striping, lane widths, landscaping, and street furniture) meant to improve accessibility by pedestrians and bicyclists.

Response DOT07-5

The commenter notes that an encroachment permit is required. As shown in **Table 2-17**, *Required Permits and Approvals*, of the Draft PEIR, permits/approvals from multiple agencies, including California Department of Transportation's permits to construct and operate, would be obtained as necessary according to specific detailed designs for the proposed restoration activity. These permits/approvals would be determined on a project level basis and subsequent to the preparation of this PEIR.

Response DOT07-6

The commenter notes that the program should be designed to discharge clean run-off water and that discharge of storm water run-off is not permitted onto State Highway facilities. The program would result in an overall improvement of stormwater run-off quality by including bioswales along the levees in the North and Central Areas and by increasing wetland habitat, which can act as a natural water filter. As discussed in Chapter 2 Project Description, Section 2.7.4.3 Flood Risk and Stormwater Management, of the Draft PEIR "With the construction of the proposed levees, storage volume for the excess overflow drainage from the roads would be eliminated. Replacement stormwater storage volume would be provided by creating low areas (e.g., basins or swales) between the roads and the proposed levee. These storage basins or bioswales would be sized to accommodate the local area drainage. These basins would also function as water quality treatment measures for a portion of the runoff from the existing paved areas."

Response DOT07-7

The commenter provides contact information and is noted for the record.

Response DOT07-8

Responses to the referenced letter are provided above in Responses to Comments Nos. DOT07-1 to DOT07-7.

Comment Letter OCPW

ORANGE COUNTY
OC Public Works

June 22, 2020 NCL-20-0004

Sally Gee
Los Cerritos Wetlands Authority
100 N. Old San Gabriel Canyon Road
Azusa, CA 91702

Subject: Notice of Availability of a Draft Program Environmental Impact Report for the Los Cerritos Wetlands Restoration Plan (State Clearinghouse #2019039050).

Dear Sally,

OCPW-1 Thank you for the opportunity to comment on the Notice of Availability of a Draft Program Environmental Impact Report (PEIR) for the Los Cerritos Wetlands Restoration Plan. The County of Orange offers the following comments for your consideration.

OC Flood Programs/Floodplain Management

OCPW-2 The Draft PEIR has described the effect of the project on the San Gabriel River, Los Cerritos Channel, and Haynes Cooling Channel. However, the impacts of the project on the Orange County Flood Control Facilities, specifically Los Alamitos Retarding Basin (OCFCD Facility No.C01B01) has not been discussed. It is understood that ecosystem restoration in the South Area would occur in three phases and the operations on the Los Alamitos Retarding Basin are proposed to be modified in the mid-term. It is also mentioned in the Draft PEIR that "Restoration will not begin until a variety of actions are taken, including: preparation of project level restoration designs, completion of studies and analysis in support of design and permit approvals, acquiring project-level funding, acquiring permit approvals and associated CEQA clearance documents, amendments made with easement holders, and property transfers."

The following comments provided on April 8, 2019 have been updated and are still valid/relevant to the future project activities:

OCPW-3
1. It appears that the proposed project could have a potential significant impacts on the following Orange County Flood Control District (OCFCD) facilities that includes: Los Alamitos Channel (Facility No.C01), Federal Storm Channel (Facility No.C01S06), Los Alamitos Retarding Basin (Facility No.C01B01), and Los Alamitos Pump Station (Facility No.C01PS1) where all are within the vicinity of the subject project. A map/exhibit should clearly identify these regional flood control facilities and how they will likely be impacted by the proposed project. Drainage Facility

County Administration South
601 North Ross Street
Santa Ana, California 92701
P.O. Box 4048
Santa Ana, CA 92702-4048
(714) 667-8800
info@ocpw.ocgov.com
OCPublicWorks.com

ORANGE COUNTY OC Public Works

Base maps that depict existing local and regional drainage facilities owned by the OCFCD are available for review at http://www.ocflood.com/docs/drawings

2. The proposed program should not worsen existing conditions or shift flooding problems upstream or downstream of the proposed project. Appropriate mitigation measures should be provided to address adverse impacts, and minimize increased runoff resulting from the project.

3. A discussion of such impacts supported by hydrology and hydraulic analyses and mitigation measures, including erosion and scour in natural watercourses, should be included in the next submittals.

OCPW-4

4. Hydrologic and hydraulic analyses should evaluate and compare quantitatively the runoff volumes, peak flow rate increases, and adequacy and capacity of existing drainage facilities. All appropriate studies (if necessary) must conform to the current guidelines and criteria as specified in the Orange County Hydrology Manual (OCHM), Addendum No. 1 to the OCHM, and the OCFCD Design Manual.

5. Since the City of Seal Beach is responsible for land use planning and development within City limits, the City should review and approve all local hydrology and hydraulic analyses including the needed 100-year flood protection for proposed changes within the project area.

OCPW-5

6. The City of Seal Beach, as floodplain administrators, should ensure that floodplains are properly identified and that structures are designed in conformance with local floodplain ordinances, and Federal Emergency Management Agency (FEMA) regulations.

7. All work within or adjacent to any OCFCD right-of-way for flood control facilities including the channels, retarding basins, and pump stations shall be conducted so as not to adversely impact the structural integrity, hydraulic flow conditions, access and maintainability. Furthermore, all proposed projects within OCFCD right-of-way should be reviewed and approved by OC Public Works. All concepts should be approved by OC Public Works prior to application for an encroachment permit. Work should be conducted only after an encroachment permit has been obtained. For information regarding the permit application process and other details please refer to the Encroachment Permits Section link on OC Public Works' website http://www.ocpublicworks.com/ds/permits/encroachment_permits. Technical reviews and approvals for the proposed work will be accomplished within the permit process.

OCPW-6

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Comment Letter OCPW

ORANGE COUNTY
OC Public Works

OCPW-7 If you have any questions regarding these comments, please contact Sahar Parsi at (714) 647-3988 or Penny Lew at (714) 647-3990 in OC Flood Programs/Floodplain Management or Steven Giang at (714) 667-8816 in OC Development Services.

Sincerely,

Richard Vuong, Interim Deputy Director
OC Public Works Service Area/OC Development Services
601 North Ross Street
Santa Ana, California 92701
Richard.Vuong@ocpw.ocgov.com

cc: Sahar Parsi, OC Flood Programs/Floodplain Management
Penny Lew, OC Flood Programs/Floodplain Management

Comment Letter OCPW

OCPW-8

From:	Giang, Steven
To:	Sally Gee
Cc:	Salazar, Cindy; Chang, Joanna; Parsi, Sahar; Lew, Penny
Subject:	County of Orange Comments for Draft Program EIR for the LCWA Restoration Plan (SCH#2019039050)
Date:	Monday, June 22, 2020 3:18:45 PM
Attachments:	County of Orange Comment Letter for NCL-20-0004.pdf

Hi Sally,

Thank you for the opportunity to provide public comment. We reviewed the project and have provided the attached signed letter from Development Services.

Please let me know if you have any questions or clarifications.

Thanks,

Steven Giang, Associate Planner
OC Public Works | Development Services
601 N. Ross Street, Santa Ana, CA 92701| (714) 667-8816

Orange County Public Works, June 22, 2020

Comment Letter OCPW

Response OCPW-1

The commenter acknowledges receipt of the Draft PEIR. Specific comments regarding the Draft PEIR are provided and responded to below.

Response OCPW-2

The commenter notes that the impacts of the project on the Orange County Flood Control Facilities, including the Los Alamitos Pump Station and Retarding Basin, are not discussed. At this stage in the design, it has not been determined how management of the Los Alamitos Retarding Basin might be changed to increase the habitat value of the area. Restoration of this area would not begin until a project-level design is developed in coordination with OCFCD, and permits and subsequent CEQA clearance documents are acquired that would evaluate project-level impacts on the Orange County Flood Control Facilities.

Response OCPW-3

The commenter suggests that four Orange County Flood Control District (OCFCD) facilities should be identified on a map and that impacts to these facilities should be evaluated. These facilities include the Los Alamitos Channel, the Federal Storm Channel, the Los Alamitos Retarding Basin, and the Los Alamitos Pump Station. **Figure 2-2**, *Program Area and Local Vicinity*, of the Draft PEIR, shows the location of the latter two facilities. In response to this comment, the map has been updated to include the two former facilities. Additionally, text has been added to Chapter 2 Project Description, Section 2.3.2.1 South Area, of the Draft PEIR to reference the two channels and the map: "The Los Alamitos Retarding Basin site is a 30-acre depressed basin surrounded by an earthen berm and access road that receives stormwater runoff and other drainage from a 3,600-acre area in the City of Seal Beach, including from the Los Alamitos Channel and the Federal Storm Channel (Figure 2-2)."

As explained in Response to Comment No. OCPW-2, the details of how the management of the Los Alamitos Retarding Basin might be changed to increase habitat value will be determined as part of project-level design including implications regarding the effect of the design on the four OCFCD facilities.

Response OCPW-4

The commenter recommends that the proposed program should not worsen existing conditions or shift flooding problems and that appropriate mitigation measures should be provided to address adverse impacts. Impact HYD-3b discusses the results of the hydrodynamic modeling regarding potential flooding and concludes the impact is less than significant. For any areas, including the Los Alamitos Retarding Basin, where flood modeling was not conducted, the project-level CEQA clearance document would require additional hydrology and hydraulic analyses to analyze impacts. As explained in Response to Comment No. OCPW-2, the details of how the management of the Los Alamitos Retarding Basin might be changed to increase habitat value have not been determined at this point. Once the project details have been developed, hydrologic

and hydraulic analyses would be conducted to evaluate any changes to runoff volumes, peak flow rates, and the adequacy and capacity of existing drainage facilities, as recommended by the comment. All appropriate studies would conform to the guidelines specified in the Orange County Hydrology Manual and the OCFCD Design Manual, as recommended by the commenter.

Response OCPW-5

The commenter notes that the City of Seal Beach will need to review and approve all local hydrology and hydraulic analyses and will need to ensure that floodplains are properly identified, and structures are in conformance with local floodplain ordinances and FEMA regulations. Before restoration can be implemented, each individual project within the city of Seal Beach will need to acquire permits and approvals from the City of Seal Beach, including a site plan review, grading permit, building permit, and encroachment permit. During the permitting process, the City would have the opportunity to review and approve all hydrology and hydraulic analyses and ensure conformance with local and federal regulations.

Response OCPW-6

The commenter notes that any work within or adjacent to any OCFCD right-of-way will need to be reviewed and approved by Orange County Public Works prior to application for an encroachment permit. As noted in Chapter 2 Project Description, Section 2.8 Required Approvals, "LCWA will work closely with all of the approving agencies to maintain communication and coordination throughout the implementation of program activities and receipt of the various permits/approvals."

Response OCPW-7

The commenter provides contact information and is noted for the record.

Response OCPW-8

Responses to the referenced letter are provided above in Responses to Comments Nos. OCPW-1 through OCPW-7.

Comment Letter SARWB

CALIFORNIA Water Boards

GAVIN NEWSOM GOVERNOR

JARED BLUMENFELD SECRETARY FOR ENVIRONMENTAL PROTECTION

Santa Ana Regional Water Quality Control Board

June 22, 2020

Sally Gee
Los Cerritos Wetlands Authority
100 N. Old San Gabriel Canyon Rd.
Azusa, CA 91702
sgee@rms.ca.gov

DRAFT PROGRAM ENVIRONMENAL IMPACT REPORT, LOS CERRITOS WETLANDS RESTORATION PLAN, SCH#

Dear Ms. Gee

Staff of the Regional Water Quality Control Board, Santa Ana Region (Regional Board) have reviewed the Draft Program Environmental Impact Report (DPEIR) for the proposed Los Cerritos Wetlands Restoration Plan (Project).

SARWB-1

The proposed Project would restore wetland, transitional, and upland habitats throughout the program area. This would involve remediation of contaminated soil, grading, revegetation, construction of new public access opportunities (including trails, visitor centers, parking lots, and viewpoints), construction of flood management facilities (including earthen levees, berms, and walls), and modification of existing infrastructure and utilities.

The Regional Board commends the Los Cerritos Wetlands Authority for this ambitious and worthwhile restoration program, which will be a significant step toward restoring the ecological functions of the Southern California coast.

The following comments are presented by the Santa Ana Regional Board and incorporates input from staff of the Los Angeles Regional Board and the State Water Resources Control Board (State Water Board). We believe that the PEIR should incorporate the following comments in order for the project to best protect water quality standards (water quality objectives and beneficial uses) contained in the Water Quality Control Plan for the Santa Ana River Basin (Region 8 Basin Plan) and Los Angeles Basin (Region 4 Basin Plan):

GENERAL COMMENTS

SARWB-1 cont.

Note: In the following comments, when revisions to the text of the Draft PEIR are suggested, suggested deleted text is ~~struck through~~, suggested new text is in **bold underlined text**. Comments are arranged by PEIR section and numbered for convenient reference.

Note: Staff suggests that the final EIR be produced using ADA compliant font sizes, and that the final document be checked for ADA compliance before publication.

SARWB-2

1. Identify and Recognize Regional Water Board Boundaries: Throughout the Draft Programmatic Environmental Impact Report (Draft PEIR), only the Los Angeles RWQCB is mentioned as a regulating agency. The Los Cerritos Wetlands Restoration Plan area lies on the boundary of two water quality control regions: Los Angeles and Santa Ana. Areas in Orange County (city of Seal Beach) are in the Santa Ana RWQCB region while areas in Los Angeles County (city of Long Beach) are in the Los Angeles RWQCB region.

The South LCWA Site, State Land Parcel Site and a majority of the Hellman Retained Site and Los Alamitos Retarding Basin Site are within the Santa Ana Regional boundaries.

All sections of the PEIR should be revised to show this regulatory context. An example of possible rewording for this is provided in comments for section 3.8, below. Similar consideration should be provided for all Chapters of the DEIR that refer to the Water Boards' authorities.

SARWB-2 Cont.

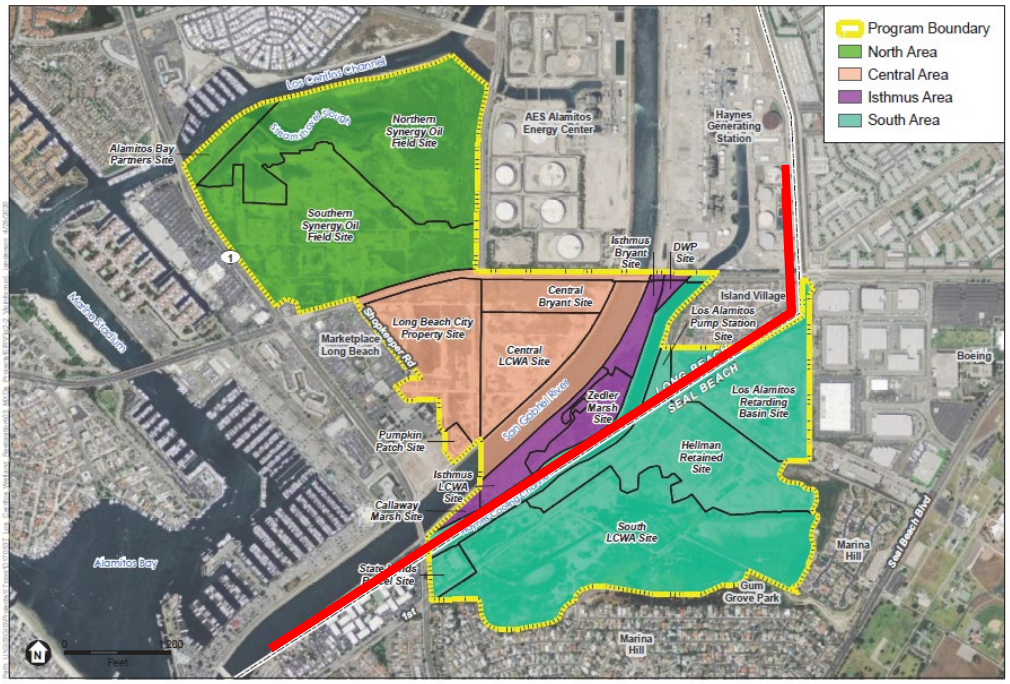


Figure 1: Approximate RWQCB Boundary – Red Line (L.A. to North, Santa Ana to south)

DEIR CHAPTER 3.3 BIOLOGICAL RESOURCES and APPENDIX C

2. Section 3.3.2.1: The presentation of Literature Review and Field Surveys, and Appendix C, describe biological surveys and delineation work that has been done in the project area. Detailed surveys of animal habitats and vegetation species and communities are reported. However, staff notes that no assessment using a Functional Condition Assessment Method (FCAM) as defined by the Corps of Engineers is reported. No assessment of overall wetland condition or function is described.

SARWB-3

However, Mitigation Measure BIO-11, which would require preparation and implementation of a *Monitoring and Adaptive Management Plan* (MAMP), does prescribe the development and implementation of a monitoring plan that would monitor the "functional wetland values" of the project area.

The measures proposed in MM BIO-11 should be made a factor in the discussions provided in Chapters 3 and 8. This MM should specifically require that each ecological restoration goal should be clearly associated with performance measures that would show achievement of the goal, and those in turn should be associated with monitoring methods that are capable of quantifying achievement of each performance should be proposed.

Staff recommends that the monitoring framework provided by the California Wetland Monitoring Workgroup be specifically cited as guidance on the development of the final

SARWB-3 Cont.

monitoring plan, to help ensure that statewide and regional monitoring needs and goals are met along with the goals within the project itself: (https://mywaterquality.ca.gov/monitoring_council/wetland_workgroup/wramp/index.html).

SARWB-4

3. Section 3.3.3.2-5: Section 3.3.3.2 omits discussion of the Porter-Cologne Water Quality Control Act. Regulatory authority over this project by the State and Regional Water Boards is much more extensive than the enforcement of section 401 of the Clean Water Act (CWA), and should be fully presented.

SARWB-5

4. Section 3.3.2.9: In section 3.3.2.9, eelgrass (*Zostera* spp) is identified as being present in Essential Fish Habitat in the project area. Eelgrass is an important food source and provides nursery habitat for juvenile fish and invertebrates. The PEIR does not discuss the potential impact on eelgrass in the submerged marine and estuarine environments in the project area. The discharge of dredged or fill material can bury aquatic vegetation or create unsuitable conditions in a variety of ways, as described in the CWA Section 404(b)(1) Guidelines. Section 3.3.2.3 of the PEIR describes the wetland alliances and land-cover types found within the project area but specifically excludes eelgrass from the mapping. We recommend documenting the extent of eelgrass within, adjacent to, and downstream of the project area, so as to avoid and minimize impact to eelgrass habitat to the maximum practical extent. Where impact is unavoidable, in-kind mitigation is the preferred option.

SARWB-6

5. Section 3.3.5: Section 3.3.5 describes Impact BIO-3, (p. 3.3-113), which would include effects on state or federally protected wetlands. Mitigation Measure BIO-11 (as discussed above) and other measures are presented that would serve to avoid and minimize this impact. MM BIO-11 requires that an adaptive management plan be incorporated in the required Monitoring and Adaptive Management Plan (MAMP). See comments above for MM BIO-11.

SARWB-7

6. Table 3.3-5: Table 3.3-5 (p. 3.3-38) of the PEIR identifies the Pacific green sea turtle, *Chelonia mydas*, as a special-status wildlife species that is present in the project area: it is a resident in the San Gabriel River in the Central Area, and has been documented in the Haynes Cooling Channel in the South Area and in Steamshovel Slough upstream of the North Area. We recommend consultation with the National Marine Fisheries Service Office of Protected Resources regarding the east Pacific Distinct Population Segment of green sea turtles. Additionally, although west coast critical habitat has not yet been designated for this species, this may change during the course of the project.

DEIR CHAPTER 3.8 -- HYDROLOGY

SARWB-8

7. Beneficial Uses: The Santa Ana RWQCB Basin Plan includes the Los Cerritos Wetlands with designated beneficial uses: Water Contact Recreation (REC1), Non-Water Contact Water Recreation (REC2), Preservation of Biological Habitats of Special Significance (BIOL), Wildlife Habitat (WILD), Rare, Threatened or Endangered Species

SARWB-8 Cont. (RARE), Spawning, Reproduction and Development (SPWN), Marine Habitat (MAR), and Estuarine Habitat (EST).

8. Section 3.8.3.1 (p. 3.8-14): Please consider the following suggested rewording for the text describing Clean Water Act section 401:

Federal CWA Section 401 requires that any person applying for a federal permit or license that may result in the discharges of dredged or fill material or pollutants (including sediment) into waters of the United States must obtain a state **water quality** standards certification **(WQC)** that the activity complies with all applicable **state** water quality standards, limitations, and restrictions. In California, this certification is **typically** administered by the **Regional Water Quality Control Boards (RWQCBs). For all applications for WQC received by the Water Boards after May 29, 2020, the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State must be implemented. For guidance on the application process see:**

SARWB-9 **https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/procedurs_conformed.pdf).** ~~SWRCB via the local RWQCB~~. No license or permit may be granted by a federal agency until certification **as** required by Section 401 has been granted. Further, no license or permit may be issued if certification has been denied. ~~An entity seeking a Section 401 water quality certification typically must obtain a CWA Section 404 permit from USACE. This certification ensures that the proposed activity does not violate state or federal water quality standards.~~ **The Los Cerritos Wetlands Restoration Plan area lies on the boundary between two water quality control regions, Santa Ana and Los Angeles, and therefore the State Water Resources Control Board may be designated as the permitting authority for issuance of some or all of the WQCs that may be needed for the projects to be conducted under this PEIR.**

9. Wetland Definition: In the discussion of CWA sec. 404 (p. 3.8-16, pdf p. 16), please consider the suggested rewording shown below, using the CWA wetland definition:

Under the CWA, Wetlands are SARWB-10 ***"areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions."*** ~~"generally considered to be areas that are periodically or permanently inundated by surface water or groundwater, and support vegetation adapted to life in saturated soil.~~ ... Technical standards for delineating wetlands have been developed by the USACE, which ~~generally~~ defines wetlands through consideration of three criteria: hydrology, soils and vegetation.

10. Section 3.8.3.2: For the discussion of Porter-Cologne (p. 3.8-16, pdf p. 17), please consider the following suggested rewording:

SARWB-11 The Porter-Cologne Water Quality Control Act (California Water Code Sections 13000–16104) (Porter-Cologne Act) provides the basis for water quality regulation within California and defines water quality objectives as the limits or levels of water constituents that are established for reasonable protection of beneficial uses. **Porter-**

Cologne is administered by the State Water Resources Control Board (State Water Board) and nine Regional Water Quality Control Boards (RWQCBs), collectively referred to as the Water Boards. ~~The State Water Board SWRCB administers water rights, water pollution control, and water quality functions throughout the state, while the local **regional** water boards (in this case, LARWQCB) conducts planning, permitting, and enforcement activities.~~ **The State Water Board sets statewide water quality standards, issues statewide general permits, conducts statewide surface and groundwater monitoring and assessment, administers water rights, regulates drinking water supplies, and issues orders for cleaning up contaminated sites.**

SARWB-11 Cont.

The nine semi-autonomous Regional Water Boards are responsible for setting water quality standards and objectives, issuing waste discharge requirements, determining compliance with those requirements, and taking appropriate enforcement actions. Each Water Quality Control Region is regulated through a Water Quality Control Plan, or "Basin Plan," which is updated every three years. The Basin Plans contain the regulations adopted by the Regional Water Boards to control the discharge of waste and other controllable factors affecting the quality or quantity of waters of the state.

The Los Cerritos Wetlands Restoration Plan area lies on the boundary of two water quality control regions: Los Angeles and Santa Ana.

[suggest adding a paragraph break here] The Porter-Cologne Act requires the ~~LARWQCB~~ **Regional Water Boards** to establish water quality objectives, while acknowledging that water quality may be changed to some degree without unreasonably affecting beneficial uses.

SARWB-12

11. Figure 2-2: Please revise the map in Figure 2-2, Section 2, to show Water Quality Control Region boundaries as illustrated in Figure 1 above.

Program impacts and mitigation

12. Section 3.8.5, Impact HYD-1 (P. 3.8-29, PDF P. 29): Impact HYD-1 states: *The proposed program would result in a significant impact if the proposed program would violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.*

SARWB-13

In the discussion of construction impacts for Impact HYD-1 that follows, it is stated: *"For work in the channel, the proposed program also would be required to comply with a Section 401 Water Quality Certification. Excavation of the channels in the Central and South Areas may extend below the water table and could require temporary dewatering."* Is it anticipated that channel excavation will be the only part of the Program activity that would require a WQC? If so, then that should be clearly stated; if not, then additional information on channel work should be provided.

13. Section 3.8.5, Impact HYD-1 (continued): The discussion of HYD-1 also states: "*All excavation dewatering would be conducted in accordance with the General*

Construction Permit, which ensures discharge water would not be discharged in such a way as to result in direct or indirect degradation of surface water in the San Gabriel River, Los Cerritos Channel, or Alamitos Bay."

SARWB-14

For the Santa Ana Water Board region construction dewatering discharges, including temporary stream diversions necessary to carry out the Project, are subject to regulation by Regional Water Board Order No. R8 2015-0004, General Waste Discharge Requirements for Discharges to Surface Waters that Pose an Insignificant (De Minimis) Threat to Water Quality. For more information, please review Order No. R8-2015-0004 at: http://www.waterboards.ca.gov/santaana/board_decisions/adopted_orders/orders/2015_orders.shtml.

14. Section 3.8.5, Mitigation Measure HYD-1: Mitigation Measure HYD-1 includes this requirement: "*A Monitoring and Adaptive Management Plan (MAMP) shall be prepared and implemented prior to commencement of construction or restoration activities. The MAMP shall provide a framework for monitoring site conditions in response to the program implementation. The monitoring shall focus on sediment quality in areas subject to the greatest deposition from storm events*..." Is a separate MAMP to be provided for monitoring to document achievement of other ecological goals besides sediment?

SARWB-15

This MM requires monitoring for sediment impacts but does not provide any mechanism to require remediation of impacts once detected. Thus, this MM does not reduce the potential impact at all. The finding of "LTSWM" is inappropriate. A finding of LTSWM could be made if a MM were presented that required action to remediate sediment impacts detected through actions taken under MM HYD-1.

15. IMPACT HYD-2: The discussion of Impact HYD-1 describes potential groundwater impacts due to construction (which would be temporary) and due to installation of new infrastructure (which would be permanent). No mention is made of the effect on groundwater that might occur as a result of the ecological restoration work itself. Would the restored areas increase groundwater recharge, decrease recharge, or have no effect? We do not know based on the information provided here. As a result, the finding of Less Than Significant is not supported by the information provided in the Draft EIR.

SARWB-16

16. Section 3.8.5, IMPACT HYD-3a (p. 3.8-33, pdf p. 33, Construction Impacts): The discussion of Impact HYD-3a dwells more on actions that are presumed to minimize or avoid impacts due to alteration of drainage patterns of stream courses, or addition of impervious surfaces during construction, than in a description of the potential impact itself. A description of the potential impact is needed.

SARWB-17

17. Section 3.8.5, Construction Impact Minimization and Avoidance: The proposed minimization and avoidance measures for Construction-related impacts rely primarily on

SARWB-18 obtaining permits ("*Compliance with the General Construction Permit, MS4 Permit, and 401 Certification would ensure that the proposed activities would include adequate stormwater protection through BMPs and monitoring, to limit increased turbidity and decreased water quality from sediment and other pollutants leaving the construction site*.") and promising to comply with those permits. Known applicant proposed measures for avoidance and minimization of construction impacts should be included here.

SARWB-19 **18. Section 3.8.5, Impact HYD-3a (substantial erosion or siltation on- or off-site), Operation Impacts:** For sediment movement, it is stated that project design features are expected to minimize or avoid this potential impact, and that project monitoring would be conducted as proposed in MM HYD-1 to detect if any unexpected and unwanted effects are occurring. However, as with Impact HYD-1, no provision is included that would require action to remediate those impacts if or when they are detected. Without a requirement to take action on detected sediment impacts, the finding of LTS for Impact HYD-3a is not supported by the information provided. Staff notes that the rationale provided for this finding for Impact HYD-3c may be sufficient to address this concern, if applied here.

SARWB-20 **19. Section 3.8.5, Impact HYD-3b (Increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site):** Reliance on MS4 permit conditions is the only mitigation measure proposed here. No mention of design features, etc. is provided. Features/BMPs/Practices that might be implemented to comply with the permits should be described, to provide more detail on the avoidance and minimization measures that would be implemented.

SARWB-21 **20. Section 3.8.5, Figure 3.8-4:** Figure 3.8-4 provides two graphs. The top graph shows the relative elevations of the existing SGR thalweg and levees in relation to existing and predicted 100-year flood elevations. The bottom graph illustrates "Level Due to the Program (ft.)," shown as a red line. Is this the change in 100-year flood level expected due to the project? If so, consider changing the label on the Y axis of the graph to "Change in 100-year Flood Elevation Due to the Program (ft.)." If not, please clarify.

SARWB-22 **21. Section 3.8.5, Impact HYD-3c (create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff):** Impact HYD-3c refers to measures/BMPs that would be installed to comply with permits. More emphasis on these design elements and less on reliance on permits would be more informative here, and would provide more detail on the avoidance and minimization measures that would be implemented.

22. Section 3.13.3.2 (Recreation): Section 3.13.3.2 states: "There are no generally applicable state laws, regulations, plans, or standards governing recreational facilities that are relevant to the proposed program." It should be noted that contact and non-contact water-based recreation (REC1 and REC2) is identified as a beneficial use of

SARWB-23 waters of the state in all basin plans for all water quality control regions in California. As such, protection of that beneficial use is a requirement under those basin plans While the proposed project would arguably provide great benefit as a newly developed water based education and recreation facility, the context of the basin plan's beneficial uses served by those facilities should be described.

SARWB-24 **In conclusion:** Water Boards staff look forward to continued work with the Authority in the development of the Los Cerritos Wetlands Restoration Plan and it's several constituent projects.

Thank you for your consideration of these comments. If you have any questions, please contact David Woelfel at David.Woelfel@waterboards.ca.gov, Celine Gallon at Celine.Gallon@waterboards.ca.gov or Cliff Harvey at Cliff.Harvey@waterboards.ca.gov.

Sincerely,

David Woelfel
Senior Environmental Scientist
Regional Planning Programs Section
Santa Ana Regional Water Quality Control Board

State Clearinghouse state.clearinghouse@opr.ca.gov
U.S. Army Corps of Engineers, Los Angeles – Gerado Salas – Gerardo.Salas@uasce.army.mil
U.S. Environmental Protection Agency – Melissa Scianni – Scianni.Melissa@epa.gov
California Coastal Commission - Kate Huckelbridge – kate.huckelbridge@coastal.ca.gov
U.S. Fish and Wildlife Service – Christine Medak – Christine_medak@fws.gov
California Department of Fish and Wildlife – Jennifer Turner – Jennifer.Turner@wildlife.ca.gov
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Los Angeles RWQCB – Celine Gallon – Celine.Gallon@waterboards.ca.gov
State Water Resources Control Board – Jessica Nadolski - Jessica.Nadolski@waterboards.ca.gov
State Water Resources Control Board – Cliff Harvey – Cliff.Harvey@waterboards.ca.gov

SAWRB-25

From: WB-RB8-RWQCB8
To: Sally Gee
Subject: LCW-Draft_EIR Comment Letter
Date: Tuesday, June 23, 2020 12:22:28 PM
Attachments: CEQA.pdf

You have been designated to receive a copy of the attached document.

In an effort to improve efficiency the Santa Ana Regional Water Quality Control Board no longer mails paper copies to those designated to receive copies (cc's) of letters and other documents; these are transmitted through email only.

All large attachments and other documents (such as tentative and adopted orders), will be posted on our website and not attached to this e-mail notification. To access these documents, please see our website at http://www.waterboards.ca.gov/santaana.

Document(s) can be viewed using Adobe Acrobat Reader. The free reader can be downloaded from www.adobe.com or from our web site.

If you have any questions or have received this email in error, please reply to this email or contact us at the phone number below.

Thank you

==========

Santa Ana Regional Water Quality Control Board
3737 Main Street, Suite 500
Riverside, CA 92501
Phone: 951-782-4130
FAX: 951-781-6288
Web: www.waterboards.ca.gov/santaana

Santa Ana Regional Water Quality Control Board, June 23, 2020

Comment Letter SARWB

Response SARWB-1

The commenter acknowledges receipt of the Draft PEIR by the Santa Ana Regional Water Quality Control Board. Specific comments regarding the Draft PEIR are provided and responded to below.

The commenter provides a summary of the proposed program and does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response SARWB-2

The commenter requests that the PEIR be revised to show the regulatory boundary between the two RWQCB agencies with jurisdiction within the program boundary and does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted. This line is clearly indicated by the County boundary already shown on **Figure 2-2**, *Program Area and Local Vicinity*, of the Draft PEIR.

Response SARWB-3

The commenter notes that no assessment of existing wetlands using a Functional Condition Assessment Method (FCAM) as defined by the Corps of Engineers is reported in the PEIR and that no assessment of overall wetland condition or function is described. The comment states that Mitigation Measure BIO11, which requires the preparation and implementation of a Monitoring and Adaptive Management Plan (MAMP), does prescribe the development and implementation of a monitoring plan that would monitor the "functional wetland values" of the project area. The measures proposed in Mitigation Measure BIO11 should be made a factor in the discussions provided in Chapter 3, Environmental Setting and Chapter 8, Responses to Comments. This Mitigation Measure should specifically require that each ecological restoration goal should be clearly associated with performance measures that would show achievement of the goal, and those in turn should be associated with monitoring methods that are capable of quantifying achievement of each performance should be proposed. Staff recommends that the monitoring framework provided by the California Wetland Monitoring Workgroup be specifically cited as guidance on the development of the final monitoring plan, to help ensure that statewide and regional monitoring needs and goals are met along with the goals within the project itself: (https://mywaterquality.ca.gov/monitoring_council/wetland_workgroup/wramp/index.html).

As indicated in Mitigation Measure BIO11, the MAMP shall include provisions for conducting a pre-construction survey to collect baseline data for existing wetland function and shall require that monitoring focus on the functional wetland values. Specifically, as stated. the MAMP shall identify habitat functions, such as biotic structure and hydrology, that shall be monitored as part of the proposed program's monitoring and reporting requirements. The MAMP shall require that the findings of the monitoring efforts be used to identify any source of functional loss of wetlands and water quality impairment, and if discovered, provide measures to improve wetland function and for remediation of the sediment source area(s). Upon completion of restoration activities, the

proposed program shall demonstrate a no net loss of aquatic resource functions and demonstrate an increase in wetland functions and values throughout the entire site. Lastly, the MAMP will be submitted for review and approval to responsible permitting agencies prior to commencement of construction or restoration activities at which time the framework will be verified, and the California Wetland Monitoring Workgroup may be cited, as necessary.

Response SARWB-4

The commenter states that Chapter 3.4 Biological Resources, Section 3.3.3.2, of the Draft PEIR omits discussion of the Porter-Cologne Water Quality Control Act. Regulatory authority over this project by the State and Regional Water Boards is much more extensive than the enforcement of Section 401 of the Clean Water Act (CWA), and should be fully presented. A summary of the Porter-Cologne Water Quality Control Act has been added to Section 3.3.3.2.

Response SARWB-5

The commenter recommends documenting the extent of eelgrass within, adjacent to, and downstream of the project area. See Response to Comment Nos. CDFW-2 and CDFW-3. Eelgrass surveys will be conducted as part of project-level analyses in similar fashion to other sensitive species and habitat types.

Response SARWB-6

See Response to Comment No. SARWB-3

Response SARWB-7

The commenter recommends consultation with National Marine Fisheries Service regarding the Pacific Green Sea Turtle. The LCWA has been collaborating with NMFS staff on sea turtle monitoring for over a decade. The LCWA collaborated with NMFS and the Aquarium of the Pacific to design the Southern California Sea Turtle Monitoring Project which is a program that is coordinated through the LCWA's Stewardship Program. The LCWA intends to maintain this collaboration and consult with their partners on the how data produced by this monitoring program can inform future project-level design efforts.

Response SARWB-8

The commenter provides the beneficial uses identified by SARWQCB for the Los Cerritos Wetlands but does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response SARWB-9

The commenter suggests revisions to the text describing Clean Water Act Section 401 in Chapter 3.8, Hydrology and Water Quality, Section 3.8.3.1, of the Draft PEIR. Section 3.8.3.1 has been modified accordingly.

Response SARWB-10

The commenter suggests rewording the CWA wetland definition in Chapter 3.8 Hydrology and Water Quality, of the Draft PEIR. The CWA wetland definition in Section 3.8.3.1 has been modified accordingly.

Response SARWB-11

The commenter suggests revisions to the text describing Porter-Cologne Act in Chapter 3.8 Hydrology and Water Quality, Section 3.8.3.2, of the PEIR. Section 3.8.3.2 has been modified accordingly.

Response SARWB-12

The commenter requests that Figure 2-2 show Water Quality Control Region boundaries and does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted. This line is clearly indicated by the County boundary already show on **Figure 2-2**, *Program Area and Local Vicinity*, of the Draft PEIR.

Response SARWB-13

The commenter asks whether channel excavation will be the only part of the program activity that would require a water quality certification (WQC). It is not known whether other activities would require a WQC at this time. As part of individual restoration projects subsequent to the certification of this PEIR, LCWA will work with the Santa Ana RWQCB to determine whether there are additional construction activities that would trigger a WQC, and will provide any additional information as warranted.

Response SARWB-14

The commenter notes that aspects of the program may be subject to regulation by the General Waste Discharge Requirements for Discharges to Surface Waters that Pose an Insignificant (De Minimis) Threat to Water Quality. In response to the commenters request, text was added for Impact HYD-1 in Chapter 3.8 Hydrology and Water Quality, Section 3.8.5 Program Impacts and Mitigation Measures, of the Draft PEIR.

Response SARWB-15

The commenter notes that Mitigation Measure HYD1 does not provide a mechanism to require remediation of impacts if they are detected. A Draft Monitoring and Adaptive Management Plan (MAMP) Framework has been added as Appendix B of the Final EIR to further layout the steps that would be taken if impacts were detected through monitoring. The MAMP provides the monitoring to be conducted and the required action to remediate sediment impacts if detected. Text has been added in Mitigation Measure HYD1 in Chapter 3.8 Hydrology and Water Quality, Section 3.8.5 Program Impacts and Mitigation Measures, of the Draft PEIR to reference the Draft Outline MAMP. The commenter also asked if a separate MAMP would be prepared for ecological goals. See Mitigation Measure BIO11 in Chapter 3.3 Biological Resources, Section 3.3.5, which describes the MAMP for ecological goals.

Response SARWB-16

The commenter notes that the document does not mention the effect on groundwater that might occur as a result of the ecological restoration work. Under Impact HYD2 in Chapter 3.8 Hydrology and Water Quality, Section 3.8.5 Program Impacts and Mitigation Measures, of the Draft PEIR, the text includes: "the proposed program would largely remain pervious with restoration and provide large areas of groundwater recharge." Text has been added following this sentence to clarify: "Other than the public access elements, Visitor Center, and parking areas, the restoration would not increase or decrease recharge to the groundwater basin because no substantial areas of pervious surface are being added or removed." Additionally, as noted under Impact HYD2, the "...shallow groundwater beneath the study area is brackish and not a source of public water supply." Under existing conditions, the program areas are influenced by saline waters. The program would not change this.

Response SARWB-17

The commenter notes that the discussion of Construction Impacts under Impact HYD-3a does not include a description of the potential impact. Section 3.8.5 Project Impacts and Mitigation Measures, Impact HYD-3a has been revised to include a description of the potential impact.

Response SARWB-18

The commenter notes that the proposed minimization and avoidance measures for construction-related impacts in the hydrology section relies primarily on obtaining permits and complying with those permits. The commenter suggests including proposed measures for avoidance and minimization of construction impacts. The general approach to the construction, remediation, and restoration measures that would be included in the proposed program are described more fully in Chapter 2 Project Description, Section 2.7 Program Characteristics, of the Draft PEIR. Specific measures for avoidance and minimization of construction impacts will be developed at the project level as the restoration design is further progressed. However, adherence to the required permits as described in the Hydrology section would be considered sufficient to reduce potential impacts to less than significant.

Response SARWB-19

The commenter notes that Mitigation Measure HYD1 does not provide a mechanism to require remediation of sediment movement impacts if they are detected. See Response to Comment No. SARWB-15.

Response SARWB-20

The commenter notes that the proposed minimization and avoidance measures for Impact HYD3b relies primarily on obtaining an MS4 permit and complying with that permit. The commenter recommends describing the features/BMPs/practices that might be implemented to comply with the permits. As discussed under Impact HYD3b in Chapter 3.8 Hydrology and Water Quality, Section 3.8.5 Program Impacts and Mitigation Measures, of the Draft PEIR, the bioswales would be included along the edge of the Central and North Areas between the roads and the proposed levees. Chapter 2 Project Description, Section 2.7.4.3 Flood Risk and Stormwater Management includes the following: "With the construction of the proposed levees, storage volume for the

excess overflow drainage from the roads would be eliminated. Replacement stormwater storage volume would be provided by creating low areas (e.g., basins or swales) between the roads and the proposed levee. These storage basins or bioswales would be sized to accommodate the local area drainage. These basins would also function as water quality treatment measures for a portion of the runoff from the existing paved areas." Additionally, as discussed in Response to Comment No. SARWB-18, additional specific measures for avoidance and minimization of impacts will be developed at the project level as the restoration design is further progressed.

Response SARWB-21

The commenter asks if the y-axis of the bottom plot in **Figure 3.8-4**, *Modeled Water Levels during a 100-Year Storm Event along the San Gabriel River,* in the Draft PEIR shows the change in 100-year flood level expected due to the project. This is correct and the figure has been updated so that the y-axis label reads "Change in Water Level (ft)".

Response SARWB-22

Similar to Comment SARWB-20, the commenter notes that the proposed minimization and avoidance measures for Impact HYD3c relies primarily on obtaining and complying with permits. The commenter recommends describing the design elements that might be implemented to comply with the permits. See Response to Comment No. SARWB-20.

Response SARWB-23

The commenter notes that the Los Angeles Region Basin Plan identifies contact and non-contact water-based recreation (REC1 and REC2) as beneficial uses of waters of the state and that protection of those beneficial uses is required under the plan. The comment suggests including this context. Please refer to Chapter 3.13 Recreation, Section 3.13.3.3 Regulatory Framework for additions to the text.

Response SARWB-24

The commenter provides contact information and is noted for the record.

Response SARWB-25

Responses to the referenced letter are provided above in Responses to Comments Nos. SARWB-1 to SARWB-24.

Comment Letter LBC

From: Mouhsen Habib
To: Los Cerritos Wetlands; eric@tidalinfluence.com
Cc: Joshua Hickman; Eric Lopez
Subject: Re: Public Comment Period Extended for Draft Program Environmental Impact Report for the Los Cerritos Wetlands Restoration Plan
Date: Monday, June 29, 2020 9:56:33 PM
Importance: High

Hello Eric,

LBC-1 In reviewing the hydrodynamic modeling of the wetlands restoration alternatives presented in the Draft Programmatic EIR (DPEIR) leads suggestively to be based on the assumption that no pumping of water into the San Gabriel River from the Los Cerritos Channel or Haynes Cooling Channel will occur in the future once the power stations shut down to eliminate once-through-cooling. This assumption even if true, it might not be realized. I Would recommend to make sure that the DPEIR be revised to include the potential for future circulation pumping to cover the work we are currently pursuing with M&N at the AES power station. Ideally, the DPEIR will be revised in a way that preserves flexibility for the City to pursue future circulation pumping while not impacting the various wetlands restoration alternatives.

LBC-2 I wish you the best of luck and I am sorry for the late comments and feed back.

Best,

Mouhsen Habib
Program Manager

Public Works | Project Management Bureau
Mouhsen.Habib@longbeach.gov
Office: 562.570.5754 | Mobile: 949.433.5296

From: Los Cerritos Wetlands <lcwa@tidalinfluence.com>
Sent: Friday, June 12, 2020 5:36 PM
To: Mouhsen Habib <Mouhsen.Habib@longbeach.gov>
Subject: Public Comment Period Extended for Draft Program Environmental Impact Report for the Los Cerritos Wetlands Restoration Plan

-EXTERNAL-

City of Long Beach, June 29, 2020

Comment Letter LBC

Response LBC-1

The commenter suggests that the hydrodynamic modeling needs to consider a scenario in which pumping from the AES Alamitos Energy Center continues into the future to provide the City of Long Beach flexibility in pursuing future circulation pumping. The Hydrodynamic Modeling Technical Report (Appendix H) includes modeling scenarios where the pumping into the San Gabriel River from AES Alamitos Energy Center and the Haynes Generating Station are included and also scenarios where the pumping is turned off (*Section 2.5.1 Power Plant Inflow*). As described in Section 3.2.2 100-Year Storm Event\San Gabriel River of Appendix H, the model results show that water levels in the San Gabriel River decrease slightly when the pumping is not included in the model under existing conditions compared to when the pumping is included. When program conditions are compared to existing conditions (both with no pumping included), the model shows the program results in up to a 0.3-foot decrease in water levels in the river compared to existing conditions. If the pumping was included, water levels would be slightly higher under program conditions, but it is expected that the program would still lower water levels compared to existing conditions, since the restoration of the Central and South Areas provides additional water volume storage during the storm.

While the pumping would result in slightly higher water levels in the river than those presented in Section 3.2.2 100-Year Storm Event\San Gabriel River of Appendix H for both existing and program conditions, the program increases levee freeboard substantially from existing conditions. This means the flood risk would not increase with the program, even if the pumping continued into the future. The impacts of continued pumping from the Los Cerritos Channel on the hydrology of the North Area were not analyzed as part of this PEIR but are included in the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse No. 2016041083).

Response LBC-2

The commenter provides a general statement but does not raise any specific issues regarding the content and adequacy of the Draft PEIR. As such, no further response is warranted.

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Comment Letter CDFW

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
South Coast Region
3883 Ruffin Road
San Diego, CA 92123
(858) 467-4201
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

July 6, 2020

Ms. Sally Gee
Los Cerritos Wetlands Authority
100 N. Old San Gabriel Canyon Road
Azusa, CA 91702
sgee@rmc.ca.gov

Subject: Draft Program Environmental Impact Report for the Los Cerritos Wetlands Restoration Plan, SCH # 2019039050, Los Angeles County

Dear Ms. Gee:

The California Department of Fish and Wildlife (CDFW) has reviewed the above-referenced Draft Program Environmental Impact Report (DPEIR) for Los Cerritos Wetlands Restoration Plan (Program). The DPEIR's supporting documentation includes *Appendix C Biological Resources*.

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Program that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Program that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW-0

CDFW's Role

CDFW is California's Trustee Agency for fish and wildlife resources and holds those resources in trust by statute for all the people of the State [Fish & G. Code, §§ 711.7, subdivision (a) & 1802; Pub. Resources Code, § 21070; California Environmental Quality Act (CEQA) Guidelines, § 15386, subd. (a)]. CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (Id., § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect state fish and wildlife resources.

CDFW is also submitting comments as a Responsible Agency under CEQA (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code, including lake and streambed alteration regulatory authority (Fish & G. Code, § 1600 *et seq*.). Likewise, to the extent implementation of the Program as proposed may result in "take", as defined by State law, of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 *et seq.*), or CESA-listed rare plant pursuant to the Native Plant Protection Act (NPPA; Fish & G. Code, §1900 *et seq*.), CDFW recommends the Program proponent obtain appropriate authorization under the Fish and Game Code.

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Comment Letter CDFW

Program Location

CDFW-0 Cont.

The 503-acre Los Cerritos Wetlands Complex (LCWC) is located within the cities of Seal Beach (Orange County) and Long Beach (Los Angeles County). Three major channels are present in the LCWC: Los Cerritos Channel, San Gabriel River, and Haynes Cooling Channel. Steamshovel Slough, a remnant historic tidal channel, drains to the Los Cerritos Channel. The LCWC is managed under four main restoration Areas, North, Central, Isthmus, and South that are further divided into 17 smaller individual Areas.

Program Description and Objectives

LCWA previously developed a Los Cerritos Wetlands Final Conceptual Restoration Plan, which was adopted by the LCWA Board of Directors in August 2015. The Los Cerritos Wetlands Final Conceptual Restoration Plan identified three restoration designs and provided an alternative analyses report for habitat enhancement and improved public access.

The Los Cerritos Wetland Authority (LCWA) is proposing to implement a restoration program for the 503-acre LCWC. The Program would restore wetland, transition, and upland habitats throughout LCWC. This would involve remediation of contaminated soil and groundwater, grading, revegetation, construction of new public access opportunities (trails, visitor center, parking lots, and viewpoints), construction of flood management facilities (earthen levees, berms, and walls), and modification of existing infrastructure and utilities. Program objectives include restoring tidal wetland processes and functions, maximizing contiguous habitat areas, buffering human disturbance, and creating public access and an interpretive program.

Implementation of the Program will occur in phases to accommodate existing and future potential changes in land ownership and usage, and as funding becomes available. The restoration activities would be phased over time as properties become available for acquisition by LCWA. A sequence of construction and activities are planned for near-term (within the next 10 years), mid-term (10-20 years), and long-term (20 years or more). For oil operations that do not have agreements in place with LCWA, it is expected that overall level of oil and natural gas production would continue until oil operators decide to stop production.

Environmental documents

CDFW's review of the DPEIR evaluated additional biological resources information found in the following environmental documents: Los Cerritos Wetlands Oil Consolidation and Restoration Project (CRP) EIR (City of Long Beach 2017), CRP EIR Restoration Plan (Glenn Lukos Associates 2017), CRP EIR Biological Resources (Chapter 3.3) (Glenn Lukos Associates 2017), and Los Cerritos Wetlands Habitat Assessment Report (Tidal Influence 2012). These documents were referenced in the DPEIR and prepared for projects separate from this DPEIR.

COMMENTS AND RECOMMENDATIONS

CDFW provided prior comments to the LCWA in the April 17, 2019 letter addressing the Notice of Preparation. We advocated for clarification and further analysis regarding existing biological resources, proposed mitigation, mitigation banking, and mineral rights.

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Comment Letter CDFW

CDFW-0 Cont.

CDFW offers the comments and recommendations below to assist the LCWA in adequately identifying, avoiding, and/or mitigating the Program's significant, or potentially significant, direct, and indirect impacts on fish and wildlife (biological) resources. Additionally, CDFW recommends the measures or revisions below be included in a science-based monitoring program that contains adaptive management strategies as part of the Program's CEQA mitigation, monitoring and reporting program (Pub. Resources Code, § 21081.6 and CEQA Guidelines, § 15097).

SPECIFIC COMMENTS

CDFW-1

Comment #1 - Mitigation bank: The DPEIR should make clear, in text and planning maps, where the Northern Synergy Oil Field Site Mitigation Bank is located because it is part of the larger Program. CDFW shall negotiate the terms of the Mitigation Bank through the formal mitigation bank process; however, we encourage LCWA to minimize public access/anthropogenic disturbance within Mitigation Bank to the extent feasible.

Comment #2 - Species surveys: CDFW considers an environmental report as incomplete if species-specific surveys have not been performed, or additional surveys are necessary, as a basis for evaluating species presence/absence, identifying potential impacts, and proposing appropriate mitigation measures. Comment #3 recommends species-specific surveys still needed to complete the DPEIR.

The LCWA did not conduct surveys for sensitive plant and wildlife species prior to development of the DPEIR. The DPEIR proposes to conduct preconstruction surveys for sensitive wildlife and plant species such as bats and burrowing owls before implementing project-level activities under the Program. The use of preconstruction surveys without prior presence/absence surveys is not adequate for detection of CESA-listed and CEQA-rare species, per Fish and Game Code, section 2081 (b) and California Code of Regulations, sections 783.2-783.8. Additionally, the lack of species-specific surveys prevents full disclosure of potential Program-related impacts and prevents full analysis of those impacts in the DPEIR.

CDFW-2

CDFW recommends the LCWA use species-specific protocol surveys to determine 1) presence/absence of sensitive species with a potential to occur in the Program Area and, 2) baseline population metrics (e.g., abundance, density, distribution) for sensitive species, both documented and could occur, in the Program Area. Focused surveys, conducted at the appropriate season and time of day when the sensitive species are active or otherwise identifiable, are recommended. Seasonal variations in species use of the Program Area should be addressed. CDFW generally considers biological field assessments for wildlife to be valid for a one-year period, and assessments for rare plants may be considered valid for a period of up to three years. Surveys should follow accepted scientific protocol and should be conducted by a qualified biologist, botanist, or species specialist with the appropriate experience.

CDFW recommends the LCWA conduct additional surveys, disclose results, (including negative findings), and recirculate the DPEIR so CDFW may review and provide meaningful avoidance, minimization, and mitigation measures. The Final Environmental document should include full analysis of impacts to the species listed under Comment #3 and proposed species-specific avoidance measures, and mitigation if impacts cannot be voided.

Comment #3 - Wildlife: CDFW recommends the LCWA conduct additional baseline surveys and further evaluate impacts to the following species and their habitat.

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Comment Letter CDFW

CDFW-3

Bats: The DPEIR states there are palm trees in all four Areas that may provide suitable bat roosting habitat for Western mastiff bat (*Eumops perotis*) and Western yellow bat (*Lasiurus xanthinus*). A review of CNDDB found one record of big free-tailed bat (*Nyctinomops macrotis*) 5 miles from the Program Area. Big free-tailed bats may roost in holes in trees and buildings and forage over water sources for moths and other insects (Harris 2002). The conceptual design for restoring each Area suggests most of the trees will be removed to restore wetlands, therefore, if bats are using trees, there may be significant impacts. CDFW recommends a species-specific survey at the appropriate season and time of day to document any daytime, nighttime, and maternity roosting sites. Surveys should include acoustic recognition technology to maximize detection of bats.

Belding's savannah sparrow (Belding's sparrow): Belding's sparrows (*Passerculus sandwichensis beldingi*) are ecologically associated with dense pickleweed (*Salicornia* sp.), within which most nests are found (Zembal et al. 2006). Pickleweed occurs in all four Areas and much of this habitat may be impacted by landscape-level grading, excavating, and recontouring. This would reduce breeding habitat for Belding's sparrow until pickleweed reestablishes in restoration areas, which could take up to one to two years (Chapple and Dronova 2017; Mayer 1987). CDFW recommends the DPEIR include a discussion that evaluates, and a map that shows, where Belding's sparrow habitat could be avoided to the extent feasible, prioritizing areas of high nesting activity, and potentially implementing no-effect buffers around these areas. Preserving/avoiding only narrow bands of pickleweed near the transition zone is not a viable option because Belding's sparrow can be displaced from narrow bands of pickleweed by song sparrows (Zembal et al. 2006). In most instances, narrow habitat belts and edges near uplands and freshwater marsh are not occupied by Belding's sparrow (Zembal et al. 2006).

Belding's sparrow is CESA-listed; therefore, if direct or indirect impacts to Belding's sparrow cannot be avoided, an Incidental Take Permit (ITP) under CESA may to be necessary prior to Program activities. CDFW recommends modifying Mitigation Measure BIO-3 to include a statement acknowledging that an ITP may be needed. CDFW concurs with the LCWA that a Belding's sparrow habitat Mitigation, Maintenance and Monitoring Program should be prepared, and recommends a Mitigation, Maintenance, and Monitoring Program be provided as an appendix in the DPEIR for review and commenting (also see *General Comments - Relying on future plans not adequate*). CDFW may recommend mitigating impacts to pickleweed habitat more than 1:1 offered in the DPEIR upon review of a Belding's sparrow habitat Mitigation, Maintenance, and Monitoring Program.

Belding's sparrows are sensitive to pedestrian and vehicle traffic. At the LCWC, an approaching distance of 3 meters (m) and 2.8 m during the pre-nesting and nesting season, respectively, alerted Belding's sparrow to take flight (Fernandez-Juricic et al. 2009). Nest abandonment could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. CDFW recommends the LCWA reevaluate proposed location and alignment of trails, viewpoints, visitor centers, and parking areas to minimize public access/anthropogenic disturbance near Belding's sparrow habitat, prioritizing areas of high nesting activity. A minimum approaching distance of 63 meters and buffer areas of 1.3 hectares around Belding's sparrow is recommended (Fernandez-Juricic et al. 2009). Many of the proposed trails, and the Seal Beach Visitor's Center, are

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CDFW-3 Cont.

less than 63 meters from Belding's sparrow habitat.

Burrowing owl: Burrowing owls (*Athene cunicularia*) and wintering habitat have been observed at the Callaway Marsh Site. It is unclear if a recent species-specific survey was conducted to determine if burrowing owls and wintering habitat occur in additional Areas in the LCWC. CDFW recommends a species-specific survey and identification of wintering habitat. All survey efforts should be conducted prior to any Program activities that could result in habitat disturbance to soil, vegetation, or other sheltering habitat for burrowing owl. As a primary habitat need, burrowing owls use rodent burrows, and can also occupy man-made structures such as irrigation pipes, for roosting and nesting cover. In California, the burrowing owl breeding season extends from 1 February to 31 August with some variances by geographic location and climatic conditions. Survey protocol for breeding season owl surveys states to conduct 4 survey visits: 1) at least one site visit between 15 February and 15 April, and 2) a minimum of three survey visits, at least three weeks apart, between 15 April and 15 July, with at least one visit after 15 June.

CDFW concurs that the Program should adhere to CDFW's March 7, 2012, Staff Report on Burrowing Owl Mitigation. CDFW also concurs with the LCWA's proposal of a Burrowing Owl Management Plan to avoid and mitigate impacts, especially since there may be cumulative impacts to burrowing owls as a result of projects occurring adjacent to the LCWC (see *Comment #11 - Cumulative Impacts*). CDFW recommends a Burrowing Owl Management Plan be provided as an appendix in the DPEIR for review and commenting (also see *General Comments - Relying on future plans not adequate*).

Least Bell's vireo (vireo): The DPEIR states that vireo (*Vireo bellii pusillus*) have been observed within the Isthmus Areawhere suitable foraging habitat is limited to Zedler Marsh. It is unclear whether a recent vireo survey was conducted to determine if vireo in additional Areas in the LCWC. Vireo data presented in the DPEIR were from a 2012 survey while 2018 vireo data were based on incidental sightings instead of focused surveys. CDFW recommends a species-specific survey, focusing on potential nesting sites where Goodding's willow (*Salix gooddingii*) is present in the South and Central Areas.

Disturbance activities could result in temporary or long-term loss of suitable nesting and foraging habitats. Artificial light may attract or disorient migrating vireo by disrupting navigation (Ogden 1996; Longcore and Rich 2004, 2016) and may also suppress their immune system (Moore and Siopes 2000). CDFW also recommends a vireo-specific mitigation measure to minimize impacts to foraging habitat and potential nesting sites that states, *"prior to initiation of construction within or adjacent to suitable nesting habitat, a CDFW-approved biologist with experience surveying for and observing least Bell's vireo shall conduct preconstruction surveys in accordance with established protocols to establish use of nesting habitat. Surveys shall be conducted within and adjacent to suitable habitat, where access allows, during the nesting season (generally March 15 to July 31). If a nesting colony is found, no activity shall occur within a 500-foot buffer of the colony until a qualified biologist determines and CDFW confirms that all chicks have fledged and are no longer reliant on the nest site."*

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Comment Letter CDFW

CDFW-3 Cont.

Vireo is CESA-listed; therefore, if impacts to vireo cannot be avoided, an ITP needs to be secured prior to Program activities. CDFW recommends adding an additional vireo mitigation measure that states, *"if take of least Bell's vireo would occur from Program construction or activities, a state Incidental Take Permit (ITP) under CESA would be required."*

Monarch butterfly – California overwintering population (Monarchs): The DPEIR states that palm and eucalyptus trees in all four Areas provide suitable habitat for Monarchs (*Danaus plexippus*). The conceptual design for restoring each Area suggests most of the trees would be removed; therefore, there may be significant impacts to Monarchs if they are using trees in the LCWC. CDFW recommends a season appropriate survey for Monarchs to determine its presence or absence in the LCWC.

Pacific green sea turtle (sea turtle): CDFW recommends a sea turtle (*Chelonia mydas*) impact assessment, including impacts to eelgrass (*Zostera* sp.) habitat in the LCWC and in all channels up and downstream of LCWC. Sea turtles swim at higher speeds during the day and are mainly found in eelgrass meadows where they forage but could also swim out to more open channels (MacDonald et al. 2013). A discussion of potential impacts resulting from the following day-time Program activities and structures should be included: using an amphibious excavator, transporting soils and materials between channels, erecting temporary bridges across channels, and installing a boom or net across the San Gabriel River to collect trash floating downstream.

CDFW also recommends eelgrass habitat surveys and discussion of potential impacts. The Los Cerritos Wetlands Habitat Assessment Report also recommended eelgrass surveys and mapping but they were not completed in preparation of the DPEIR. Eelgrass is sensitive to burial by only five (5) centimeters of sediment, and buried eelgrass is more susceptible to increased mortality and delayed growth and flower production (Mills and Fonseca 2003; Munkes et al. 2015). The potential for impacts due to burial should be evaluated.

Pacific pocket mouse (pocket mouse), south coast marsh vole (vole), southern California salt marsh shrew (shrew): The vole (*Microtus californicus stephensi*) and shrew (*Sorex ornatus salicornicus*) are extremely rare; there are only seven and four CNDDB records of the vole and shrew, respectively. All four Areas within the Program Area have suitable habitat for these small mammals. It is unclear if recent species-specific surveys have been completed; therefore, CDFW recommends species-specific, season and time of day appropriate surveys for pocket mouse (*Perognathus longimembris pacificus*), vole, and shrew, and mapping areas with suitable habitat and burrows. The pocket mouse may occupy burrows only one centimeter below the surface of soil (USFWS 2010). Accordingly, shallow burrows should not be dismissed as potential habitat for small mammals.

Direct and/or indirect impacts to these rare species would be significant. The DPEIR proposes preconstruction surveys and relocation of pocket mouse but the CDFW has determined this is insufficient to avoid impacts to the pocket mouse, vole, and shrew (also *see General Comments-Translocation/depositing seeds*). CDFW recommends the DPEIR include a discussion that evaluates, and a map that shows, where impacts to occupied habitat could be avoided to the extent feasible and potentially implementing

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no-effect buffers. Avoidance of burrows also includes the extent of underground tunnels.

CDFW-3 Cont.

If impacts are unavoidable, CDFW recommends a mitigation measure to restore/create upland habitat that would include appropriate substrate, flora, and fauna community required by small mammals. The DPEIR has proposed South Area restoration plans that reduce upland habitat in the long-term. The Program will not have a net benefit on small mammals unless there is sufficient upland habitat. Burrows used by small mammals are created by land-dwelling squirrels and pocket gophers. Small mammals need upland habitat and refugia, free from inundation, to escape from flooding during seasonal high tides, periodic storms, and future sea level rise (SLR).

CDFW would provide more meaningful avoidance and mitigation measures for the pocket mouse, vole, and shrew pending results of species-specific surveys.

Raptors and nesting birds:

a) **Raptors:** CDFW recommends reevaluating conceptual designs such that they enhance and restore upland habitat that are resilient to flooding, high tides, periodic storms, and SLR. Upland habitat supports special-status and common small mammal species, insects, and reptiles that forms an ecosystem beneficial to raptors. Conceptual designs for restoring the South Area show a reduction in upland habitat in the long-term. The Program will not have a net benefit on raptors unless there is sufficient upland habitat. Upland habitat should be enhanced and restored to include soils that would support small mammal burrows, appropriate ratio of cover and open area, and appropriate vegetation composition (abundance, diversity, and cover) to support pollinators and insects.

b) **Nesting birds:** CDFW recommends modifying Mitigation Measure BIO-4 regarding buffers for nesting birds to include the following: *"If nesting raptors and migratory songbirds are identified, the following minimum no-disturbance buffers shall be implemented: 300 feet around active passerine (perching birds and songbirds) nests, 500 feet around active non-listed raptor nests and 0.5 mile around active listed bird nests. These buffers shall be maintained until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival. These buffers shall be increased if needed to protect the nesting birds."*

Red diamond rattlesnake (rattlesnake): CDFW recommends a rattlesnake (*Crotalus ruber*) survey and mitigation measure be included in the DPEIR. A mitigation measure should include monitoring by a qualified biologist during construction activities occurring in occupied/potential habitat, especially during the active spring breeding season. If a rattlesnake is encountered, activities in the area should stop and an appropriate avoidance buffer established determined by a qualified biologist. Mitigation of upland/grassland habitat for special-status species (e.g. vole and shrew) would have a net benefit on the rattlesnake.

Southern California DPS steelhead (steelhead) and tidewater goby (goby): CDFW recommends species-specific, season and time of day appropriate surveys for steelhead (*Oncorhynchus mykiss irideus*) and goby (*Eucyclogobius newberryi*) to determine

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presence/absence. Both species have a moderate potential to occur in the North, South, and Central Areas. If present in the LCWC, impacts to steelhead and goby may occur from floating barges, amphibious equipment, and increases in sediment load.

CDFW-3 Cont.

Western pond turtle (turtle): The Los Cerritos Wetlands Habitat Assessment Report states there are several freshwater marsh areas that could be suitable for turtle (*Emys marmorata*) to inhabit. Impacts to turtle may occur from construction and habitat type conversion. CDFW recommends species-specific, season and time of day appropriate surveys for turtle. Turtles have been documented inhabiting ground squirrel burrows (Morey 2000). Accordingly, any surveys should also include upland habitat containing loose soil and burrows. CDFW recommends that surveys use the United States Geological Survey's 2006 Western pond turtle Visual Survey Protocol for the Southcoast Ecoregion.

Additional wildlife comments and mitigation measures:

a) **Proposed land bridge:** Figures 5-1, 5-2, and 5-3 show three land bridges (wildlife corridors) to be constructed across the Hellman Channel, San Gabriel River, and Westminster Avenue/Second Street. The DPEIR should provide supplemental documents in the Appendices that discuss the impetus, design, and necessity of these structures, and provide a discussion as to how bridges would facilitate wildlife movement around the LCWC.

b) **Non-native vegetation**: Non-native vegetation could provide habitat for small mammals, birds, insects, and snakes. Large areas of black mustard (*Brassica nigra*), poison hemlock (*Conium maculatum*), ripgut brome (*Bromus diandrus*) and other ruderal vegetation in the South Area could support wildlife (see Appendix C, Figure 4). CDFW recommends that surveys of special-status wildlife species dependent on grasslands/upland habitat include searches in areas of non-native vegetation-dominated cover. CDFW also recommends including a mitigation measure to reduce impacts to wildlife during activities in areas of dense non-native vegetation. A mitigation measure should include biomonitoring by a qualified biologist and moving wildlife out of harm's way (see below and *General Comment – Moving out of harm's way*).

c) CDFW recommends an additional BIO Mitigation Measure that states, *"A biological monitor shall be present before and during initial grubbing and grading operations to salvage wildlife species that may be killed or injured by heavy equipment. Fossorial mammal den sites shall be inspected and not disturbed until confirmed unoccupied. Salvaged wildlife of low mobility shall be removed and placed onto adjacent habitat out of harm's way. Grubbing and grading shall be done to avoid islands of habitat where wildlife may take refuge and later be killed by heavy equipment. Grubbing and grading shall be done from the center of a site, working outward towards adjacent habitat out of the construction footprint where wildlife may safely escape."*

d) The Program may result in the use of open pipes used as fence posts, property line stakes, signs, etc. These structures mimic the natural cavities preferred by various bird species and other wildlife for shelter, nesting, and roosting. Raptor's

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Comment Letter CDFW

talons can become entrapped within the bolt holes of metal fence stakes resulting in mortality. Due to the location of the LCWC and the open space that is in the surrounding vicinity, CDFW recommends adding the following as a BIO mitigation measure: *"All hollow posts and pipes shall be capped, and metal fence stakes shall be plugged with bolts or other plugging materials to prevent wildlife entrapment and mortality."*

CDFW-3 End

Comment #4 - Plants: CDFW finds the DPEIR does not adequately disclose information regarding rare plants or provide sufficient detail describing mitigation measures for impacts to rare plants and vegetation communities. CDFW recommends the LCWA address the following.

California boxthorn (*Lycium californicum*), woolly seablite (*Suaeda taxifolia*), Coulter's goldfields (*Lasthenia glabrata ssp. coulteri*), estuary seablite (*Suaeda esteroa*), Lewis' primrose (*Camissoniopsis lewisii*), southern tarplant (*Centromadia parryi ssp. australis*), southwestern spiny rush (*Juncus acutus ssp. leopoldii*): For each rare plant, please provide the largest area covered or highest count observed in in the LCWC using data from 2012 to 2018. Please also provide an approximate count of plants per rare plant polygon shown in Figures 3.3-2a through 3.3-2d. Then, for each rare plant, estimate the number of individuals or area potentially impacted by the Program. For example, page 28 of the CRP EIR Restoration Plan states, "*approximately 2,632 of 6,000 southern tarplant would potentially be affected* [in the North Area] *by grading with additional impacts associated with berm construction*." Please also show which individuals/polygons will be impacted on maps. If additional data has been collected since 2018, please incorporate recent data into this analysis. This information will inform the appropriate mitigation ratio for each species impacted by the Program and allow CDFW to comment on alternatives to avoid impacts.

CDFW-4

Estuary seablite: Figure 3.3-2d shows estuary seablite as points (i.e. individual plants occurring in specific areas). Page 22 of the Los Cerritos Wetlands Habitat Assessment Report show estuary seablite occurring in two large polygons, suggesting that plants are more widespread around Steamshovel Slough than shown in Figure 3.3-2d. Please clarify whether estuary seablite currently occurs as a few individuals restricted to specific areas or many more plants distributed across a larger area. Include if estuary seablite decreased in abundance and distribution between 2011/12 and 2018 to cause the difference between the maps.

Mitigation ratio: CDFW disagrees with a minimum mitigation ratio of 1:1 for special-status plants, stating *"one plant planted for one removed, or 1 square foot (sq.ft.) of absolute cover planted for 1 sq.ft. removed*." Plants that have a California Native Plant Society (CNPS) California Rare Plant Rank (CRPR) of 1B (Coulter's goldfields, estuary seablite, southern tarplant) are rare throughout their range, endemic to California, and are seriously or moderately threatened in California. A review of California Natural Diversity Database (CNDDB) (1990 to present) found only 11 records of southern tarplant, two of estuary seablite, and zero of Coulter's goldfields in Los Angeles County, making these 1B-listed species extremely rare locally and state-wide. The Program has potential to directly impact Coulter's goldfields and southern tarplant throughout the LCWC, including their seed bank, and significantly alter and disturb the habitat that currently support these species. CDFW recommends a minimum mitigation ratio of 3:1 for southern tarplant and a minimum of 7:1 for Coulter's goldfields and estuary seablite

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Comment Letter CDFW

CDFW-4 Cont.

which currently occur in smaller, localized areas within the LCWC. Therefore, these species are more susceptible to being extirpated due to Program activities.

California boxthorn, Lewis' primrose, southwestern spiny rush, and woolly seablite have a CRPR of 3 or 4. These species occur only as very few individuals or sparsely covered patches in the LCWC. CDFW recommends a minimum mitigation ratio of 7:1. The Program has potential to directly impact the few plants that currently exist on site and extirpate Lewis' primrose by converting upland and sandy soils to mid-marsh. Plants listed by the CNPS as CRPR 3 and 4 meets the definitions of CESA of the California Fish and Game Code and are eligible for state listing. Many CRPR 3 and 4 plants are significant locally, and CDFW recommends that they be evaluated for impact significance during preparation of environmental documents relating to CEQA, based on CEQA Guidelines, §§ 15125, subd. (c), 15380.

Mitigation requirements are subject to change pending CDFW's review of additional rare plant data to be provided by the LCWA.

Sensitive communities: Vegetation communities, alliances, and associations with a state-wide ranking of S1, S2, S3 and S4 should be considered sensitive and declining at the local and regional level. There are three S2-ranked communities in the LCWC: *Anemopsis californica–Helianthus nuttallii–Solidago spectabilis* Herbaceous Alliance (0.01 acres), *Baccharis salicina* Provisional Shrubland Alliance (0.04 acres), *Cressa truxillensis–Distichlis spicata* Herbaceous Alliance (2.41 acres). CDFW disagrees with a minimum mitigation ratio of 1:1 for sensitive communities and recommends mitigating 5:1, on par with mitigating S2-ranked communities under the Los Angeles County's Significant Ecological Areas Ordinance. *D. spicata* is the only host plant for the salt marsh wandering skipper (*Panoquina errans*). CDFW recommends a mitigation ratio of 3:1 for S3 ranked communities.

CDFW also recommends the DPEIR include a discussion as to the reasoning for a 60 percent absolute vegetation cover success criterion for sensitive vegetation communities to allow CDFW to provide additional comments.

Mitigation site(s): CDFW recommends the LCWA disclose where mitigation will take place, on or off site, and why the selected mitigation area(s) are appropriate for each special-status species or sensitive vegetation community based on vegetation composition, soils, substrate, slope, etc. See additional comments regarding mitigation under *General Comments - Compensatory Mitigation.* Disclosures could be made in a Mitigation, Maintenance, and Monitoring Program and/or Restoration Plan for rare plants and sensitive vegetation communities (see below).

Restoration plan for rare plants and sensitive vegetation communities: The DPEIR does not specify performance criteria by species or time to ensure that proposed measures, as implemented, will be effective in restoring or enhancing rare plant abundance, cover, and diversity (Save Agoura Cornell Knoll v. City of Agoura Hills), nor include any monitoring or assessment to demonstrate how the proposed measures would mitigate take of CEQA-rare plants. An environmental impact report is inadequate if the success or failure of mitigation efforts may largely depend upon management plans that have not yet been formulated and have not been subject to analysis and review

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Comment Letter CDFW

within the EIR (Pub. Resources Code, § 21000 *et seq*.). See additional comments under *General Comments - Relying on future plans not adequate*

CDFW-4 End

CDFW concurs with a Mitigation, Maintenance, and Monitoring Program for sensitive vegetation communities and recommends that a Mitigation, Maintenance, and Monitoring Program and/or Restoration Plan for rare plants and sensitive vegetation communities be provided as an appendix in the DPEIR for review and comment. CDFW recommends that a Mitigation, Maintenance, and Monitoring Program and/or Restoration Plan discuss following: 1) species-specific planting (i.e. container or seed) methods, 2) species-specific measurable goals and success criteria (e.g. number of individuals, percent survival rate, absolute cover) for establishing self-sustaining populations, 3) long-term monitoring and 4) adaptive management techniques. The DPEIR proposes a minimum mitigation ratio of *"1 sq.ft. of absolute cover planted for every 1 sq.ft. removed."* CDFW finds this to be insufficient because 1 sq.ft. does not account for the microecosystem necessary to support rare plants. Rare plants existing as part of a community and planting only the rare plant will not ensure the plant will survive. CDFW also recommends that the DPEIR discuss vegetation composition (species abundance, diversity, cover), soils, substrate, slope, hydrology, and other factors required by a specific species to persist, and how these factors will be incorporated into species-specific planting methods.

The DPEIR states that "*plants that cannot be avoided shall be salvaged prior to impacts using species-specific propagation methods, such as transplanting, seed and cuttings. Seeds shall be incorporated into habitat-specific seed mixes that will be used for revegetation of the restoration areas*." Seed mixes may not be appropriate because not all species grow well from direct seeding. It is also more difficult to control where rare plant seeds are distributed and if seeds made proper contact with soil. Transplantation is rarely successful in establishing rare plants at new locations. A study by CDFW (Fiedler 1991) found that, even under optimum conditions with ample time for planning, transplantation was effective in only 15 percent of cases studied. Other reviews (e.g. Allen 1994; Howald 1996) have found similar problems digging up, transporting, and replanting plants, bulbs, rhizomes, or seeds imposes a tremendous stress on a plant. They can easily die in the process. Scientifically tested, reliable methods for salvage, propagation, translocation, or transplantation are not available for many rare species. Additionally, CDFW is concerned with translocating, or moving collected seed to an undisclosed mitigation location or between different locations. The biological implication of mixing genes and specific alleles into new areas is not supported by CDFW and may cause loss of both the transplanted species as well as the population they are being moved to/near.

CDFW-5

Comment #5 – Restoration Techniques: CDFW recommends including following text in italics as one or more BIO mitigation measure(s) as it relates to the Program and future project-specific plans. CDFW also recommends further consideration of the Program's approach to herbicide use and control of non-native invasive plants

Revegetation/Restoration Plan: *"Plans for restoration and re-vegetation shall be prepared by persons with expertise in southern California ecosystems and native plant restoration techniques. Plans shall identify the assumptions used to develop the proposed restoration strategy. Each plan shall include, at a minimum: a) the location of*

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restoration sites and assessment of appropriate reference sites; b) the plant species to be used, sources of local propagules, container sizes, and planting or seeding rates; c) a schematic depicting the restoration area; d) a local seed and cuttings and planting schedule; e) a description of the irrigation methodology; f) measures to control exotic vegetation on site; g) specific success criteria; h) a detailed monitoring program; i) contingency measures should the success criteria and providing for conservation of the mitigation on site in perpetuity. Monitoring of restoration areas shall extend across a sufficient time frame to ensure that the new habitat is established, self-sustaining, and capable of surviving drought."

CDFW-5
End

a) *"Local on-site propagules from the Program Area and nearby vicinity shall be collected and used for restoration purposes. On-site seed collection shall be initiated in the near future to accumulate sufficient propagule material for subsequent use in future years. On-site vegetation maps at the alliance and/or associated level shall be used to develop appropriate restoration goals and local plant palettes. Reference areas shall be identified to help guide restoration efforts and restoration plans shall clearly discuss where these reference area(s) are and why they were chosen/are appropriate. Specific restoration plans shall be developed for various Program components as appropriate."*

b) *"Restoration objectives shall include providing special habitat elements where feasible to benefit key wildlife species. These physical and biological features can include (for example) retention of woody material, logs, snags, rocks, and brush piles."*

Herbicide: CDFW recommends the DPEIR expand on the herbicide-use language on page 2-77 by providing safety measures, protocols, and standards regarding herbicide use (or no herbicide use) around special-status plants, wildlife, and vegetation communities. CDFW recommends appropriate buffer zones to protect species-status species, including habitat structures, from direct herbicide contact and drift.

Non-native vegetation: CDFW recommends controlling large areas of black mustard, ripgut brome, and poison hemlock in phases instead of removing all vegetation at one time. Non-native vegetation could support wildlife such as birds, small mammals, small frogs, and snakes, which could be displaced if non-native vegetation is completely removed and native vegetation has yet to be restored. Non-native vegetation should remain in place to the extent feasible to support wildlife until seeded or planted native vegetation reaches an appropriate size, density, and abundance.

Comment #6 – Jurisdictional Delineation: CDFW finds the DPEIR's jurisdictional delineation insufficient and recommends the following.

CDFW-6

Lake or Streambed Alteration (LSA) Agreements: As a Responsible Agency under CEQA, CDFW has authority over activities in streams and/or lakes that will divert or obstruct the natural flow; or change the bed, channel, or bank (including vegetation associated with the stream or lake) of a river or stream; or use material from a streambed. For any such activities, the project applicant (or "entity") must provide written notification to CDFW pursuant to section 1600 *et seq*. of the Fish and Game Code. As a Responsible Agency, CDFW may consider the CEQA document prepared by the local

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Comment Letter CDFW

jurisdiction (Lead Agency) for the Program. To minimize additional requirements by CDFW pursuant to section 1600 *et seq*. and/or under CEQA, the DPEIR should fully identify the potential impacts to the stream or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for issuance of the LSA Agreement.

Delineation: CDFW recommends modifications to jurisdiction delineation:

CDFW-6 End

a) The DPEIR does not to distinguish between CDFW and California Coastal Commission (CCC). CDFW recommends separating CDFW and CCC jurisdiction.

b) Page 3.3-76 states, *"potential state jurisdictional waters within the program area includes 234 acres (Figures 3.3-4a through 3.3-7b). It should be noted that approximately 57 acres were not assessed due to inaccessibility but may contain potentially state jurisdictional waters based on review of aerial imagery (Google Earth Pro, 2019)".* Please clarify in the text and show on the map the location of these unassessed 57 acres.

c) The USFWS Wetlands Mapper shows there are wetlands in the Hellman Retained Site and Los Alamitos Retarding Basin Site, both within the Program Area. There is potentially federal (e.g. USACE Section 10) and/or state (e.g. CCC, CDFW) jurisdiction as it is hydrologically connected to the Los Alamitos Channel and the Federal Storm Channel. Please discuss potential federal and/or state jurisdiction and show jurisdiction on maps.

d) Page 3.3-6.7 describes areas that are subject to USACE Section 10 Waters, but this is not reflected on the map. Please show on maps USACE Section 10 Waters.

e) CDFW disagrees with the DPEIR's conclusion on page 3.3-62 that states, *"there are no "isolated" or "non-federal" waters that would be subject to waste discharge requirements under the Porter Cologne Water Quality Control Act."* The USFWS Wetlands Mapper shows there are isolated wetlands that may be subject to 1602 if these are hydrologically connected or is subject to CCC if it is within a coastal zone.

CDFW-7

Comment #7 – Pumpkin Patch Site: Although the Pumpkin Patch Site is outside the Program Area boundary, it is close to Belding's savannah sparrow habitat within the Program Area. The DPEIR describes restoration of the Pumpkin Patch Site but also installation of a new office (page 2-23). Please clarify whether the new office will conflict with restoration of the site and could potentially impact Belding's savannah sparrows (i.e. noise level, increased human activity).

Comment #8 – Plan Alternatives: CDFW recommends reevaluating long-term conceptual plans, especially for the South Area (e.g. Figure 2-14) to diversify based on vegetation communities, not only habitat types. Upland habitats have ecological value but the long-term plan for the South Area does not show sufficient upland habitat. Upland habitats should be resilient to 1.7 and 3.5 ft. of SLR. Conceptual plans could be modified to incorporate space to

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CDFW-8 accommodate upward migration/dispersal of plants and vegetation communities under the pressure of SLR.

Page 5-2 states, *"the alternatives (minimum alteration, moderate alteration, and maximum alteration) include varying degrees of alterations to existing site conditions under a range of sea level rise scenarios".* Please clarify the SLR used (i.e. 1.7 and 3.5 ft.) for the alternatives presented. CDFW recommends including alternatives under both SLR projections if only one was considered. CDFW also recommends the DPEIR clarify whether the three alternatives (Figures 5-1, 5-2, 5-3) reflect near, mid, or long-term restoration.

CDFW-9 **Comment #9 – Phasing:** The DPEIR proposes a Program that will constantly modify the LCWC over the next 20 years. Erecting, lowering, breaching, removing berms or flood walls after or during restoration may impact and disrupt biological resources and water flow. For example, restoration progress made in the South LCWA site in the near and mid-term may be reversed, slowed, or impacted due to berm and levee removal activities proposed in the long-term. CDFW recommends the LCWA minimize disruptive activities and consider workflows (i.e. Table ES-1, ES-2, ES-3, ES-4) that strategically schedules landscape and waterflow-altering projects for the near-term.

Page 3-40 states, *"portions of the program area, including levees, berms and flood walls, trails, and restored ecosystem area would be located within the Newport-Inglewood Fault Zone and could be exposed to fault rupture. Damage to levees, berms and flood walls, trails, and the restored ecosystem area would consist only of earth movement, which would not expose people to risks because people would not be inside collapsing buildings or under bridges"*. An earthquake may impact biological resources if the earthquake results in spills. CDFW recommends the LCWA minimize these risks by scheduling projects to plug oil and natural gas wells and storage facilities for the near-term. Oil spills can reverse, slow, or impact restoration progress and cause ecological damage.

CDFW-10 **Comment #10 – Impacts to biological resources along the San Gabriel River:** To increase tidal flows and inundate areas of the LCWC not previously inundated, water will be drawn from the San Gabriel River. CDFW recommends an assessment and discussion of potential impacts to biological resources up and downstream of the LCWC along the San Gabriel River because the Program could lead to a drop in water level. A review of CNDDB found western spadefoot (*Spea hammondii*), tricolored black bird (*Agelaius tricolor*), and western pond turtle upstream of the LCWC restoration area. Furthermore, reconnection of the river to a large floodplain could cause erosion of the marsh during a large storm event, which could deliver sediment-laden runoff further down the river or to the ocean.

CDFW-11 **Comment #11 - Cumulative Impacts:** The Seal Beach Residential Project is proposed on a large, vacant lot that could result in significant impacts to special-status wildlife species such as burrowing owls. The Haynes Generating Station Intake Channel Infill Project will occur partially in the South Area that may impact aquatic resources such as the Pacific green sea turtle, California least tern (*Sterna antillarum browni*), and essential fish habitat. CDFW recommends the LCWA show where the Seal Beach Residential Project and Haynes Generating Station Intake Channel Infill Project will occur, avoid impacts to the burrowing owl habitat in the Callaway Marsh Site (see page 5), and conduct species-specific surveys for the Pacific green sea turtle (see page 6). This will allow CDFW to provide additional comments on cumulative impacts of the proposed Program.

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GENERAL COMMENTS

CDFW-12

Comment #1 - California Endangered Species Act (CESA): CDFW considers adverse impacts to a species protected by CESA to be significant without mitigation under CEQA. As to CESA, take of any endangered, threatened, candidate species, or CESA-listed rare plant species that results from the Program is prohibited, except as authorized by state law (Fish and G. Code, §§ 2080, 2085; Cal. Code Regs., tit. 14, §786.9). Consequently, if the Program, project construction, or any Program-related activity during the life of the Program will result in take of a species designated as endangered or threatened, or a candidate for listing under CESA, CDFW recommends that the LCWA seek appropriate take authorization under CESA prior to implementing the Program. Appropriate authorization from CDFW may include an Incidental Take Permit (ITP) or a Consistency Determination in certain circumstances, among other options [Fish & G. Code, §§ 2080.1, 2081, subds. (b) and (c)]. Early consultation is encouraged, as significant modification to the Program and mitigation measures may be required to obtain a CESA Permit. Revisions to the Fish and Game Code, effective January 1998, may require that CDFW issue a separate CEQA document for the issuance of an ITP unless the Program CEQA document addresses all Program impacts to CESA-listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of an ITP. For these reasons, biological mitigation monitoring and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for a CESA ITP.

CDFW-13

Comment #2 - Compensatory Mitigation: Mitigation measures for adverse Program-related impacts to sensitive plants, animals, and habitats should emphasize avoidance and reduction of Program impacts. For unavoidable impacts, on-site habitat restoration or enhancement should be discussed in detail. If on-site mitigation is not feasible or would not be biologically viable and therefore not adequately mitigate the loss of biological functions and values, off-site mitigation through habitat creation and/or acquisition and preservation in perpetuity should be addressed. Areas proposed as mitigation lands should be protected in perpetuity with a conservation easement, financial assurance and dedicated to a qualified entity for long-term management and monitoring. Under Government Code section 65967, the Lead Agency must exercise due diligence in reviewing the qualifications of a governmental entity, special district, or nonprofit organization to effectively manage and steward land, water, or natural resources on mitigation lands it approves. Mitigation banking inquiries may be directed to the CDFW's South Coast Region Banking Coordinator, Lisa Gymer, via email at Lisa.Gymer@wildlife.ca.gov.

CDFW-14

Comment #3 - Moving out of Harm's Way: The proposed Program is anticipated to result in clearing of natural habitats that support many species of indigenous wildlife. To avoid direct mortality, we recommend that a qualified biological monitor approved by CDFW be on site prior to and during ground and habitat disturbing activities to move out of harm's way special status species or other wildlife of low mobility that would be injured or killed by grubbing or Program-related construction activities. It should be noted that the temporary relocation of on-site wildlife does not constitute effective mitigation for the purposes of offsetting Program impacts associated with habitat loss.

CDFW-15

Comment #4 - Relying on future plans not adequate: CEQA Guidelines sections 15070 and 15071 require the document to analyze if the Program may have a significant effect on the environment as well as review if the Program will 'avoid the effect or mitigate to a point where clearly no significant effects would occur'. Relying on future surveys, the preparation of future management plans, or mitigating by obtaining permits are considered deferred mitigation under

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Comment Letter CDFW

CEQA. To analyze if the Program may have a significant effect on the environment, the Program related impacts, including survey results for species that occur in the entire Program Area need to be disclosed during the public comment period. This information is necessary to allow CDFW to comment on alternatives to avoid impacts, as well as to assess the significance of the specific impact relative to the species (e.g., current range, distribution, population trends, and connectivity).

CDFW-16 **Comment #5 - Translocation/depositing seeds**: Translocation and transplantation is the process of moving an individual from one project site and permanently moving it to a new location. CDFW generally does not support the use of, translocation or transplantation as the primary mitigation strategy for unavoidable impacts to rare, threatened, or endangered plant or wildlife species. Studies have shown that these efforts are experimental and the outcome unreliable. CDFW has found that permanent preservation and management of habitat capable of supporting these species is often a more effective long-term strategy for conserving sensitive plants and animals and their habitats.

Per CEQA Guidelines Section 21081.6(a)(1), CDFW has provided the LCWA with a summary of our suggested mitigation measures and recommendations in the form of an attached Draft Mitigation and Monitoring Reporting Plan (MMRP; Attachment A).

Filing Fees

CDFW-17 The Program as proposed, could have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying Project approval to be operative, vested, and final (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089).

Conclusion

CDFW-18 We appreciate the opportunity to comment on the Los Cerritos Wetland Restoration Program to assist the Los Cerritos Wetlands Authority in adequately analyzing and minimizing/mitigating impacts to biological resources. CDFW requests an opportunity to review and comment on any response that the LCWA has to our comments and to receive notification of any forthcoming hearing date(s) for the Program [CEQA Guidelines, § 15073(e)]. If you have any questions or comments regarding this letter, please contact Ruby Kwan-Davis, Senior Environmental Scientist, at Ruby.Kwan-Davis@wildlife.ca.gov or (657) 215-1007.

Sincerely,

DocuSigned by:
Erinn Wilson
DC7324F4C5BB489...

Erinn Wilson
Environmental Program Manager I

ec: CDFW
Victoria Tang – Los Alamitos
Karen Drewe – Los Alamitos
Frederic Reiman – Los Alamitos

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Comment Letter CDFW

Susan Howell – San Diego
Jennifer Turner—San Diego
Lisa Gymer – San Diego
CEQA Program Coordinator – Sacramento

State Clearinghouse

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State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
South Coast Region
3883 Ruffin Road
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GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

CDFW-19

Attachment A: Draft Mitigation and Monitoring Reporting Plan

CDFW recommends the following language to be incorporated into a future environmental document for the Project.

Biological Resources (BIO)			
	Mitigation Measure (MM)	**Timing**	**Responsible Party**
MM-BIO-1-Species-specific surveys	Conduct additional species-specific surveys to completely disclose presence/absence and potential impacts to the following species and their habitat: bats, Belding's savannah sparrow, burrowing owl, Least bell's vireo, Monarch butterfly, Pacific green sea turtle, Pacific pocket mouse, south coast marsh vole, southern California marsh shrew, red diamond rattlesnake, southern California DPS steelhead, tidewater goby, and western pond turtle. Focused surveys shall be conducted at the appropriate season and time of day when the sensitive species are active or otherwise identifiable. Seasonal variations in species use of the Program Area shall be addressed. Surveys shall follow accepted scientific protocol and be conducted by a qualified biologist, botanist, or species specialist with the appropriate experience.	Prior to Program construction/activities	LCWA
MM-BIO-2-Species-specific surveys	LCWA shall disclose survey findings, including negative findings, and recirculate the DPEIR so CDFW may review and provide meaningful avoidance, minimization, and mitigation measures. The Final Environmental document shall include full analysis of impacts to the species listed in MM-BIO-1 and proposed species-specific avoidance measures, and mitigation if impacts cannot be voided.	Prior to Program construction/activities	LCWA

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MM-BIO-3-Impacts to Bats-Focused survey	Conduct species-specific surveys for bats at the appropriate season and time of day to document any daytime, nighttime, and maternity roosting sites. Surveys shall include acoustic recognition technology to maximize detection of bats.	Prior to Program construction/activities	LCWA
MM-BIO-4-Impacts to Belding's savannah sparrow	Include a discussion that evaluates, and a map that shows, where Belding's sparrow habitat could be avoided to the extent feasible, prioritizing areas of high nesting activity, and potentially implementing no-effect buffers around these areas.	Prior to Program construction/activities	LCWA
MM-BIO-5-Impacts to Belding's savannah sparrow	Modify Mitigation Measure BIO-3 in the DPEIR to include a statement acknowledging that an Incidental Take Permit (ITP) under CESA may be needed if impacts to Belding's sparrow cannot be avoided.	Prior to Program construction/activities	LCWA
MM-BIO-6-Impacts to Belding's savannah sparrow	LCWA shall provide a Belding's sparrow Mitigation, Maintenance and Monitoring Program as an appendix to the DPEIR for review and commenting.	Prior to Program construction/activities	LCWA
MM-BIO-7-Impacts to Belding's savannah sparrow	LCWA shall reevaluate proposed location and alignment of trails, viewpoints, visitor centers, and parking areas in order to minimize public access/anthropogenic disturbance near Belding's sparrow habitat, prioritizing areas of high nesting activity.	Prior to Program construction/activities	LCWA

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MM-BIO-8-Impacts to Burrowing owls	Conduct species-specific surveys for burrowing owls and identify wintering habitat. In California, the burrowing owl breeding season extends from 1 February to 31 August with some variances by geographic location and climatic conditions. Survey protocol for breeding season owl surveys states to conduct 4 survey visits: 1) at least one site visit between 15 February and 15 April, and 2) a minimum of three survey visits, at least three weeks apart, between 15 April and 15 July, with at least one visit after 15 June.	Prior to Program construction/activities	LCWA
MM-BIO-9-Impacts to Burrowing owls	LCWA shall provide a Burrowing Owl Management Plan as an appendix in the DPEIR for review and commenting. A Burrowing Owl Management Plan shall adhere to CDFW's March 7, 2012, Staff Report on Burrowing Owl Mitigation	Prior to Program construction/activities	LCWA
MM-BIO-10-Impacts to least Bell's vireo	Conduct species-specific surveys for least Bell's vireo, focusing on potential nesting sites where Goodding's willow (*Salix gooddingii*) is present in the South and Central Areas.	Prior to Program construction/activities	LCWA
MM-BIO-11- Impacts to Least Bell's Vireo	Include an vireo-specific mitigation measure to minimize impacts to foraging habitat and potential nesting sites that shall state, *"prior to initiation of construction within or adjacent to suitable nesting habitat, a CDFW-approved biologist with experience surveying for and observing least Bell's vireo shall conduct preconstruction surveys in accordance with established protocols to establish use of nesting habitat. Surveys shall be conducted within and adjacent to suitable habitat, where access allows, during the nesting season (generally March 15 to July 31). If a nesting colony is found, no activity shall occur within a 500-foot buffer of the colony until a qualified biologist determines and CDFW confirms that all chicks have fledged and are no longer reliant on the nest site."*	To be implemented during Program construction/activities	LCWA

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MM-BIO-12-Impacts to Least Bell's Vireo	Add a mitigation measure that shall state, *"if take of least Bell's vireo would occur from Program construction or activities, a state Incidental Take Permit (ITP) under CESA would be required."*	Prior to Program construction/activities	LCWA
MM-BIO-13-Impacts to Monarch butterfly	Conduct a species-specific survey for Monarch butterflies. The DPEIR states that palm and eucalyptus trees in all four Areas provide suitable habitat for Monarchs. There may be impacts to Monarch butterflies if trees are removed to restore wetlands.	Prior to Program construction/activities	LCWA
MM-BIO-14-Impacts to Pacific green sea turtle	Conduct a species-specific impact assessment in the Program Area and in all channels up and downstream of LCWC. Discuss potential impacts to sea turtles resulting from the following day-time activities and structures shall be included: using an amphibious excavator, transporting soils and materials between channels, erecting temporary bridges across channels, and installing a boom or net across the San Gabriel River to collect trash floating downstream.	Prior to Program construction/activities	LCWA
MM-BIO-15-Impacts to Pacific green sea turtle	Conduct surveys and mapping of eelgrass habitat (*Zostera* sp.) in all channels up and downstream of LCWC and discuss potential impacts. Eelgrass is sensitive to burial by only 5 centimeters of sediment and buried eelgrass is more susceptible to increased mortality and delayed growth and flower production. The potential for impacts due to burial shall be evaluated.	Prior to Program construction/activities	LCWA
MM-BIO-16-Impacts to Pacific pocket mouse, south coast marsh vole, and southern California salt marsh shrew	Conduct species-specific, season and time of day appropriate surveys for pocket mouse, vole, and shrew, and map areas with suitable habitat and burrows.	Prior to Program construction/activities	LCWA

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MM-BIO-17-Impacts to Pacific pocket mouse, south coast marsh vole, and southern California salt marsh shrew	Evaluate where impacts to occupied habitat could be avoided to the extent feasible and potential to implement no-effect buffers. Avoidance of burrows also includes the extent of underground tunnels.	Prior to Program construction/activities	LCWA
MM-BIO-18- Impacts to Pacific pocket mouse, south coast marsh vole, and southern California salt marsh shrew	Include a mitigation measure to restore/create upland habitat that would include appropriate substrate, flora, and fauna community required by small mammals.	Prior to Program construction/activities	LCWA
MM-BIO-19-Impacts to Raptors	LCWA shall reevaluate conceptual designs such that they enhance and restore upland habitat that would be resilient to flooding, high tides, periodic storms, and sea level rise. Upland habitat shall support special-status and common small mammal species, insects, and reptiles that forms an ecosystem beneficial to raptors.	Prior to Program construction/activities	LCWA
MM-BIO-20-Impacts to Nesting birds	Modify Mitigation Measure BIO-4 regarding buffers for nesting birds to include the following: *"If nesting raptors and migratory songbirds are identified, the following minimum no-disturbance buffers shall be implemented: 300 feet around active passerine (perching birds and songbirds) nests, 500 feet around active non-listed raptor nests and 0.5 mile around active listed bird nests. These buffers shall be maintained until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival. These buffers shall be increased if needed to protect the nesting birds."*	To be implemented during to Program construction/activities	LCWA

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MM-BIO-21-Impacts to Red diamond rattlesnake	Conduct a species-specific survey for red diamond rattlesnake.	Prior to Program construction/activities	LCWA
MM-BIO-22-Impacts to Red diamond rattlesnake	Include a mitigation measure that includes monitoring by a qualified biologist during construction activities occurring in occupied/potential habitat, especially during the active spring breeding season. If a rattlesnake is encountered, activities in the area shall stop and an appropriate avoidance buffer established determined by a qualified biologist	To be implemented during to Program construction/activities	LCWA
MM-BIO-23-Impacts to Southern California DPS steelhead and tidewater goby	Conduct a species-specific, season and time of day appropriate surveys for steelhead and goby to determine presence/absence. Both species have a moderate potential to occur in the North, South, and Central Areas.	Prior to Program construction/activities	LCWA
MM-BIO-24-Impacts to Western pond turtle	Conduct a species-specific survey for western pond turtles. WPT have been documented inhabiting ground squirrel burrows, therefore, surveys shall also include upland habitat containing loose soil and burrows. Surveys shall use CDFW recommends that surveys use the United States Geological Survey's 2006 Western pond turtle Visual Survey Protocol for the Southcoast Ecoregion.	Prior to Program construction/activities	LCWA
MM-BIO-25-Impacts to Wildlife	Provide supplemental documents in the Appendix that discuss the impetus, design, and necessity of land bridges proposed in Figure 51, 5-2, and 5-3, and provide a discussion as to how bridges would facilitate wildlife movement around the LCWC.	Prior to Program construction/activities	LCWA

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MM-BIO-26-Impacts to Wildlife	Include areas of non-native vegetation-dominated cover in focused surveys for special-status wildlife species dependent on grasslands/upland habitat where appropriate.	Prior to Program construction/activities	LCWA
MM-BIO-27-Impacts to Wildlife	Include an additional BIO Mitigation Measure that shall state, *"A biological monitor shall be present before and during initial grubbing and grading operations to salvage wildlife species that may be killed or injured by heavy equipment. Fossorial mammal den sites shallbe inspected and not disturbed until confirmed unoccupied. Salvaged wildlife of low mobility shall be removed and placed onto adjacent habitat out of harm's way. Grubbing and grading shall be done to avoid islands of habitat where wildlife may take refuge and later be killed by heavy equipment. Grubbing and grading shall be done from the center of a site, working outward towards adjacent habitat out of the construction footprint where wildlife may safely escape."*	To be implemented during to Program construction/activities	LCWA
MM-BIO-28-Impacts to Wildlife	The Program may result in the use of open pipes used as fence posts, property line stakes, signs, etc. These structures mimic the natural cavities preferred by various bird species and other wildlife for shelter, nesting, and roosting. Raptor's talons can become entrapped within the bolt holes of metal fence stakes resulting in mortality. Due to the location of the LCWC and the open space that is in the surrounding vicinity, the following BIO mitigation measure shall be added: *"All hollow posts and pipes shall be capped, and metal fence stakes shall be plugged with bolts or other plugging materials to prevent wildlife entrapment and mortality."*	To be implemented during to Program construction/activities	LCWA

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MM-BIO-29-Impacts to Rare plants	Disclose population information for rare plants documented in the Program Area using data collected from 2012 through 2018. Estimate of number of individuals or area potentially impacted by the Program and show which polygons/plants will be impacted. If additional data has been collected since 2018, LCWA shall incorporate recent data into this analysis.	Prior to Program construction/activities	LCWA
MM-BIO-30-Impacts to Estuary seablite	Figure 3.3-2d shows estuary seablite as points (i.e. individual plants occurring in specific areas). Page 22 of the Los Cerritos Wetlands Habitat Assessment Report shows estuary seablite occuring in two large polygons, suggesting plants are more widespread around Steamshovel Slough than shown in Figure 3.3-2d. Clarify whether estuary seablite currently occurs as a few individuals restricted to the shore or many more plants distributed across a larger area.	Prior to Program construction/activities	LCWA
MM-BIO-31-Impacts to Rare plants	LCWA shall use the following minimum mitigation ratios for rare: 3:1 for southern tarplant and 7:1 for Coulter's goldfields, estuary seablite, California boxthorn, Lewis' primrose, southwestern spiny rush, and woolly seablite.	Prior to Program construction/activities	LCWA
MM-BIO-32-Impacts to Sensitive vegetation communities	LCWA shall use the following minimum mitigation ratios for sensitive vegetation communities: 5:1 for S2-ranked communities and 3:1 for S3-ranked communities. LCWA shall include a discussion as to the reasoning for a 60 percent absolute vegetation cover success criterion for restoring sensitive vegetation communities.	Prior to Program construction/activities	LCWA

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MM-BIO-33-Impacts to Rare plants and sensitive vegetation communities	LCWA shall disclose where mitigation will take place, on or off site, and why the selected mitigation area(s) are appropriate for each special-status species or sensitive vegetation community based on vegetation composition, soils, substrate, slope, etc. Disclosures could be made in a Mitigation, Maintenance, and Monitoring Program and/or Restoration Plan for rare plants and sensitive vegetation communities (see below).	Prior to Program construction/activities	LCWA
MM-BIO-34-Impacts to Rare plants and sensitive vegetation communities	LCWA shall provide a Mitigation, Maintenance, and Monitoring Program and/or Restoration Plan for rare plants and sensitive vegetation communities as appendices in the DPEIR for review and commenting.	Prior to Program construction/activities	LCWA
MM-BIO-35-Restoration Techniques	LCWA shall use Restoration Techniques described under **Comment #5** (page 11) for project-level activities under the Program and include the language as a BIO mitigation measure.	To be implemented during Program construction/activities	LCWA
MM-BIO-36-Restoration Techniques	LCWA shall expand on the herbicide-use language on page 2-77 by providing safety measures, protocols, and standards regarding herbicide use (or no herbicide use) around special-status plants, wildlife, and vegetation communities. LCWA shall also implement buffer zones to protect species-status species, including habitat structures, from direct herbicide contact and drift.	To be implemented during Program construction/activities	LCWA
MM-BIO-37-Restoration Techniques	LCWA shall consider controlling large areas of black mustard, ripgut brome, and poison hemlock in phases instead of removing all vegetation at one time. Non-native vegetation could support wildlife such as birds, small mammals, small frogs, and snakes, which could be displaced if non-native vegetation is completely removed and native vegetation has yet to be restored. Non-native vegetation should remain in place to the extent feasible to support wildlife until seeded or planted native vegetation	To be implemented during Program construction/activities	LCWA

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	reaches an appropriate size, density, and abundance.		
MM-BIO-38-Impacts to Wildlife	LCWA shall address CDFW's concerns with the DPEIR's jurisdictional delineation described under **Comment #6 – Jurisdictional Delineation** (page 12).	Prior to Program construction/activities	LCWA
MM-BIO-39-Impacts to Wildlife	LCWA shall clarify/discuss whether the new office at the Pumpkin Patch site will conflict with restoration of the site and potentially impact Belding's savannah sparrows (i.e. noise level, increased human activity) in the Program Area.	Prior to Program construction/activities	LCWA
MM-BIO-40-Impacts to Plants and wildlife	LCWA shall reevaluate long-term conceptual plans, especially for the South Area (e.g. Figure 2-14) to maximize vegetation community diversity, not only habitat types. Upland habitats should be resilient to 1.7 and 3.5 ft. of sea level rise. Additional details found under **Comment #8 – Plan Alternatives** (page 13).	Prior to Program construction/activities	LCWA
MM-BIO-41-Impacts to Plants and wildlife	The DPEIR proposes a Program that will constantly modify the LCWA over the next 20 years. Erecting, lowering, breaching, removing berms or flood walls after or during restoration may impact and disrupt biological resources and water flow. LCWA shall minimize disruptive activities and consider workflows (i.e. Table ES-1, ES-2, ES-3, ES-4) that strategically schedules landscape and waterflow-altering projects for the near-term to the extent possible.	Prior to Program construction/activities	LCWA
MM-BIO-42-Impacts to Plants and wildlife	Assess and discuss potential impacts to biological resources up and downstream of the LCWC along the San Gabriel River because the Program could lead to a drop in water level. A review of CNDDB found western spadefoot, tricolored black bird, and western pond turtle, upstream of the LCWC.	Prior to Program construction/activities	LCWA

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MM-BIO-43-Impacts to Plants and wildlife	Clearly show where the Seal Beach Residential Project and Haynes Generating Station Intake Channel Infill Project will occur in Program maps, and implement Mitigation Measures for burrowing owl (**MM-BIO-8** and **9**) and Pacific green sea turtle (**MM-BIO-14** and **15**) because there may be cumulative impacts to wildlife.	Prior to Program construction/activities	LCWA

Comment Letter CDFW

CDFW-20

From:	Kwan-Davis, Ruby@Wildlife
To:	Sally Gee
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Subject:	CDFW Comments on Los Cerritos Wetlands Restoration Plan DPEIR
Date:	Monday, July 6, 2020 11:51:38 AM
Attachments:	CDFW Comments on Los Cerritos Wetlands Restoration Plan DPEIR.pdf

Dear Ms. Gee,

The California Department of Fish and Wildlife has completed review of a Draft Program Environmental Impact Report (DPEIR) submitted by the Los Cerritos Wetlands Authority for the following Program: Los Cerritos Wetlands Restoration Plan (SCH # 2019039050). Please find CDFW's comment letter attached. Thank you for the opportunity to provide comments and for extending the comment period. If you have any questions or concerns regarding CDFW's comments, please feel free to reach out at your convenience.

Sincerely,
Ruby

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California Department of Fish and Wildlife, July 6, 2020

Comment Letter CDFW

Response CDFW-0

The commenter acknowledges receipt of the Draft PEIR by California Department of Fish and Wildlife. Specific comments regarding the Draft PEIR are provided and responded to below.

The commenter provides a summary of the proposed program and does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response CDFW-1

The commenter recommends that the Upper Los Cerritos Wetlands Mitigation Bank property boundary be identified in text and on maps and that the LCWA should limit public access to the Mitigation Bank. The Bank Enabling instrument for this proposed mitigation bank has not been finalized. Therefore, it is still a draft plan and may or may not move forward as currently proposed. The public access program is still being determined by the agencies on the Interagency Review Team and is also governed by that project's Coastal Development Permit conditions of issuance. **Figure 2-8**, *Los Cerritos Wetlands Oil Consolidation and Restoration Project*, of the Draft PEIR clearly indicates the proposed restoration plan that could occur on the bank property as shown in the certified EIR for the Los Cerritos Wetlands Oil Consolidation and Restoration Project.

Response CDFW-2

The commenter states that focused surveys are needed for this Draft PEIR as a basis for evaluating species presence/absence, identifying potential impacts, and proposing appropriate mitigation measures. The commenter further claims that surveys for sensitive plant and wildlife species were not completed prior to the preparation of the Draft PEIR. The comment goes on to state that the lack of species-specific surveys prevents full disclosure of potential Program-related impacts and prevents full analysis of those impacts in the Draft PEIR. The comment continues by recommending that additional surveys be conducted before determining meaningful avoidance, minimization and mitigation measures.

This comment is not entirely accurate because numerous studies have been conducted regarding the biological resources of the program area. Chapter 3.3 Biological Resources, Section 3.3.2.1 states that surveys were conducted in the North and Central areas over a seven-year period and the recent supplemental surveys were conducted in 2019. A summary of the surveys conducted within the program area are described in Section 3.3.2.1 and include botanical surveys, and focused surveys for burrowing owl and Belding's savannah sparrow. It must also be stated that as each phase of the restoration plan is designed, further CEQA analysis at the project-level of analysis will be required and public comment will be possible at each stage. See Chapter 2 Project Description, Section 2.1.2 for revised text that describes the restoration and CEQA process subsequent to the certification of the PEIR.

It should also be noted that access to all the properties within the program area is not currently available for surveys because of current land ownership. Additionally, because the restoration plan will be implemented over a 20-30-year period, perhaps even longer, focused surveys conducted in 2019 or 2020 would be clearly out-of-date by the time certain phases of the restoration plan are designed, let alone implemented. Another consideration when scheduling surveys is the recognition that some habitat areas will change over time and suitable habitat that may not be present in one portion of the program area, may become established later in the restoration process because the early phase of restoration will likely have a positive benefit to surrounding areas not yet restored.

As stated in the Executive Summary, Section ES.5.4, a project-level EIR was prepared for the City of Long Beach to evaluate the environmental effects associated with the Los Cerritos Wetlands Oil Consolidation and Restoration Project (State Clearinghouse Number 2016041083). The project applicant, Beach Oil Minerals Partners (BOMP), proposes to consolidate existing oil operations and implement a wetlands habitat restoration project in portions of the North and Central Areas within the Program area as well as on property that falls completely outside of the program area. That EIR was certified by the City of Long Beach City Council on January 16, 2018. The Local Coastal Program Amendment associated with the Los Cerritos Wetlands Oil Consolidation and Restoration Project was approved by the California Coastal Commission (CCC) on August 8, 2018, with modifications to the amendment approved on October 2, 2018. The Coastal Development Permit was conditionally approved by the CCC on December 13, 2018. This PEIR partially relies on the technical analysis, impact discussion, and mitigation measures documented in the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse Number 2016041083) for a portion of the program area. No new information of substantial importance or change in circumstance with the Los Cerritos Wetlands Oil Consolidation and Restoration Project requires re-evaluation of the analysis in that EIR.

The Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR contains more detailed and quantitative analysis than this PEIR because this PEIR is evaluating the impacts associated with implementing the Los Cerritos Wetlands Restoration Plan, which is not yet a specifically designed project as is the case for the Los Cerritos Wetlands Oil Consolidation and Restoration Project. The Los Cerritos Wetlands Oil Consolidation and Restoration Project was designed to be consistent with the goals and objectives of the Los Cerritos Wetlands Final Conceptual Restoration Plan.

The mitigation measures developed for this PEIR are designed to augment the baseline understanding of the resources for each phase of the restoration plan and to focus on avoidance in the restoration design where special-status species are documented (See Section 3.3 Biological Resources, Section 3.3.5 for mitigation measures). For this to be effective, focused surveys should be timed to be less than two years old during the detailed planning and implementation of individual area restoration projects. Mitigation Measure BIO1: Avoidance of Special-Status Plants will be implemented prior to each design phase and the mitigation measure is modified to provide more specific timing for such surveys for the special-status plant species with the highest potential to occur, or have been previously recorded.

Mitigation Measure BIO3: Belding's Savannah Sparrow Habitat requires accurate and current mapping of this listed species in order for restoration activities to avoid take of this species. Mitigation Measure BIO4: Nesting Bird and Raptor Avoidance requires identification of active nests within the program area. Timing is important for the validity of such surveys and the mitigation measure is modified to specify timing of such surveys in relation to both design and construction/implementation. Mitigation Measure BIO5: Habitat Assessment and Pre-Construction Surveys for Burrowing Owl requires a habitat assessment for the species and this mitigation measure is modified to specify survey timing for burrowing owl to be conducted prior to restoration plan design for each location within the program area. Mitigation Measure BIO7: Pre-Construction Bat Surveys is modified to be conducted prior to design, in addition to prior to start of construction activities.

Mitigation Measure BIO8: Focused Surveys for Special-Status Wildlife Species. Focused wildlife surveys will be conducted prior to implementation of the design phase of the restoration plan to determine presence/absence and potential impacts prior to LCWA's approval of project plans and subsequent CEQA documentation. This mitigation measure requires that surveys be conducted where suitable habitat is present for any special-status wildlife species listed in **Table 3.3-4,** *Special-Status Plants with Potential to Occur within the Program Area,* of the Draft PEIR. Lastly, it needs to be stated that the program itself will greatly enhance the value of habitat at the Los Cerritos Wetlands, which currently is impacted by disturbances and modifications that degrade habitat value. With the success of the restoration efforts, the Los Cerritos Wetlands Complex should become home to a greater number of species over time.

Response CDFW-3

The commenter recommends that baseline surveys be conducted for the many special-status species identified in this PEIR. The comment lists surveys for bats, Belding's savannah sparrow, burrowing owl, least Bell's vireo, monarch butterfly, Pacific green sea turtle, red-diamond rattlesnake Southern California steelhead, tidewater goby, western pond turtle, Pacific pocket mouse, south coast marsh vole and southern California salt marsh shrew. The comment also provides embellishment for certain mitigation measures.

Please see Response to Comment No. CDFW-2 above regarding the timing consideration for special-status species surveys. LCWA concurs that additional special-status species surveys are prudent as knowledge of the resources present will allow an efficient and effective restoration design to maximize habitat benefit to the Los Cerritos Wetlands Complex.

Mitigation Measure BIO7 in Section 3.3.5 Project Impacts and Mitigation Measures of the draft PEIR, is modified to conduct bat surveys, including of palm trees, which will help determine whether existing trees should be retained in each restoration area.

With regards to Belding's savannah sparrow, LCWA concurs that existing Belding's savannah sparrow habitat should be avoided to the extent feasible, prioritizing areas of high nesting activity, and other considerations to support this species. Mitigation Measure BIO3: Belding's Savannah Sparrow Breeding Habitat is modified in a manner consistent with the CDFW recommendations. The Belding's savannah sparrow Habitat Mitigation, Maintenance and

Monitoring Program (HMMMP) will be drafted in conjunction with CDFW and will be included in a subsequent environmental document. Inclusion of the HMMMP in the PEIR is not required.

Focused surveys for burrowing owl will be consistent with the CDFW 2012 Staff Report on Burrowing Owl Mitigation.

Least Bell's vireo (LBV) breeding habitat is not likely to be directly impacted and direct impacts to this species will be avoided with implementation of Mitigation Measure BIO4 (see Chapter 3.3 Biological Resources, Section 3.3.5 Project Impacts and Mitigation Measures, of the Draft PEIR). However, the Conceptual Restoration Plan will convert some willow habitat to salt marsh habitat with the potential temporal loss of LBV. The conversion of the habitat can avoid direct impact but the loss of habitat will be addressed through consultation with USFWS.

Monarch butterfly surveys are implied with Mitigation Measure BIO8 (see Section 3.3.5), which is modified to be specific to this and other special-status species. Such surveys are not necessary at the Program-level because no specific restoration design has been evaluated.

Direct impacts to Pacific green turtle will likely be avoided in the restoration design because direct in water activities will be designed to avoid impacts to aquatic wildlife. However, the restoration program includes restoring a San Gabriel River connection with the Central LCWA site, and potentially other locations. This would be achieved by removing segments of the existing levee on the north banks of the river, resulting in changes in San Gabriel River resources. Pre-restoration design surveys for Pacific green turtle in accordance with Mitigation Measure BIO8, should ensure suitable habitat occur for terrestrial or aquatic special-status species, a qualified biologist shall conduct focused habitat assessments and focused surveys to determine presence, absence and/or abundance for special-status wildlife species listed in **Table 3.3-5**, *Special-Status Wildlife with the Potential to Occur,* within the Draft PEIR, which includes Pacific green turtle and plan design will focus on wildlife avoidance.

Additional mammal, reptile and fish species will be surveyed under the provisions of Mitigation Measure BIO8. Raptors and nesting birds will have protections under Mitigation Measure BIO4 (see Section 3.3.5).

Additionally, the commenter suggests providing more information about the land bridges proposed in the three Conceptual Restoration Plan alternatives (**Figures 5-1 through 5-3**, *Final Alternatives*). While the land bridges were considered as part of the Conceptual Restoration Plan, they were not carried forward as features of the proposed program for evaluation under CEQA due to their design complexity and high construction cost. LCWA could incorporate these features as part of future design phases and would prepare the associated environmental documentation as required under CEQA at that time.

Response CDFW-4

The commenter recommends mitigation ratios for special-status plant species and sensitive natural communities of up to 7:1. The commenter also requires demographic data of special-status plant species populations be included in the environmental documentation.

This program is at least partially self-mitigating and where sensitive natural communities may be impacted in implementing the restoration plan, they will be mitigated at an appropriate ratio in kind with the habitat impacted. Specific mitigation ratios are added to the modified mitigation measures and it is reasonable to increase mitigation ratios for those sensitive natural communities with a higher sensitivity ranking. A mitigation ratio of a minimum 2:1 for natural communities with a rarity ranking of S3 or higher will be incorporated into the restoration designs. For special-status plant species, those species with small population numbers (less than 50 individuals) will incorporate mitigation ratios up to 7:1, where on-site seed sources are available, e.g., California boxthorn and southwestern spiny rush. Higher special-status plant mitigation ratios of up to 3:1 will be incorporated where suitable habitat area can support populations of large individual numbers, e.g., southern tarplant, the most common of the special-status plant species observed. This is reflected in the modified mitigation measure in Section 3.3.5.

For sensitive natural communities, which include those communities with a rank of S1-S3 as stated on the CDFW Natural Communities webpage, Mitigation Measure BIO-9 has been revised to include a minimum 2:1 for natural communities with a rarity ranking of S3 or higher and the ratio will be incorporated into the restoration designs. This mitigation measure uses the 60 percent absolute cover as the minimum success criteria because it is a realistic goal when applied to a group of natural communities, although some natural communities may have higher absolute percentages as part of the restoration design plans. The County of Los Angeles's ordinance for activities proposed for significant ecological areas does not apply within incorporated areas of the County such as the City of Long Beach.

Where seed is to be planted for the restoration efforts, the greatest effort will be made to make use of local genotypes. Mitigation Measure BIO-1 has been revised to include performance standard for the success of propagated or transplanted species will be achieved with the survival of the appropriate number of individuals meeting the mitigation ratio (1:1 for most species) after five years of growth and the establishment of a self-propagating population for annual species for a minimum of three years after revegetation completion for a specific area. In addition, it is acknowledged that transplantation of perennial plant species is a potential mitigation technique but must be used sparingly and only when the receiving site parameters are a suitable match from the donor location. It is noted that success criteria for specific special-status plant species, covered under Mitigation Measure BIO-1, will have be different form the success criteria for sensitive natural communities, covered under Mitigation Measure BIO-9.

Demographic data are not a requirement of CEQA, as long as the environmental documentation provides substantial information to assess potential impacts and the proposed mitigation is sufficient to reduce the identified impacts. Demographic data are appropriate for inclusion in regulatory permit conditions or monitoring plans in order to measure success of the mitigation efforts. Such details will be considered when designing the success criteria for specific restoration plans. Details regarding specific special-status plant populations and areas using the most current survey information available will be provided in subsequent CEQA documentation as specific restoration plan designs are developed. Where special-status species are observed in limited numbers, these areas will be prioritized for avoidance, e.g., coulter's goldfields.

In regard to estuary seablite, the individual plants depicted in Figure 3.3-2d is more accurate than the previously used polygons although the species is found extensively within the middle and upper salt marsh zones at Steamshovel Slough.

Response CDFW-5

The commenter provides recommended text to be used as part of the PEIR mitigation measures for the restoration program.

LCWA concurs with most of the recommended text and has modified appropriate mitigation measures with portions of the recommended text (See Section 3.3.5). Certainly, control of non-native species such as black mustard will be a key component of each area's restoration plan design.

Response CDFW-6

The commenter indicates that CDFW finds the Draft PEIR's jurisdictional delineation insufficient and recommends that the Draft PEIR fully identify the potential impacts to the stream or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for issuance of the Lake or Streambed Alteration Agreement (LSA). The comment also recommends modifications to the jurisdictional delineation that includes separating CDFW and California Coastal Commission (CCC) jurisdictions, identifying areas that were not assessed, discussing potential federal and/or state jurisdiction, including Sec 10 Waters; and re-evaluating isolated wetlands that may be subject to Section 1602 of the Fish and Game Code.

The primary goal of the proposed program is the restoration and expansion of coastal salt marsh throughout much of the program area including on existing oil production facilities. Implementation of the program would result in a net increase in jurisdictional wetlands and waters that would mitigate any temporary loss of stream and riparian resources that currently exist within the program area. As required in accordance with Mitigation Measure BIO10, a jurisdictional delineation report shall be prepared that describes the jurisdictional resources and the extent of jurisdiction under the USACE, RWQCB, CDFW, and CCC within each restoration area (i.e., North, South, Central and Isthmus) when project-level planning is pursued. Agency permits, including USACE Nationwide or equivalent permit, Los Angeles RWQCB Water Quality Certification, CDFW LSA, and CCC Coastal Development Permit, would be issued following the completion of the restoration design and determination of impacts to streams and wetlands at the project-level for each restoration area. As such, pursuant to Section 1600 *et seq*. and/or under CEQA, the project-level CEQA analysis for each restoration area will fully identify the potential impacts to the stream or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for issuance of the LSA Agreement.

The Draft PEIR, Chapter 3.3 Biological Resources, Section 3.3.3 Regulatory Framework of the Draft PEIR, has been revised to distinguish between CDFW and CCC jurisdiction and USACE Sec 10 waters, and acknowledges the portions of the South Area that were not assessed due to access limitations, but that will be formally delineated at the project-level. Moreover, the discussion has been revised to indicate that the potential presence of isolated or non-federal waters that may be subject to waste discharge requirements under the Porter Cologne Water

Quality Control Act will be determined based on the project-level jurisdictional delineation and permitted in accordance with Mitigation Measure BIO10, Section 3.5.5, Project Impacts and Mitigation Measures.

Response CDFW-7

The commenter requests clarification whether the new office will conflict with restoration of the Pumpkin Patch site and if Belding's savannah sparrows could be potentially impacted.

The proposed program described in Chapter 2 Project Description of the Draft PEIR would not include a new office at the Pumpkin Patch site. The commenter may be referencing the office proposed as part of the Los Cerritos Wetlands Oil Consolidation and Restoration Project (State Clearinghouse Number 2016041083). The proposed program would involve construction of earthen levees on the Pumpkin Patch site. In accordance with Mitigation Measure BIO8 in Section 3.5.5, a Wildlife Avoidance Plan will be prepared and approved by CDFW and USFWS prior to commencement of construction, which shall include specific species minimization and avoidance measures. As modified, Mitigation Measure BIO8 specifies that if special-status species cannot be avoided, Incidental Take Permits from the United States Fish and Wildlife Service and California Department of Fish and Wildlife will be required and compensatory mitigation for the loss of occupied habitat shall be provided as approved by the resource agencies.

Response CDFW-8

The commenter recommends reevaluating long-term conceptual plans, specifically in the South Area, to include more diverse vegetation communities including more upland habitat. The exact mix of different habitat types and vegetation will be further analyzed for the project-level design. The PEIR alternative considered more extensive grading in the South Area to lower the site to marshplain to be able to analyze the impacts of this amount of extensive grading. The future site design would be refined during project-level design to balance creating marsh today with creating room for habitat migration in the future.

The commenter also recommends modifying the conceptual plans to incorporate space to accommodate habitat migration with sea-level rise. The commenter specifically recommends considering 1.7 and 3.5 ft. of sea-level rise. Appendix H, *Hydrodynamics Modeling Report*, includes the modeled habitat elevation bands under 1.7 and 3.3 ft. of sea-level rise. Assuming the acreages presented in Table 2-6 occur at the average elevation within the habitat band (e.g., all of the mid marsh occurs at 5.4 ft. NAVD based on last column of Table 4-2 in Appendix H) and roughly three quarters of the tidal salt marsh is high marsh and one quarter is mid marsh, the following table summarizes the marsh acreage with 1.7 and 3.3 ft. of sea-level rise.

Habitat	Mid-term acreage	Acreage with 1.7 ft. of SLR	Acreage with 3.3 ft. of SLR
Transition Zone	16	Some from uplands	Some from uplands
High Marsh	50	16	Some from uplands
Mid Marsh	16	50	16
Low Marsh	Some along channels	16	50
Mudflat	Some along channels	Some along channels	16

With 3.3 ft. of sea-level rise, 80 percent of the initial marsh and transition zone habitat would remain, so the site as designed is resilient to up to 3.3 ft. of sea-level rise.

The commenter also asks for clarification on the amount of sea-level rise considered for the Conceptual Restoration Plan alternatives and whether those alternative reflect near, mid, or long-term restoration. Section 5.2.1.1 provides the background on the development of the current alternatives, including the history of the Conceptual Restoration Plan. The exact Conceptual Restoration Plan alternatives were not evaluated in the PEIR but led to the development of the alternatives that were analyzed. As discussed in Section 5.2.1.2:

"The Conceptual Restoration Plan identified the next step in the restoration design process:

> *Further concept development of a hybrid alternative may occur at some point in the future to maximize benefits and minimize impacts of restoration. This work may include "mixing" and "matching" certain footprints of particular alternatives with those of different alternatives to create more alternatives that may provide more overall benefit than any of these individual concepts (pg 7).*

As a result, the following alternatives were developed as hybrids of the Conceptual Restoration Plan alternatives." Therefore, these alternatives were not analyzed in the PEIR and were not classified as near, mid, or long-term restoration. The Conceptual Restoration Plan evaluated sea-level rise amounts of 1.5 and 5.5 ft.

Response CDFW-9

The commenter suggests that the proposed phasing approach be reconsidered so that there will not be continuous modifications to the landscape over the next 20 years and that oil operations should be decommissioned in the near-term. As stated in Chapter 2 Project Description, Section 2.5 LCW Restoration Plan Goals and Objectives of the PEIR, one of the goals of the LCWA's restoration planning is to "Incorporate phasing of implementation to accommodate existing and future potential changes in land ownership and usage, and as funding becomes available." As described in Sections 2.2.3 and 2.3.1 of the PEIR, the LCWA does not own all of the land or the oil leases within the program area. Therefore, in order to allow for any near-term restoration activities to move forward, flood protection is required to protect portions of the Program that are currently privately owned or being used for purposes other than conservation.

As stated in Chapter 2 Project Description, Section 2.7.1.1 of the Draft PEIR, "The timing of construction at each site is dependent on multiple variables, including property transfers, removal

of oil infrastructure, and related facilities, availability of funding, and permit approvals. Each phase of the proposed program will take multiple years to complete construction activities and with multiple years anticipated between each phase."

Agreements are not in place in all instances that would allow the LCWA to consolidate existing oil operations. As stated in the PEIR Section 2.7.1.1 "For oil operations that do not have agreements in place with LCWA, it is expected that overall levels of oil and natural gas production would continue until production decreases to below economically viable levels, after which oil production would stop production."

Response CDFW-10

The commenter suggests analyzing the impact to biological resources up and downstream of the program area due to a drop in water level caused by the program. Appendix H provides the results of the hydrodynamic modeling, which showed that the "maximum water surface elevation during the annual high tide matches the tidal boundary condition" (Chapter 2 Project Description, Section 3.2.1 Typical Tides\Central Area\Existing and Full Breach Conditions). This means that the tidal water levels within the river are not impacted by the program.

The commenter also suggests that reconnection of the river to the floodplain could cause erosion of the marsh during a larger storm event and deliver sediment runoff downstream. Appendix I presents the sediment dynamics assessment that analyzed the potential for erosion. As discussed in Impact HYD1, "For storms less than the 10-year event (10 percent or greater chance of occurrence annually), no export from the marsh is expected. The sediment dynamics analysis showed that under full breach conditions, the 100-year event could export up to 10,000 cy of sediment (Appendix I). However, these events would occur infrequently with less than a 1 percent chance of occurrence every year. While the erosion could result in an increase in turbidity during storm events, it would be an infrequent, temporary impact, and one which is typical of natural systems and already occurs at the site. As a result, erosion could result in an infrequent, temporary impact relating to the contribution of constituents to the San Gabriel River; these inputs would not have a substantial impact on the beneficial uses of the system. Additionally, Mitigation Measure HYD1 in Chapter 3.8 Hydrology and Water Quality, Section 3.8.5 Project Impacts and Mitigation Measures of the Draft PEIR, has been developed to ensure monitoring and adaptive management is conducted to recognize and address any erosion, deposition, or sediment quality issues."

Response CDFW-11

The commenter states that to provide additional comments on cumulative impacts of the proposed program, it is recommended that the Seal Beach Residential Project and Haynes Generating Station Intake Channel Infill Project are depicted and that impacts to the burrowing owl habitat in the Callaway Marsh Site be avoided. In addition, the commenter suggests that species-specific surveys for the Pacific green sea turtle should be conducted.

As indicated in Chapter 3.3 Biological Resources, Section 3.3.6 and in **Table 3-1**, *Cumulative Projects*, the Seal Beach Residential Project (Cumulative Project No. 3) occurs approximately 0.25 miles from the southwestern most portion of the program area. The Haynes Generating

Station Intake Channel Infill Project (Cumulative Project No. 22) is located adjacent to the program area at 6801 Second Street.

As indicated in Response to Comment No. CDFW-3, direct impacts to Pacific green turtle will likely be avoided in the restoration design because direct in water activities will be designed to avoid impacts to aquatic wildlife. However, the restoration program includes restoring a San Gabriel River connection with Central LCWA, and potentially other locations. This would be achieved by removing segments of the existing levee on the north banks of the river, resulting in changes in San Gabriel River resources. Pre-restoration design surveys as required by Mitigation Measure BIO8 in Section 3.5.5, will verify the use of the program area by special-status aquatic species, including the Pacific green turtle, and plan design will focus on wildlife avoidance.

As stated in Response to Comment No. CDFW-2, the mitigation measures developed for the PEIR are designed to focus on avoidance in the restoration design where special-status species are documented. In accordance with Mitigation Measure BIO5 in Section 3.5.5, a pre-construction burrowing owl survey will be conducted. If burrowing owls are detected, a Burrowing Owl Management Plan will be prepared and approved by CDFW and implemented prior to construction. Mitigation Measure BIO5 has been revised to indicate that occupied habitat will be avoided and/or enhanced by restoration design and implementation. Implementation of Mitigation Measure BIO5 would mitigate impacts to burrowing owl in accordance with the CDFW 2012 Staff Report on Burrowing Owl Mitigation.

Response CDFW-12

The commenter indicates that CDFW recommends that the LCWA seek appropriate take authorization under California Endangered Species Act (CESA) prior to implementing the Program.

Mitigation Measures BIO3 and BIO8 in Chapter 3.3 Biological Resources, Section 3.3.5 of the Draft PEIR, have been revised to indicate that an Incidental Take Permit be obtained for any listed species that may be impacted during construction or operational phase of the program, or other mitigation options identified by CDFW in accordance with Fish & Game Code, §§ 2080.1, 2081, subds. (b) and (c). These mitigation measures have further been revised to specify that 1) take will be determined at the project-level for each restoration area, 2) CDFW and USFWS consultation shall occur prior to approval of the restoration design and 3) take authorization shall be provided prior to commencement of any ground disturbing activities.

Response CDFW-13

The commenter indicates that mitigation measures for adverse Program-related impacts to sensitive plants, animals, and habitats should emphasize avoidance and reduction of Program impacts. The comment further indicates that habitat restoration, enhancement, creation and/or acquisition should be discussed in detail and that areas proposed as mitigation lands should be protected in perpetuity with a conservation easement, financial assurance and dedicated to a qualified entity for long-term management and monitoring. Lastly, the commenter emphasizes that the Lead Agency must exercise due diligence in reviewing the qualifications of the entity that

would manage the mitigation lands and that mitigation banking inquiries may be directed to the CDFW's South Coast Region Banking Coordinator.

As stated in Response CDFW-2, the mitigation measures developed for the PEIR are designed to focus on avoidance in the restoration design where special-status species are documented. Mitigation Measure BIO1: Avoidance of Special-Status Plants in Section 3.5.5 will be implemented prior to each design phase, which includes conducting focused plant surveys in accordance with Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW, March 20, 2018). Moreover, as described in Chapter 2, Project Description, the first phase of the project would include reestablishment of coastal salt marsh that would be operated as a wetland mitigation bank. The mitigation bank would be subject to a separate regulatory process overseen by the interagency review team (IRT) consisting of State and federal agencies and led by the U.S. Army Corps of Engineers, and the design and operation of the mitigation bank will be analyzed in a separate CEQA document.

Response CDFW-14

The commenter recommends that a qualified biological monitor approved by CDFW be on site prior to and during ground and habitat disturbing activities to move out of harm's way special status species or other wildlife of low mobility that would be injured or killed by construction activities. The commenter also indicates that the temporary relocation of on-site wildlife does not constitute effective mitigation for the purposes of offsetting Program impacts associated with habitat loss.

Implementation of the program will greatly enhance the value of habitat at the Los Cerritos Wetlands Complex, which currently is impacted by disturbances and modifications that degrade habitat value. With the success of the restoration efforts, the Los Cerritos Wetlands Complex should become home to a greater number of species over time. Moreover, the mitigation measures developed for the PEIR are designed to both provide a baseline understanding of the resources for each phase of the restoration plan and to focus on avoidance in the restoration design where special-status species are documented. Nonetheless, Mitigation Measure BIO8 in Section 3.5.5 has been revised to indicate that the Wildlife Avoidance Plan shall require that a qualified biological monitor approved by CDFW be onsite prior to and during ground and habitat disturbing activities to move special status species or other wildlife of low mobility out of harm's way that could be injured or killed by ground disturbing activities.

Response CDFW-15

The commenter states that the PEIR relies on future surveys and the preparation of future plans is considered deferred mitigation. The comment also states that surveys over the entire program area need to be disclosed.

The comments are correct; an environmental analysis may not defer to future studies in order to either analyze potential impacts or to determine appropriate mitigation. However, the current environmental analysis has not been deferred in that standard biological surveys were conducted by qualified biologists and the PEIR provides documentation of the resources that have

inventoried during nearly the past ten years. Additionally, all areas within a proposed project boundary are required to be analyzed. See Response to Comment No. CDFW-2 which states that access to all the properties within the program area is not currently available for surveys because of existing land ownership, that numerous studies have been conducted regarding the biological resources of the program areas, that surveys conducted now would be out-of-date by the time certain phases of the restoration is designed, and that mitigation measures for this PEIR are designed to provide a baseline understanding of the resources for each phase of the restoration plan and to focus avoidance in the restoration design where special-status species are documented. Response to Comment No. CDFW-2 goes on to state that as each phase of the restoration plan is designed, further CEQA analysis at the project-level of analysis will be required and public comment will be possible at each stage. See Chapter 2 Project Description, Section 2.1.2 for revised text that describes the restoration and CEQA process subsequent to the certification of this PEIR. Because the restoration program will be developed over a multi-year schedule, impacts for each restoration phase will be subsequently evaluated and mitigation implemented according to the program mitigation measures, as modified in this PEIR and in additional CEQA analysis. Mitigation measures in Section 3.3 5 have been modified to clarify that areas that are in future phases for restoration efforts will have surveys completed prior to design of the restoration plans. It must also be stated that as each phase of the restoration plan is designed, current field surveys will be conducted to define the baseline conditions at the time of the restoration plan.

Please see Response to Comment No. CDFW-2 for additional discussion.

Response CDFW-16

The commenter indicates that transplantation and translocation of individual plants or animals are not supported by CDFW as a primary mitigation strategy. The comment continues that study results have shown unreliable results from such mitigation practices. The commenter also offers that preservation is a preferred mitigation strategy for long-term mitigation success.

The comment is acknowledged and supported. The restoration program will incorporate preservation of habitat wherever it can be supported and wherever it would not interfere with restoration efforts for improving the overall ecosystem habitats.

Transplantation applies only to plant species and is referenced in Mitigation Measure BIO1 in Chapter 3.3 Biological Resources, Section 3.3.5, Project Impacts and Mitigation Measures. Transplantation has been successfully implemented for many species but it is acknowledged that perennial species with substrate specificity are not candidates for transplantation except where similar substrates can be documented within the proposed transplantation location. Thus, transplantation is a potential mitigation technique but must be used sparingly and only when receiving site parameters are a suitable match from the donor location.

Translocation is mentioned in association with burrowing owl mitigation (Mitigation Measure BIO6 in Section 3.3.5) and as an optional technique for other special-status wildlife species (Mitigation Measure BIO8 in Section 3.3.5) in an effort to get individual animals out of harm's way. Translocation of burrowing owl, especially passive translocation, has been a successful

technique in a number of states, including California. Optimal timing for translocation for burrowing owl appears to be to coincide with periods of natural dispersal (such as juvenile dispersal) or during the late non-breeding season, in February or early March, or in the early breeding season in March and April.

Translocation as mitigation for most other wildlife species remain experimental, although translocation has successfully been used for conservation purposes such as translocation of individual into an area to re-establish populations in formerly occupied areas. Although translocation would be used only as a last resort, in actuality, the effort would be more of a relocation, temporarily moving an animal out of harm's while construction efforts are active and animals would not likely be moved far, considering that the restoration plan will create habitat for the individual species likely to need relocation.

Please see Response to Comment No. CDFW-19 regarding acceptance of specific recommended mitigation measures at the project-level for each restoration site.

Response CDFW-17

The commenter indicates that the Program as proposed, could have an impact on fish and/or wildlife, and assessment of filing fees is necessary. The comment further states that fees are payable upon filing of the Notice of Determination by the Lead Agency.

This comment is noted, and the Lead Agency intends to pay the filing fee upon filing of the Notice of Determination.

Response CDFW-18

The commenter appreciates the opportunity to comment, requests notification of responses to said comments, and provides contact information which is noted for the record.

Response CDFW-19

The commenter is recommending a Draft Mitigation and Monitoring Reporting Plan (MMRP) that includes 43 biological resources mitigation measures (BIO1 through BIO43) to be considered for incorporation into a future environmental document for the Project.

As stated in Response to Comment No. CDFW-2, as each phase of the restoration plan is designed, further CEQA analysis at the project-level will be required and public comment will be possible at each stage. The mitigation measures developed for the PEIR are designed to both provide a baseline understanding of the resources for each phase of the restoration plan and to focus on avoidance in the restoration design where special-status species are documented. Mitigation Measures BIO1 through BIO24 proposed by the commenter include focused surveys for specific wildlife species prior to Program construction/activities. These mitigation measures are noted and will be included in the MMRP for each project-level CEQA document where appropriate.

Mitigation Measure BIO25 that is proposed by the commenter recommends that supplemental documents be provided in the appendix that discuss the impetus, design, and necessity of land

bridges proposed in **Figures 5-1, 5-2, and 5-3**, *Final Alternatives*, of the Draft PEIR and provide a discussion as to how bridges would facilitate wildlife movement around the LCWC. As indicated, as each phase of the restoration plan is designed, further CEQA analysis at the project-level will be required and public as well as responsible agencies comments will be possible at each stage.

Mitigation Measure BIO26 that is recommended by the commenter suggests including areas of non-native vegetation-dominated cover in focused surveys for special-status wildlife species dependent on grasslands/upland habitat where appropriate. As indicated in Mitigation Measure BIO8 in Section 3.3.5 of the Draft PEIR, focused surveys will be concentrated in areas that contain suitable habitat prior to LCWA's approval of the project plans or the publication of subsequent CEQA documents for any project site that potentially contains special-status species. Therefore, if it is determined that grassland/upland habitat is suitable for a particular special-status species, then such habitat would be surveyed.

The commenter recommends that a Mitigation Measure BIO27 be considered, which requires that a biological monitor be present during initial grubbing and grading operations. Mitigation Measure BIO8 in Section 3.3.5 of the Draft PEIR has been modified to require biological monitoring during ground-disturbing activities.

Mitigation Measure BIO28 presented by the commenter suggests design standards for metal fence posts to prevent injury to raptors. This suggested mitigation measure will be considered as a design feature. Moreover, as each phase of the restoration plan is designed, further CEQA analysis at the project-level will be required and the public as well as responsible agencies will be afforded an opportunity to comment.

Mitigation Measure BIO29 presented by the commenter suggests disclosing population information and impact locations for rare plants documented in the Program Area using data collected from 2012 through 2018. Due to limited access, not all of the Program areas have been surveyed because of existing ongoing operations. Additionally, because the restoration plan will be implemented over a 20-30-year period, perhaps even longer, focused surveys conducted from 2012-2018 would be clearly out-of-date by the time certain phases of the restoration plan are designed, let alone implemented. Because the extent of rare plant populations is currently unknown within the program area, focused surveyed will be conducted at the project-level for each restoration area, so that design considerations can be made to minimize impacts to individuals to the greatest extent feasible.

Mitigation Measure BIO30 presented by the commenter recommends clarifying the extent and locations of estuary seablite in the program area. **Figure 3.3-2d,** *Special-Status Plants – North Area*, and Section 3.3.2.4 c. The locations of estuary seablite in Chapter 8 and depicted in Figure 3.3-2d are based on the most recent survey conducted in 2017 by Glenn Lukos Associates, which identified 650 individuals near Steamshovel Slough. Furthermore, this is the most accurate data that has been collected. Information collected previously by Tidal Influence that depicts a polygon as mention in the comment depicts suitable habitat, not positive identification of individual plants. Lastly, the results of the 2017 survey are referenced in the Los Cerritos

Wetlands Oil Consolidation and Restoration Project EIR. As required in accordance with Mitigation Measure BIO1 in Section 3.3.5, focused plant surveys will be conducted at the project-level prior to LCWA's approval of the project plans or the publication of subsequent CEQA documents for any project site that potentially contains special-status species, so that each restoration area can be designed to minimize and/or avoid impacts to rare plants to the greatest extent feasible, as well as to establish a baseline for determining potential impacts.

Mitigation Measures BIO31 through BIO34 presented by the commenter suggests mitigation measures for rare plants and sensitive natural communities. The restoration areas will be partially self-mitigating (onsite) and where rare plants and/or sensitive natural communities may be impacted in implementing the restoration plan, they will be mitigated at an appropriate ratio. Specific mitigation ratios are added to the modified mitigation measures and it is reasonable to increase mitigation ratios for those sensitive natural communities with a higher sensitivity ranking. This is reflected in the modified mitigation measures. Moreover, restoration areas that would impact rare plants and/or sensitive nature communities will incorporate mitigation of effected rare species and sensitive communities into the design and/or will be mitigated onsite within the Program area. A Mitigation, Maintenance, and Monitoring Program and/or Restoration Plan for rare plants and sensitive vegetation communities will be prepared at the project-level for each restoration area.

Mitigation Measure BIO35 presented by the commenter recommends using the Restoration Techniques described under CDFW Comment 16 for project-level activities under the Program and include the language as a mitigation measure. The comment is acknowledged and supported. Plant transplantation is a potential mitigation technique but must be used sparingly and only when receiving site parameters are a suitable match from the donor location. This criterion has been added to Mitigation Measure BIO1 in Chapter 3.3 Biological Resources, Section 3.3.5 Project Impacts and Mitigation Measures.

Mitigation Measure BIO36 presented by the commenter recommends LCWA shall expand on the herbicide-use language in the Project Description by providing safety measures, protocols, and standards regarding herbicide use (or no herbicide use) around special-status plants, wildlife, and vegetation communities. The commenter further recommends that LCWA implement buffer zones to protect species-status species, including habitat structures, from direct herbicide contact and drift.

As stated in Chapter 2 Project Description, mechanical removal is the preferred method of removing invasive species; accordingly, invasive plant species removal would occur using mechanical methods to the maximum extent possible. Herbicides would be used in accordance with manufacturers' application guidelines for specific species when manual and mechanical removal methods are not effective and may be used in conjunction with physical removal methods for species that are known to be difficult to control. The program's restoration contractor would prepare an herbicide treatment plan for each treated invasive species, including such information as the type of herbicide to be used, application rates, and timing of treatment. Herbicides would be applied using a localized spot-treatment method and applied in a manner that would eliminate or reduce drift onto native plants, including special-status species. In all such

cases, they would be used only to the extent necessary to support native plant establishment and limit adverse impacts to sensitive species and habitats. As currently stated, herbicides would not be used if wind conditions are not appropriate for application. Any use of herbicides would also be in full accordance with any applicable rules and restrictions, including any restrictions in the City of Long Beach Local Coastal Program.

Mitigation Measure BIO37 presented by the commenter recommends controlling large areas of black mustard, ripgut brome, and poison hemlock in phases instead of removing all vegetation at one time, because non-native vegetation could support wildlife that could be displaced if non-native vegetation is completely removed and native vegetation has yet to be restored. As indicated in Chapter 2 and Mitigation Measure BIO1 within Chapter 3.3 Biological Resources, Section 3.3.5 Project Impacts and Mitigation Measures, of the Draft PEIR, vegetation would be biologically monitored prior to clearing to prevent inadvertent impacts to sensitive wildlife species, including nesting birds. Furthermore, non-native vegetation removal would occur during separate occasions for each restoration area; therefore, large swaths of vegetation will be available within the program area for wildlife that may be displaced. This includes areas that would have already been restored as well as those that have yet to be restored, including properties immediately adjacent that are outside of the program area.

Mitigation Measure BIO38 presented by the commenter suggests that LCWA address CDFW's concerns with the PEIR's jurisdictional delineation. This comment has been addressed in Response to Comment No. CDFW-6.

Mitigation Measure BIO39 presented by the commenter recommends that LCWA clarify whether the new office at the Pumpkin Patch site will conflict with restoration of the site and potentially impact Belding's savannah sparrows. This comment has been addressed in Response to Comment No. CDFW-7.

Mitigation Measure BIO40 presented by the commenter recommends that long-term conceptual plans be reevaluated, especially for the South Area to maximize vegetation community diversity, not only habitat types, including acknowledgement of upland habitat resiliency to sea level rise. This comment has been addressed in Response to Comment No. CDFW-8.

MM Mitigation Measure BIO41 presented by the commenter indicates that erecting, lowering, breaching, removing berms or flood walls after or during restoration may impact and disrupt biological resources and water flow and that LCWA shall minimize disruptive activities and consider workflows that strategically schedules landscape and waterflow altering projects for the near-term to the extent possible. This comment has been addressed in Response to Comment No. CDFW-9.

Mitigation Measure BIO42 presented by the commenter recommends addressing potential impacts to biological resources up and downstream along the San Gabriel River because the Program could lead to a drop in water level, effecting special-status aquatic wildlife species. This comment has been addressed in Response to Comment No. CDFW-10.

Mitigation Measure BIO43 presented by the commenter recommends showing where the Seal Beach Residential Project and Haynes Generating Station Intake Channel Infill Project will occur in Program maps, and implement Mitigation Measures for burrowing owl and Pacific green sea turtle due to potential cumulative impacts. This comment has been addressed in Response to Comment No. CDFW-11.

Response CDFW-20

Responses to the referenced letter are provided above in Responses to Comments Nos. CDFW-1 to CDFW-19.

Comment Letter CSB

City of Seal Beach

CITY HALL 211 EIGHTH STREET
SEAL BEACH, CALIFORNIA 90740
(562) 431-2527 • www.sealbeachca.gov

July 6, 2020

Sally Gee
Los Cerritos Wetlands Authority
100 N. Old San Gabriel Canyon Rd.
Azusa, CA 91702

RE: CITY OF SEAL BEACH COMMENTS ON DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT FOR THE LOS CERRITOS WETLANDS RESTORATION PLAN (STATE CLEARING HOUSE #2019039050)

Dear Ms. Gee,

CSB-1 Pursuant to Public Resources Code Sections 21091 and 21092, and California Environmental Quality Act (CEQA) State Guidelines Sections 15105 and 15087, this letter is written in response to the Draft Program Environmental Impact Report (PEIR), State Clearinghouse No. 2019039050, for the Los Cerritos Wetlands Restoration Plan as prepared by Environmental Science Associates (ESA).

The project location is identified as an approximately 503 acre area located in the east Long Beach and north Seal Beach areas, straddling both Los Angeles County and Orange County. The program proposed to restore wetland, transitional, and upland habitats throughout the subject area. This includes construction of new public access, flood management facilities, and modification of existing infrastructure and utilities. Therefore, the proposed program will have a direct impact on property located within the City of Seal Beach. The items identified below provide comments from the City of Seal Beach.

CSB-2 Section 2.72 of the DEIR provides a summary of the phasing of restoration improvements proposed for the South Area. Of particular interest is the near-term listed activity of building a Seal Beach Visitors Center and associated parking. It is believed that conducting this activity as early as possible in this activity phase would be of great benefit in being able to educate and inform residents and visitors alike of the remediation and restoration efforts underway and those planned over the next several years. In addition, it is encouraged for the Center to also include information regarding the history of the property, including cultural history of the California Native Americans.

CSB-3 Access to the Center and associated parking should be limited to 1st Street with no direct vehicular access provided to Pacific Coast Highway. In addition, street improvements to Pacific Coast Highway should also be completed across the subject property consistent with City and CALTRANS standards, and ensure safe pedestrian and bicycle access and connectivity between 1st Street, the San Gabriel River Trail and the San Gabriel River Bridge.

Within this same section, it is identified that a new restricted trail will be constructed that will connect Gum Grove Park with the Sam Gabriel River Trail. It is noted that access will be initially

CSB-4 restricted to docent-led tours. A second restricted trail is also noted in the same section. The addition of these trails will further enhance use of Gum Grove Park and the Gum Grove Trail. Since the identified routes are within native grassland area, as identified on Figures 2-16 and 2-17, it is hopeful that the restricted use of the identified trails and overlook will be short in duration in order to promote and encourage pedestrian use of the area and connectivity between the proposed Visitors Center and Gum Grove Park. However, efforts should be made to limit placing the proposed trails in close proximity to the established adjacent residences to the south.

CSB-5 Sections 2.7.2.5 and 3.16.5 note the City's existing waterline within the South Area, more specifically with the existing 1st Street road area. It is identified in the PEIR that the City intends to reline the existing waterline, which is scheduled to occur within the next 18-24 months. In addition to notifying OCWD and LBWD prior to ground disturbance, the City of Seal Beach requests being notified as well. It is requested that notification of at least 30 days be provided for any disturbance that would result in disruption of water service.

CSB-6 In general, it is appreciated that impacts to Seal Beach have been carefully considered, including certain mitigation measures that ensure minimal impact, if any, during construction activity. Of particular interest is construction impacts associated with air quality, noise and transportation. The applicable chapters of the PEIR represent impacts to be negligible with the proposed identified mitigation measures. With the phasing of work spanning greater than 20 years, it is imperative that communication between the Los Cerritos Wetland Authority (LCWA) and the City remain strong, including occasionally revisiting the PEIR with regard to schedule and assurance that all applicable mitigation measures are being implemented.

CSB-7 Thank you for the opportunity to comment. Should you have any questions in regard to our comments or wish to further discuss, please do not hesitate to contact me.

Sincerely,

Les Johnson
Community Development Director

C: Jill Ingram, City Manager
Steve Myrter, Public Works Director
Iris Lee, Deputy Dir. of Public Works/City Engineer

CSB-8

From: Les Johnson
To: Sally Gee
Subject: City of Seal Beach Comment Letter - Draft PEIR for Los Cerritos Wetlands Restoration Plan
Date: Monday, July 6, 2020 3:39:03 PM
Attachments: PEIR Comment Letter 7-6-20.pdf

Ms. Lee,
Please find attached to this email written comments from the City of Seal Beach with regard to the Draft Program Environmental Impact Report for the Los Cerritos Wetlands Restoration Plan. Should you have any questions, comments or wish to discuss, please do not hesitate to contact me. Thank you.

Les Johnson
Community Development Director
City of Seal Beach – 211 Eighth Street, Seal Beach, CA 90740
(562) 431-2527, Ext. 1313

Civility Principles:

1. Treat everyone courteously;
2. Listen to others respectfully;
3. Exercise self-control;
4. Give open-minded consideration to all viewpoints;
5. Focus on the issues and avoid personalizing debate; and,
6. Embrace respectful disagreement and dissent as democratic rights, inherent components of an inclusive public process, and tools for forging sound decisions.

For Information about Seal Beach, please see our city website: www.sealbeachca.gov

NOTICE: This communication may contain privileged or other confidential information. If you are not the intended recipient of this communication, or an employee or agent responsible for delivering this communication to the intended recipient, please advise the sender by reply email and immediately delete the message and any attachments without copying or disclosing the contents. Thank you.

City of Seal Beach, July 6, 2020

Comment Letter CSB

Response CSB-1

The commenter acknowledges receipt of the Draft PEIR and provides a summary of the proposed program. Specific comments regarding the Draft PEIR are provided and responded to below.

Response CSB-2

The commenter expresses support for the proposed Seal Beach Visitors Center to be completed as early as possible and that it should include cultural history of the California Native Americans. The LCWA will work with the City of Seal Beach to determine a timeline for the proposed Visitors Center and ensure that the interpretive aspects of the center accurately represent the cultural history of California Native Americans with input from those tribes that LCWA consulted with during the preparation of this PEIR.

Response CSB-3

The commenter indicates that access and parking for the Seal Beach Visitor Center should be limited to 1st Street and that necessary improvements be made to ensure safe public access. Chapter 2 *Project Description,* of the Draft PEIR states that parking and access would be along 1st Street only. The LCWA will work with the City of Seal Beach to determine all necessary improvements to ensure visitor safety.

Response CSB-4

The commenter expresses concern for the length of the proposed trails on the South LCWA Site and suggests they should not be placed near the adjacent residences. All efforts will be made to ensure the location of the trails do not disrupt nearby residents while promoting use of Gum Grove Park and the proposed Visitors Center.

Response CSB-5

The commenter requests that the City Seal Beach be notified prior to any ground disturbance and be given 30 days-notice in advance of disruption to water service. As presented in Table 2-18, the LCWA would be required to acquire a site plan review and grading and encroachment permits for any work done in the City of Seal Beach. As part of this permitting process, advance notice would be provided to the City.

Response CSB-6

The commenter recognizes the numerous mitigation measures being put in place to reduce construction impacts and requests that the LCWA maintain regular communication with the City of Seal Beach throughout all phases of the program. The City of Seal Beach is a member of the LCWA Steering Committee and an appointed board member of the LCWA. Communication with Seal Beach will continue throughout all phases of the program implementation.

Response CSB-7

The commenter provides a general conclusion statement and does not raise any specific issues regarding the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response CSB-8

Responses to the referenced letter are provided above in Responses to Comments Nos. CSB-1 to CSB-7.

Comment Letter LASD

LOS ANGELES COUNTY SANITATION DISTRICTS
Converting Waste Into Resources

Robert C. Ferrante
Chief Engineer and General Manager

1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
(562) 699-7411 • www.lacsd.org

July 6, 2020
Ref. DOC 5720951

Ms. Sally Gee
Los Cerritos Wetlands Authority
100 North Old San Gabriel Canyon Road
Azusa, CA 91702

Dear Ms. Gee:

Draft PEIR Response for Los Cerritos Wetlands Restoration Plan

LASD-1 The Los Angeles County Sanitation Districts (Districts) received a Draft Program Environmental Impact Report (PEIR) for the subject project on May 11, 2020. The proposed project areas within the Districts' sphere of influence are located within the jurisdictional boundary of District No. 3. Previous comments submitted by the Districts in correspondence dated April 3, 2019 (copy enclosed) still apply to the subject project with the following comments:

LASD-2 1. 2.2.3 Project Areas, *page 2-6*, North Area paragraph – The Districts maintain sewerage facilities within this portion of the project area, predominantly within the Southern Synergy Oil Field Site, that may be affected by the proposed project. Approval to construct improvements within a Districts' sewer easement and/or over or near a Districts' sewer is required before construction may begin. For a copy of the Districts' buildover procedures and requirements go to www.lacsd.org, under Services, then Wastewater Program and Permits and select Buildover Procedures.

LASD-3 2. City of Long Beach, *page 3.16-5*, first paragraph – The Districts are named as the wastewater services provider for the program areas and state this includes "the current practice of accepting produced water from oil extraction on the program area." These project areas may require an amendment to a Districts' permit for Industrial Wastewater Discharge. Project developers should contact the Districts' Industrial Waste Section in order to reach a determination on this matter. If this update is necessary, project developers will be required to forward copies of final plans and supporting information for the proposed project to the Districts for review and approval before beginning project construction.

LASD-4 All information concerning Districts' facilities and sewerage service contained in the document is current. If you have any questions, please contact the undersigned at (562) 908-4288, extension 2717 or at araza@lacsd.org.

Very truly yours,

Adriana Raza
Customer Service Specialist
Facilities Planning Department

AR:ar
Enclosure
cc: D. Thomas
J. Kilgore

Comment Letter LASD

COUNTY SANITATION DISTRICTS
OF LOS ANGELES COUNTY

1955 Workman Mill Road, Whittier, CA 90601-1400
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GRACE ROBINSON HYDE
Chief Engineer and General Manager

April 3, 2019

Ref. Doc. No.: 4959987

LASD-5

Ms. Sally Gee
Los Cerritos Wetlands Authority
100 North Old San Gabriel Canyon Road
Azusa, CA 91702

Dear Ms. Gee:

NOP for Los Cerritos Wetlands Restoration Plan

The Sanitation Districts of Los Angeles County (Districts) received a Notice of Preparation of a Draft Environmental Impact Report (NOP) for the subject project on March 12, 2019. The majority of the proposed project area is located within the jurisdictional boundaries of District No. 3. We offer the following comments:

1. The proposed project may impact existing and/or proposed Districts' facilities (e.g. trunk sewers, recycled waterlines, etc.) over which it will be constructed. Districts' facilities are located directly under and/or cross directly beneath the proposed project alignment. The Districts cannot issue a detailed response to or permit construction of, the proposed project until project plans and specification that incorporate Districts' facilities are submitted for our review. To obtain copies of as-built drawings of the Districts' facilities within the project limits, please contact the Districts' Engineering Counter at engineeringcounter@lacsd.org or (562) 908-4288, extension 1205. When project plans that incorporate our facilities have been prepared, please submit copies of the same to the Engineering Counter for our review and comment.

2. Availability of sewer capacity depends upon project size and timing of connection to the sewerage system. Because there are other proposed developments in the area, the availability of trunk sewer capacity should be verified as the project advances. Please submit a copy of the project's build-out schedule to the undersigned to ensure the project is considered when planning future sewerage system relief and replacement projects.

If you have any questions, please contact the undersigned at (562) 908-4288, extension 2717.

Very truly yours,

Adriana Raza
Customer Service Specialist
Facilities Planning Department

AR:ar

cc: Engineering Counter
A. Howard

DOC 4994105.D03

LASD-6

From: Raza, Adriana
To: Sally Gee
Subject: Los Cerritos Wetlands Restoration Plan
Date: Monday, July 6, 2020 3:14:10 PM
Attachments: image001.png
image006.png
image007.png
Los_Cerritos_Wetlands_Restoration_Plan.pdf

Sally,

Attached please find a pdf copy of the Draft PEIR Response letter for the subject project. Because of the stay at home order, an original hard copy will not be mailed to your attention. After the order has been lifted, please contact me at the information below if you will require a hard copy for your records.

Adriana Raza
Customer Service Specialist | Facilities Planning Department
562-908-4288 ext. 2717 | araza@lacsd.org

LOS ANGELES COUNTY SANITATION DISTRICTS
Converting Waste Into Resources | www.LACSD.org

Los Angeles County Sanitation District, July 6, 2020

Comment Letter LASD

Response LASD-1

The commenter acknowledges receipt of the Draft PEIR by the Los Angeles County Sanitation District. The commenter notes that previous comments were submitted by the Los Angeles County Sanitation District that still apply and are enclosed with the letter. The enclosed comments note that Los Angeles County Sanitation District cannot provide a detailed response or permit construction until project plans and specification that incorporate the Los Angeles County Sanitation District facilities are submitted for review. The enclosed comments also note that trunk sewer capacity should be verified as the project advances.

In response to the enclosed comments, project plans will be prepared as part of individual restoration projects subsequent to the preparation of this PEIR and will be submitted to Los Angeles County Sanitation District for review.

Additional specific comments regarding the Draft PEIR are provided and responded to below.

Response LASD-2

The commenter notes that an approval to construct improvements within a Districts' sewer easement and/or over or near a Districts' sewer is required before construction may begin. As shown in **Table 2-17**, *Required Permits and Approvals*, of the Draft PEIR, permits/approvals from multiple agencies, including Los Angeles County Sanitation District would be obtained as necessary according to specific detailed designs for the proposed restoration activity. These permits/approvals would be determined on a project level basis and subsequent to the preparation of this PEIR.

Response LASD-3

The commenter notes that the project areas may require an amendment to a Districts' permit for Industrial Wastewater Discharge. Permits and approvals (including an amendment to an existing permit) would be obtained as necessary according to specific detailed designs for the proposed restoration activity. These permits/approvals would be determined on a project level basis and subsequent to the preparation of this PEIR.

Response LASD-4

The commenter provides contact information and is noted for the record.

Response LASD-5

The commenter is including a prior letter submitted in response to the Notice of Preparation. Responses to the referenced letter are provided in Responses to Comments Nos. LASD-1.

Response LASD-6

Responses to the referenced letter are provided above in Responses to Comments Nos. LASD-1 – LASD-5.

Comment Letter SLC

STATE OF CALIFORNIA GAVIN NEWSOM, *Governor*

CALIFORNIA STATE LANDS COMMISSION
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

JENNIFER LUCCHESI, *Executive Officer*
(916) 574-1800 *Fax* **(916) 574-1810**
California Relay Service TDD Phone **1-800-735-2929**
from Voice Phone **1-800-735-2922**

Contact Phone: **(916) 574-1890**

Established in 1938

July 6, 2020

File Ref: SCH #2019039050

Sally Gee
Los Cerritos Wetlands Authority
100 N. Old San Gabriel Canyon Rd.
Azusa, CA 91702

VIA ELECTRONIC MAIL ONLY (sgee@rmc.ca.gov)

Subject: Draft Program Environmental Impact Report (PEIR) for the Los Cerritos Wetlands Restoration Plan, East Long Beach and North Seal Beach areas, Los Angeles County and Orange County

Dear Ms. Gee:

SLC-1 The California State Lands Commission (Commission) staff has reviewed the subject Draft PEIR for the Los Cerritos Wetlands Restoration Plan (Program), which is being prepared by the Los Cerritos Wetlands Authority (LCWA). The LCWA, as the public agency proposing to carry out the Project, is the lead agency under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.). The Commission is a trustee agency for projects that could directly or indirectly affect sovereign land and their accompanying Public Trust resources or uses. Additionally, because the Project involves work on sovereign land, the Commission will act as a responsible agency.

Commission Jurisdiction and Public Trust Lands

SLC-2 The Commission has jurisdiction and management authority over all ungranted tidelands, submerged lands, and the beds of navigable lakes and waterways. The Commission also has certain residual and review authority for tidelands and submerged lands legislatively granted in trust to local jurisdictions (Pub. Resources Code, §§ 6009, subd. (c); 6009.1; 6301; 6306). All tidelands and submerged lands granted or ungranted, as well as navigable lakes and waterways, are subject to the protections of the common law Public Trust Doctrine.

As general background, the State of California acquired sovereign ownership of all tidelands and submerged lands and beds of navigable lakes and waterways upon its admission to the United States in 1850. The State holds these lands for the benefit of all people of the state for statewide Public Trust purposes, which include but are not limited

SLC-2 Cont.

to waterborne commerce, navigation, fisheries, water-related recreation, habitat preservation, and open space. On tidal waterways, the State's sovereign fee ownership extends landward to the mean high tide line, except for areas of fill or artificial accretion or where the boundary has been fixed by agreement or a court. Such boundaries may not be readily apparent from present day site inspections.

Lease 9005.9, a General Lease – Public Agency Use (Lease), was issued to the LCWA by the Commission for use of a parcel of state-owned sovereign land located in the city of Seal Beach, adjacent to Pacific Coast Highway, the San Gabriel River channel, and 1st Street. Under the Lease, the LCWA is currently authorized to perform debris clean-up, invasive species abatement, and conduct escorted and supervised public education programs within the parcel. The Draft PEIR proposes to construct a visitor center and parking area within the existing lease area. As these uses are not currently authorized and the existing lease will expire on August 13, 2022, the LCWA will need to apply for a new lease from the Commission for any proposed construction activities and uses planned for the State Lands parcel. As part of that application, a detailed project description, including construction drawings with a site plan, will be required.

Please note that the State Lands parcel is subject to four other leases with authorizations for various uses: Lease 3154.9, a General Permit – Public Agency Use to the city of Los Angeles Department of Water and Power for a water intake structure; PRC 5283.9, a General Permit – Public Agency Use to the city of Seal Beach for a bicycle trail and transportation corridor, and appurtenant improvements; Lease 5981.1, a Right-of-Way Easement to the Southern California Edison Company for an overhead transmission line; and Lease 8726.9, a General Lease – Public Agency Use to the Orange County Flood Control District for access to the Los Alamitos Retention Basin. To ensure there are no conflicting uses proposed with any existing lessees, the LCWA will be required to obtain letters of concurrence from each lessee acknowledging and agreeing to any proposed construction activities and uses within the parcel.

Project Description

The purpose of the Draft PEIR is to identify the significant environmental impacts of the proposed program, to identify alternatives to the proposed program, and to indicate the manner in which those significant effects could be mitigated or avoided. It serves as a first-tier environmental document and the foundation for subsequent CEQA analysis.

SLC-3

The goals and objectives of the proposed Program would:

- Restore tidal wetland processes and functions to the maximum extent possible
- Maximize contiguous habitat areas and maximize the buffer between habitat and sources of human disturbance.
- Create a public access and interpretive program that is practical, protective of sensitive habitat and ongoing oil operations, economically feasible, and will ensure a memorable visitor experience.
- Incorporate phasing of implementation to accommodate existing and future potential changes in land ownership and usage, and as funding becomes available.

- Strive for long-term restoration success.
- Integrate experimental actions and research into the project, where appropriate, to inform restoration and management actions for this project.

From the Program Description, Commission staff understands that the Program would include the following component that has the potential to affect State sovereign land:

SLC-3 Cont.

- Potential public access improvements and visitor amenities - would include building a Seal Beach Visitor Center and associated parking on an existing raised building pad on the State Lands Parcel site in the South area within the next 10 years.

The Draft PEIR identifies Alternative 2 as the Environmentally Superior Alternative. This alternative would reduce impacts to biological resources, greenhouse gas emissions, and energy use, but does not reduce impacts related to air quality, cultural and tribal resources, and noise and vibration.

Environmental Review

Commission staff requests that the LCWA consider the following comments on the Project's Draft PEIR to ensure that impacts to State sovereign land are adequately analyzed for the Commission's use of the PEIR and subsequent environmental documents to support a future lease approval for the Program.

General Comments

SLC-4

1. Public Agency Approvals: Table 2-18 states that the approval required by the Commission would be an encroachment permit. However, the Programs construction would require a lease from the Commission, not an encroachment permit. Staff requests that the correct approval be reflected in the table.

Project Description

SLC-5

2. The Program (per page 2-34 of the PEIR) includes the construction of a Seal Beach Visitor Center and associated parking on an existing raised building pad on the State Lands parcel site as shown in black on Figure 3.3-1a. However, it is unclear how the remainder of the parcel would be used. Figure 2-12 includes a call-out that reads "raise the building pad" and only depicts restoration activities on the eastern side of the parcel, yet Figure 2-16 shows pathways through the central and western portions of the parcel. Commission staff request that further detail be provided as to the buildout of the State Lands parcel (also see Comment #3 below for additional remarks).

Biological Resources

3. Depending on the proposed layout for the visitor center and parking noted in Comment #2, the facility could destroy areas designated as potential Environmentally Sensitive Habitat Areas (ESHA) as shown in Figure 3.3-3a. This

SLC-6 area also contains special-status plants, chiefly Lewis' evening primrose and Southern tarplant. Commission staff request that the Commission be included in discussions with the California Coastal Commission (CCC) in regard to ESHA determinations and that the detail requested above also include whether (per Mitigation Measure [MM] BIO-1), revegetation of special-status plant species would occur on the State Lands parcel.

Climate Change

4. Sea-Level Rise. A tremendous amount of State-owned lands and resources under the Commission's jurisdiction will be impacted by rising sea levels. Because of their nature and location, these lands and resources are already vulnerable to a range of natural events, such as storms and extreme high tides.

   Governor Brown issued Executive Order B-30-15 in April 2015, which directs state government to fully implement the Safeguarding California Plan and factor in climate change preparedness in planning and decision making. The Safeguarding California Plan sets forth "actions needed" to safeguard ocean and coastal ecosystems and resources as part of its policy recommendations for state decision-makers. In addition, the State of California released the 2018 Update to the Safeguarding California Plan in January 2018 to provide policy guidance for state decision-makers
SLC-7 as part of continuing efforts to prepare for climate risks.

   Please note that when considering lease applications, Commission staff will (1) request information from applicants concerning the potential effects of sea-level rise on their proposed projects, (2) if applicable, require applicants to indicate how they plan to address sea-level rise and what adaptation strategies are planned during the projected life of their projects, and (3) where appropriate, recommend project modifications that would eliminate or reduce potentially adverse impacts from sea-level rise, including adverse impacts on public access.

   As noted above, Commission staff will require details of how the Program complies with the Safeguarding California Plan, and how the proposed visitor center facilities on state lands would address the potential effects of sea-level rise. Under Section 3.6.2.2 (page 3.6-3) of the Draft PEIR, it states "Adaptation strategies are not included in this report directly, but the project design did consider sea level rise." A sea-level rise analysis was included in Appendix H (*Hydrodynamic Modeling Technical Report*) to the PEIR; however, this data was not carried forward into the PEIR, nor was the Appendix referenced in Section 3.6.2.2. Commission staff suggest that a summary of this information be included in the Draft PEIR, or at minimum, a reference to Appendix H added to more easily direct the public to the data.

Tribal Cultural Resources and Consultation

5. Consultation and outreach on the Program began on June 17, 2019. California Native American Tribes who consulted with LCWA pursuant to AB 52 indicated that

SLC-8

the Program area is culturally sensitive and important, and expressed support for the restoration of the wetlands. The Tribes also provided input on several cultural MMs, which was incorporated.

The Program includes areas that, during review of the 2019 Los Cerritos Wetlands Oil Consolidation and Restoration Project (Oil Consolidation Project, which is a separate project whose lands are also included in the Program area), were identified by Tribal representatives (Gabrieleno Band of Mission Indians - Kizh Nation) as a Tribal cultural landscape. The Gabrieleno-Tongva San Gabriel Band of Mission Indians, as well as a member of the Juaneño Band of Mission Indians, Acjachemen Nation also participated in consultation on that project and described the Oil Consolidation Project site as "Sacred Lands that are part of a larger area of connected tribal sites that constitute a Tribal Cultural Landscape that may be eligible for listing by the National Register as a Tribal Cultural Property." The LCWA also notes, however, that the area "was not and has not since been formally documented or evaluated for listing in the National Register or California Register." (Draft PEIR page 3.15-7)

Notwithstanding the fact that the PEIR area has not been evaluated for eligibility for the State or National Registers, CEQA provides discretion to lead agencies to determine and define a Tribal Cultural Resource. Given that during previous projects in the area numerous prehistoric burials and various artifacts were discovered, and as a result of Consultation the Tribes communicated the importance of the area to tribal culture and history, Commission staff agrees with the LCWA's "determination to treat this tribal cultural landscape as a historical resource for the purposes of this PEIR[.]" (Draft PEIR page 3.4-28). Staff suggests, however, that the LCWA clarify or provide a footnote of explanation under Impact TRI-1 to prevent confusion by the reader. Impact TRI-1 concludes that no mitigation is required because "This tribal cultural landscape has not been formally documented, geographically defined, nor has it been evaluated for listing in the California Register or for listing in a local register of historical resources. As such, no impacts would occur." While this is a technically true statement given that the area has not officially been listed or determined eligible, the LCWA has determined the cultural landscape to be a significant Tribal Cultural Resource. Consider adding text to this section making this important distinction and pointing the reader to the analysis and conclusion contained in the Impact TRI-2 section that follows.

The Draft PEIR concludes that even with the implementation of MMs, some archaeological resources that contribute to the landscape's significance as a Tribal cultural resource would not be avoided or preserved in place; therefore, impacts to Native American or prehistoric archaeological resources that convey the significance of the Tribal cultural landscape are considered significant and unavoidable. Continued engagement and Consultation with the affected tribes as project level analyses proceed will be critical to ensuring Native heritage and culturally important natural resources. Commission staff encourage LCWA to strive for full implementation of all mitigation measures that describe Tribal co-management of the

SLC-8 Cont.

restoration areas including incorporating Tribal input on native vegetation and habitats.

Generally speaking, for a program level document, Commission staff understands the determination that changes to the significance of Tribal cultural resources are significant and unavoidable, given the reasonable uncertainty that exists at this tier. Staff suggests, however, that LCWA develop and describe how various *project level* CEQA documents tiered from this PEIR could feasibly incorporate the identified mitigation measures such that individual projects may not have a significant and unavoidable effect. Presenting a clearer roadmap in this document would greatly enhance the LCWA's substantial evidence that the measures in the PEIR represent all feasible ways to reduce and avoid effects.

SLC-9

6. Title to Resources: The PEIR should also mention that the title to all abandoned shipwrecks, archaeological sites, and historic or cultural resources on state parcels, or in the tide and submerged lands of California, is vested in the State and under the jurisdiction of the Commission (Pub. Resources Code, § 6313). Commission staff requests that the LCWA consult with Staff Attorney Jamie Garrett should any cultural resources on state lands be discovered during construction of the proposed Project. In addition, Commission staff requests that the following statement be included in the EIR's Mitigation and Monitoring Plan: "The final disposition of archaeological, historical, and paleontological resources recovered on state lands under the jurisdiction of the California State Lands Commission must be approved by the Commission."

SLC-10

Thank you for the opportunity to comment on the Draft PEIR for the Project. As a responsible and trustee agency, the Commission will need to rely on the certified PEIR for the issuance of any lease as specified above and, therefore, we request that you consider our comments prior to certification of the PEIR. Please send copies of future Project-related documents, including electronic copies of the Final PEIR, Mitigation Monitoring and Reporting Program, Notice of Determination, CEQA Findings and, if applicable, Statement of Overriding Considerations, when they become available. Please refer questions concerning environmental review to Cynthia Herzog, Senior Environmental Scientist, at (916) 574-1310 or cynthia.herzog@slc.ca.gov. For questions concerning archaeological or historic resources under Commission jurisdiction, please contact Staff Attorney Jamie Garrett, at (916) 574-0398 or jamie.garrett@slc.ca.gov. For questions concerning Commission jurisdiction, please contact Drew Simpkin, Public Lands Management Specialist, at (916) 574-2275 or drew.simpkin@slc.ca.gov.

Sincerely,

Eric Gillies, Acting Chief
Division of Environmental Planning
and Management

cc: Office of Planning and Research
C. Herzog, Commission
J. Garrett, Commission
L. Calvo, Commission
D. Simpkin, Commission

SLC-11

From: Herzog, Cynthia@SLC
To: Sally Gee
Cc: Simpkin, Drew@SLC; Garrett, Jamie@SLC; Calvo, Lucinda@SLC; OPR State Clearinghouse
Subject: SCH #2019039050 Comments on the Draft PEIR for the Los Cerritos Wetlands Restoration Plan
Date: Monday, July 6, 2020 4:23:57 PM
Attachments: image001.png
image002.png
image003.png
image004.png
2019039050 Los Cerritos PEIR Ltr.pdf

Ms. Gee:

Please find attached, our comment letter on the Draft PEIR for the Los Cerritos Wetlands Restoration Plan. Feel free to contact me with any questions.

Sincerely,
Cyndi Herzog

Cynthia Herzog, Senior Environmental Scientist
CALIFORNIA STATE LANDS COMMISSION
Division of Environmental Planning and Management
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California State Lands Commission, July 6, 2020

Comment Letter SLC

Response SLC-1

The commenter acknowledges receipt of the Draft PEIR by the California State Lands Commission and states that it will act as a Responsible Agency. Specific comments regarding the Draft PEIR are provided and responded to below.

Response SLC-2

The commenter provides background on the State Lands Commission jurisdiction and management authority and the public trust doctrine. The commenter references an existing lease agreement between the State Lands Commission and the LCWA and allowed activities under the agreement for the State Lands Parcel located in the City of Seal Beach. The commenter notes that LCWA will need to apply for a new lease to authorize new activities and uses described for the proposed program. The commenter also notes that there are four other leases with authorizations for various uses with other entities and that LCWA will need to obtain letters of concurrence with these other lessees acknowledging and agreeing to proposed construction activities and uses within the parcel. In response, LCWA will apply for a new lease and obtain letters of concurrence subsequent to the preparation of this PEIR as part of project-level planning.

Response SLC-3

The commenter provides a summary of the proposed program relative to the State sovereign land, and the PEIR goals and objectives, and does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response SLC-4

The commenter notes that **Table 2-18**, *Required Permits and Approvals of the Draft PEIR*, shows a requirement for an encroachment permit from the State Lands Commission when in fact a lease from the State Lands Commission would be required. Table 2-18 has been modified to indicate that a lease would be required.

Response SLC-5

The commenter suggests including further detail on the buildout of the State Lands parcel. This detail has not been developed as part of the program, but would be developed in more detail at the project-level.

Response SLC-6

The commenter states that depending on the proposed layout of the visitor's center, populations of special-status plants could be impacted and consultation with both the State Lands Commission and Coastal Commission would be required regarding ESHA mitigation measures. The details of the footprint of the visitor's center have not been developed as part of the program, but would be developed in more detail during project-level planning. However, the visitor's center is intended to be located on the existing foundation slab that currently is un-vegetated.

Any proposed development of the site would require the LCWA to coordinate with the State Lands Commission who is the current owner of property as well as all lessees who include the City of Seal Beach. All proposed mitigation measures for the program would be applicable to the State Land Commission's property and therefore mitigation for impacts to special status species would be required. Coastal Commission has jurisdiction over this property and would be a permitting agency.

Response SLC-7

The commenter provides information on some of the State guidance documents regarding sea-level rise and climate change. The comment notes that Commission staff will request info on the potential effects of sea-level rise on the program, the planned adaptation strategies, and program modifications to reduce impacts from sea-level rise, with a focus on public access. Hydrodynamic modeling of the program under sea-level rise conditions is presented in Appendix H of the Draft PEIR. This information will be used at the project-level to further analyze impacts due to sea-level rise and potential adaptations or project modifications.

The comment also notes that the sea-level rise modeling presented in Appendix H was not referenced in Chapter 3.6, Greenhouse Gas Emissions, Section 3.6.2.2 and suggests including the information or a reference in this Section. The text within Section 3.6.2.2 has been revised, please refer to Chapter 3.6, Greenhouse Gas Emissions of the Draft PEIR.

Response SLC-8

The commenter states that the analysis under Impact TRI1 requires clarification since the tribal cultural landscape was determined to be a tribal cultural resource by LCWA, in its discretion and supported by substantial evidence, and as such is analyzed under Impact TRI2. In response to this comment, clarifying text was added under Impact TRI1 in Chapter 3.14 Transportation, Section 3.14.5 Project Impacts and Mitigation Measures of the Draft PEIR.

Response SLC-9

The commenter states that title to cultural resources on state lands is vested in the State. The commenter requests that LCWA consult with Staff Attorney Jamie Garrett regarding any cultural resources discoveries on state lands and that text be included in the PEIR indicating that final disposition of archeological, historical, and paleontological resources recovered on state lands must be approved by the California State Lands Commission.

In response to the first request in this comment, Mitigation Measure CUL14 has been revised. In response to the second request in this comment, Mitigation Measure CUL-15 has been revised. Please refer to Chapter 3.4 Cultural Resources, Section 3.4.5 Project Impacts and Mitigation Measures for revisions to the Draft PEIR.

Response SLC-10

The commenter requests that any future project level documents be sent to the agency. The commenter also provides contact information and is noted for the record.

Response SLC-11

Responses to the referenced letter are provided above in Responses to Comments Nos. SLC-1 to SLC-10.

Comment Letter CCC

STATE OF CALIFORNIA - NATURAL RESOURCES AGENCY GAVIN NEWSOM, GOVERNOR

CALIFORNIA COASTAL COMMISSION
South Coast District Office
301 E Ocean Blvd., Suite 300
Long Beach, CA 90802-4302
(562) 590-5071

August 6, 2020

Attn: Sally Gee
Los Cerritos Wetlands Authority
100 N. Old San Gabriel Canyon Road
Azusa, CA 91702

Re: Draft PEIR for Los Cerritos Wetlands Restoration Plan
State Clearinghouse No. 2019039050
Coastal Commission Staff Comments

Dear Ms. Gee:

CCC-1 Commission staff appreciates the opportunity to review and provide comment on the Draft Program Environmental Impact Report (PEIR) for the Los Cerritos Wetlands Restoration Plan (Plan). The following comments address, in a preliminary manner, the issue of the proposed plan's consistency with the Chapter 3 policies of the California Coastal Act of 1976. This letter is an overview of the main issues Commission staff has identified at this time based on the information presented. We request notification of future drafts of the Plan and look forward to collaborating with the LCWA as the Plan and EIR are developed.

CCC-2 Regarding the coastal jurisdictions represented, the PEIR is correct in stating that the entire program area is within the coastal zone and includes areas within both the City of Long Beach and the City of Seal Beach. As described in the PEIR, the City of Seal Beach does not have a certified Local Coastal Program (LCP). Thus, the Coastal Commission is responsible for processing coastal development permits (CDPs) for development projects within the coastal zone in Seal Beach and making determinations of the consistency of such projects with the Chapter 3 policies of the Coastal Act. As also stated in the PEIR, the City of Long Beach has a certified LCP, which is the standard of review for projects within the City's permit jurisdiction area. A large portion of the site, however, is currently within the Coastal Commission's retained permit jurisdiction area where the standard of review is Chapter 3 of the Coastal Act. The PEIR, however, does not acknowledge that within the Commission's retained jurisdiction area, the certified LCP can provide guidance as to a project's consistency with Chapter 3 of the Coastal Act.

CCC-3 Staff would also note that the coastal jurisdictions, and accordingly the standard of review for projects, described in the PEIR are subject to change upon, for example, the Commission's certification of the Southeast Area Specific Plan (SEASP) in the City of Long Beach which has been submitted to the Commission for review. Additionally, the City of Seal Beach has prepared a draft Coastal Land Use Plan, which if approved by the Commission, may provide guidance for the proposed project.

CCC-4

It is unclear how the Restoration Plan described in the subject PEIR is intended to be implemented from a Coastal Act perspective. Does the LCWA intend to submit the Plan to the Commission for certification as a Public Works Plan (PWP), a specific plan amendment to the City of Long Beach LCP, or obtain multiple CDPs from various jurisdictions? In any case, all development[1] projects in the program area, which can include maintenance work, require a coastal development permit pursuant to the Coastal Act and Commission's regulations or under the City of Long Beach's certified LCP. Given the complexity of this wetland ecosystem and the sensitive coastal resources present within, additional and more thorough project review will be required as a part of necessary future CDP to implement the proposed restoration project and associated development of trails and public amenities. Thus, additional environmentally sensitive habitat area determinations, wetland delineations, biological surveys, coastal hazards analyses, and alternatives analyses, among other information requests may be required in association with project-specific CDP applications.

CCC-5

The remainder of Commission staff's comments are organized in the order presented in the Draft PEIR.

Executive Summary

[ES-7] Please ensure that the proposed program is consistent with all conditions of CDP No. 9-18-0395 (Beach Oil Minerals and LCWA).

CCC-6

[ES-12] Throughout the PEIR, one of the flood risk and storm management strategies described is the construction of earthen levees and berms or flood walls. The impacts to coastal resources associated with the installation of earthen levees or berms and flood walls can be quite different. Please explore these differences as part of the impact analysis and clarify which project elements might trigger the use of one form of protection over the other. In addition, there are alternative flood wall designs that could minimize impacts to coastal resources by providing additional habitat area and/or public access and recreation opportunities.

CCC-7

[ES-20] With regard to the management of cut and fill material, impacts associated with the source and deposition of material and compatibility of the material with the receiving sites should be analyzed. Stockpiles of surplus material should avoid being

[1] The definition of development is stated in Section 30106 of the California Coastal Act of 1976 and reads as follows: "Development" means, on land, in or under water, the placement or erection of any solid material or structure; discharge or disposal of any dredged material or of any gaseous, liquid, solid, or thermal waste; grading, removing, dredging, mining, or extraction of any materials; change in the density or intensity of use of land, including, but not limited to, subdivision pursuant to the Subdivision Map Act (commencing with Section 66410 of the Government Code), and any other division of land, including lot splits, except where the land division is brought about in connection with the purchase of such land by a public agency for public recreational use; change in the intensity of use of water, or of access thereto; construction, reconstruction, demolition, or alteration of the size of any structure, including any facility of any private, public, or municipal utility; and the removal or harvesting of major vegetation other than for agricultural purposes, kelp harvesting, and timber operations which are in accordance with a timber harvesting plan submitted pursuant to the provisions of the Z'berg-Nejedly Forest Practice Act of 1973 (commencing with Section 4511).

CCC-7 cont.

sited in locations where impacts to coastal resources, including but not limited to wetlands, environmentally sensitive habitat areas, public access, and coastal views, could occur. The PEIR should also consider placement of surplus soils on local beaches, if clean and compatible.

CCC-8

[ES-23] Regarding the development and implementation of an adaptive management plan, it appears that: (a) program-wide baseline monitoring will be conducted prior to refinement of the restoration design and application for individual projects; (b) performance criteria will be developed; (c) subsequent monitoring will be conducted on a project-by-project basis; and (d) evaluation of project success based on meeting performance goals will, in turn, inform future projects. For baseline monitoring, some monitoring methods may constitute development and would, thus, require a CDP or, if included in a LCP (or PWP) application, would need to be described in more detail than provided in the PEIR. In addition, the performance criteria should be included in a LCP or PWP application. Furthermore, the PEIR does not describe the governance structure that would facilitate evaluation and adaptive management programs. These details should be included in the PEIR to ensure potential impacts of program-related development are minimized.

CCC-9

[ES-25] It should be clear that the preferred alternative will *avoid* impacts to coastal resources to the maximum extent feasible and where avoidance is not possible, given the goal of maximum wetland restoration at the site, any impacts will be mitigated. For example, any proposed development, including access improvements, will be sited and designed to avoid impacts to coastal resources and, if infeasible, will be sited and designed to minimize impacts to the maximum extent feasible. If the two alternatives considered do not accomplish this, then additional alternatives should be considered. Section 30233 of the Coastal Act requires that dredging or grading (even for restoration purposes) of wetlands shall only be permitted when demonstrated to be the least environmentally damaging alternative and where mitigation measures are provided to minimize adverse effects. If only two alternatives are explored, how can a reasonable determination of the least environmentally damaging alterative be made if there are other feasible alternatives that have not been explored? Please explore alternatives or sub-alternatives which reduce dredging and grading, especially in existing wetlands, areas with native plants that support habitat, and areas where cultural resources exist.

Chapter 2. Project Description

2.5 Los Cerritos Wetlands Restoration Plan Goals and Objectives

CCC-10

[2-25] Goal 2(c) suggests that the edges of the LCW Complex should be designed to be compatible with neighboring land uses. In many cases, industrial, commercial, and residential development neighbor the site. Maximum restoration and protection of coastal resources should be prioritized over compatibility with such development. Please analyze alternatives which allow the LCW complex to expand into buffer areas between the existing wetland and existing and planned development. Please refer to the Long Beach Draft SEASP Plan, which requires such buffer areas and setbacks from future development, including natural drainages rather than armored berms.

CCC-11 [2-26] Section 30210 of the Coastal Act requires maximum access and recreational opportunities for all people. While Goal 3 does encourage public access and recreation in the wetlands complex in a manner that is protective of sensitive habitat, the language used in the goal—encouragement of access if "practical" and "economically feasible"—could restrict the benefits of such coastal access and recreation only to members of "the surrounding community." The LCWA should amend the goal to encourage equitable access to the LCW Complex and diverse, equitable, and inclusive community engagement. Commission staff suggests that PEIR consider Coastal Act Section 30214 and regulate public access depending on the fragility of the resources, both environmentally sensitive resources and tribal cultural resources, while not limiting considerations to economic feasibility. Access should also be planned around bus stops, sidewalks, and roads that may be accessed by a broader group of the public than just the surrounding residents.

CCC-12 In addition, Goal 3 fails to highlight the existing relationship between Native Americans and this coastal area that must be acknowledged, respected, and preserved. Through comment letters, it appears as though affected Native American Tribal Governments did not participate in designing the proposed restoration program. One way to address this would be to invite Tribal members to help define "restoration success," which is the subject of Goal 5, and coordinate a plan that is representative of Tribal Interests, to the maximum extent feasible, to ensure that impacts are avoided, minimized, or mitigated in conformity with the Coastal Act and other applicable legal requirements. As such, this would necessitate that Tribes meaningfully participate in the decision-making process and dialogue regarding program alternatives that are mutually beneficial to Tribal Interests and protecting our coastal resources. It is our understanding that the wetlands and surrounding sites have been listed as Sacred Lands with the Native American Heritage Commission by the local tribal governments. There is some mention of working with Tribal Governments on the creation of interpretative signage and displays, but in the context of Goal 3 when considering public access, has the option been explored to reserve a portion of the site for sacred and ceremonial purposes that is not available to the general public but is available for use by affected Tribes? Additionally, the EIR should analyze project alternatives which avoid dredging or grading in areas that have sensitive Tribal resources.

2.6 Land Use and Zoning Designations

CCC-13 [2-27] Our staff would note that the City of Long Beach (2019) Land Use Element (source of the land uses depicted in Figure 2-9) is not part of the City's certified LCP. The Coastal Commission certified a different land use map (Southeast Area Development Plan), which the City has since amended but has not been certified by the Coastal Commission.

2.7.1.3 Flood Risk and Stormwater Management

CCC-14 [2-33] This section should include a description of how restoration projects will consider best available science and mitigate potential climate-related impacts, including but not limited to impacts resulting from sea level rise, in the refinement of

restoration project design. The EIR should analyze project alternatives capacity to adapt to sea level rise and retain the functional value of the wetland.

2.7.8.3 Perimeter Levees and Berms

CCC-15 [2-82] This suggestion suggests that levee access roads and trails would require repaving. It is unclear whether repaving suggests that the road and trails are proposed to be hardscaped. If so, the EIR should note that there are potential alternatives that may be less environmentally damaging. Specifically, the EIR should analyze the potential for natural drainage areas and wetland buffers from development, which may be adjusted over time.

2.7.8.7 Parking Lots

CCC-16 [2-83] Parking rates can affect public access to the LCW Complex and, accordingly, recreation opportunities. Thus, the proposed parking fee structure should be described and analyzed. The fee schedule, hours, and location of parking lots should prioritize wetland and coastal visitors over residents of nearby neighborhoods and the commercial developments.

2.8 Required Approvals

CCC-17 [2-83] The PEIR states: “restoration activities associated with more detailed design would require discretionary approval from multiple agencies.” As mentioned previously, all development (as defined in the Coastal Act) in or immediately adjacent to wetlands and environmentally sensitive habitat areas requires a CDP unless the development is determined to be exempt.

CCC-18 [2-84] Table 2-18 states that the approval needed from the Coastal Commission in the City of Long Beach is a Consolidated CDP. As stated previously, projects located within the City’s permit jurisdiction area require a Local CDP and projects within the Commission’s retained jurisdiction area require a CDP from the Commission. The Long Beach City Council has not recently authorized the Commission to process consolidated CDPs, so the applicant will likely need a Local CDP for the portion within the City’s jurisdiction and a CDP from the Commission for the portion within the Commission’s jurisdiction.

<u>Chapter 3. Environmental Setting, Impacts, and Mitigation Measures</u>

Aesthetics

CCC-19 [3.1-18] Thank you for including relevant Coastal Act and City of Long Beach LCP policies in the PEIR. Staff would note that, with regard to the City of Long Beach LCP: (a) portions of the City’s Zoning Code and some General Plan elements, including the Open Space and Recreation Element, Scenic Routes Element, and Mobility Element are, in whole or in part, part of the certified LCP; (b) there may be more LCP policies that are applicable to this restoration plan; and (c) if certified, some of the SEASP policies included in the PEIR might be modified from their current language. Program elements should be consistent with all certified LCP and Coastal Act policies.

CCC-20 [3.1-20] Our staff is not aware of a proposal by the City of Long Beach to amend the LCP to include the proposed aesthetics policies listed in the PEIR. Are these suggested for a future LCP amendment associated with the Restoration Plan? If so, staff would like to be notified of the preparation of a LCP amendment and may provide more specific comments at that time.

CCC-21 [3.1-23] Please provide additional detail regarding the duration and intensity of "temporary" impacts during construction and between phases, if applicable.

CCC-22 [3.1-41] The PEIR acknowledges that Section 30251 of the Coastal Act requires development be sited and designed to minimize alteration of natural landforms and protect views to and along the ocean; however, there are no corresponding visual resources analyses.

CCC-23 [3.1-46] Lighting design that achieves the minimum degree of illumination necessary for public safety, minimizes light trespass into adjacent non-target areas, and limits the illumination of open space and sensitive habitat areas to the maximum extent feasible serves to minimize impacts to coastal resources. In addition, lighting should be downward directed, shielded, energy efficient, dark sky-compatible, and should incorporate state-of-the-art improvements in lighting technology when replaced thereafter. Furthermore, programmable timing devices could be encouraged to turn off unnecessary lights where feasible.

Biological Resources

CCC-24 [3.3-67] Does the extent of potential State and Federal jurisdictional waters include additional area added over the expected life of the program due to sea level rise? If not, potential changes to jurisdictional and habitat boundaries should be analyzed based on the best available science on sea level rise.

CCC-25 [3.3-97] Special Condition 8 of CDP No. 9-18-0395, described previously, requires that any temporary impacts to environmentally sensitive habitat area do not persist longer than one year. The subject Restoration Plan should be consistent with all conditions of CDP No. 9-18-0395.

CCC-26 [3.3-109] The PEIR suggests that impacted special-status plants will be restored at a minimum 1:1 ratio. In past actions, the Commission has determined that a minimum 3:1 or 4:1 replacement ratio is appropriate for permanent impacts to environmentally sensitive habitat area. Temporary impacts as part of a restoration project should be minimized and the restoration should take place as quickly and in as few phases as possible to prevent temporal loss of habitat.

CCC-27 [3.3-117] If the City of Long Beach Tree Maintenance Policy differs from the Tree Trimming and Removal Policy approved by the Commission for areas within the Commission's retained jurisdiction, the Commission-approved policy should supersede the City's Tree Maintenance policy.

Cultural Resources

CCC-28

- The proposed Extended Phase I and Phase II archeological investigations would require a CDP in order to carry out the development prior to the permit for the restoration project.

CCC-29

- Mitigation Measure CUL-7 only calls for avoidance and preservation in situ if the resource (which may be a tribal cultural resource) is significant to the tribal cultural landscape. What is the threshold for significant and how will that be evaluated in the event that the Native American monitors decline significance testing and/or data recovery? The preferred method of treatment for all tribal cultural resources should be preservation in situ, given that this is a tribal cultural landscape.

CCC-30

- Additionally, according to the mitigation measures if avoidance is determined by the LCWA to be infeasible in light of factors such as the nature of the find, proposed project design, costs, and other considerations, then that resource shall be subject to data recovery and curation. The proposed project is restoration of a wetland complex. Capping of tribal cultural resources in planned open space is a frequent practice. Why would factors such as proposed project design and the nature of the find influence whether or not a tribal cultural resource could be capped and preserved?

CCC-31

- The mitigation measures state that Native American tribal input will be sought in the development of the Phase I and II Extended Investigation plans and the Phase III Data Recovery and Treatment plan. Native American tribal input should also be sought for the development of the Archaeological Resources Monitoring and Mitigation Plan. Native American Tribal governments should determine, in the development of these plans, if data recovery is appropriate, and if curation is necessary- have input on curation of the tribal cultural resources. Mitigation Measure CUL-15: Curation and Disposition of Cultural Materials states that all Native American archaeological materials will be curated, with the exception of funerary objects or grave goods (i.e., artifacts associated with Native American human remains) at a repository first accredited by the American Association of Museums, then it shall be offered to a non-accredited repository, and then LCWA shall offer the collection to a public, non-profit institution or donate it to a local California Native American Tribe(s) (Gabrielino or Juañeno) for educational purposes. The materials should first be offered to the Native American tribal governments.

Geology, Soils, and Paleontological Resources

CCC-32

[3.5-20] The California Coastal Act includes policies related to geology, soils, and paleontological resources. Please refer to Sections 30253, 30233, and 30244 of the Coastal Act, respectively.

Greenhouse Gas Emissions and Energy

CCC-33

[3.5-20] Similarly, Section 30253(d) of the Coastal Act requires the minimization of energy consumption and vehicle miles traveled with new development. The program should be found consistent with this policy. Access to the trails system and the wetlands should be provided from existing and planned bus stops and sidewalks. Existing parking lots should be improved and integrated with the trail system and wetlands rather than constructing new parking lots. Please analyze alternatives which integrate the planned wetland restoration with public access facilities.

Hazards and Hazardous Materials

CCC-34

[3.7-4] CDP No. 9-18-0395, Special Condition 19, requires the preparation of a revised Oil Spill Prevention and Response Plan. A discussion of the role of the Plan in protecting coastal resources could be added to the description of the Synergy Oil Field Site.

Hydrology and Water Quality

CCC-35

[3.8-26] The sea level rise scenarios that are analyzed in the PEIR are 1.7 and 3.3 feet of sea level rise, which are the upper values for the "likely range" (which has approximately a 17% chance of being exceeded) of sea level rise by 2070 and 2110, respectively, given a low risk aversion scenario. Low risk aversion scenarios may be used for projects that would have limited consequences or have a higher ability to adapt, such as sections of unpaved coastal trail, public accessways, and other small or temporary structures that are easily removable and would not have high costs if damaged. Medium-high risk aversion scenarios should be used for projects with greater consequences and/or a lower ability to adapt such as residential and commercial structures. Extreme risk aversion (H++) scenarios should be used for projects with little to no adaptive capacity that would be irreversibly destroyed or significantly costly to repair, and/or would have considerable public health, public safety, or environmental impacts should that level of sea level rise occur.

Given that the Los Cerritos Wetlands Complex is one of the few remaining larger coastal wetland areas in Southern California and, as stated in the PEIR, even one foot of sea level rise would inundate most of the Synergy Oil Fields Site, the projects associated with the restoration should be adaptable to allow natural migration of the wetlands. If the restoration is planned around 1.7 to 3.3 feet of sea level rise, and adjacent development is armored to prevent adaptive capacity, the restored areas could be irreversibly destroyed if more than 3.3 feet of sea level rise occurs. Thus, the EIR should analyze impacts associated with low-, medium-high, and extreme risk scenarios with 100-year storms to assess the feasibility of maintaining restored wetlands for future generations. Specifically, the EIR should analyze alternatives or sub-alternatives which provide wetland benefits even if up to 6.6 feet of sea level rise occurs (medium-high risk aversion for year 2100). The EIR should analyze the capacity of different project alternatives to be adapted to future conditions of 6.6 feet or greater of sea level rise and still provide a range of habitats and ecological benefits.

Land Use and Planning

CCC-36

[3.9-5] The Coastal Act has several policies relating to priority land uses in the coastal

zone (Sections 30220 through 30223). These policies should be addressed in the EIR. Any development (e.g. visitor centers, trails) which may be associated with the restoration of the wetlands should be analyzed for consistency with the Coastal Act.

CCC-37 [3.9-23] There appears to be a typo in the title of the section: Consistency with the California Coastal Plan *[Act?]* and Long Beach Local Coastal Program.

Noise

CCC-38 [3.11-1] Evaluation of noise and vibration impacts on sensitive coastal resources including sensitive wildlife species should also be assessed.

Recreation

CCC-39 [3.13-6] The Coastal Act has a number of recreation-related policies that should be added to this section.

Transportation

CCC-40 [3.14-8] The Coastal Act requires maximum public access for all people; the Long Beach Mobility Element also encourages public transit and new bus stops at activity centers. Commission staff suggests the LCWA propose and analyze impacts of additional transit stop(s) at accessible parts of the wetland complex could encourage more equitable public access and recreation at the program site.

Chapter 5. Alternatives

5.4.2.4 Tidal Connection from Steamshovel Slough to the Central Area

CCC-41 [5-21] The PEIR suggests that, for CEQA purposes, the creation of a tidal connection under 2nd street is infeasible ("could not be accomplished in a successful manner within a reasonable period of time") and would result in additional construction and transportation impacts. However, this alternative could minimize air quality impacts, increase the restoration area, and meet a number of the Restoration Plan's goals including: restoring tidal wetland processes and functions to the maximum extent possible and maximizing contiguous habitat areas. In addition, elevating 2nd street would also minimize impacts to the road from coastal hazards. Therefore, staff recommends that the LCWA tailor the overall program design to facilitate future implementation of this alternative when the project is considered feasible. If the project alternatives cannot connect the habitats because of current conditions of funding constraints, they should be designed to enable future projects to more easily improve wetland function and connectivity when sea level rise occurs or funding is available.

CCC-42

Please note that the comments provided herein are preliminary in nature. More specific comments may be appropriate as the program develops. Coastal Commission staff requests notification of any future activity associated with this program and related projects. Thank you for the opportunity to comment on the Draft PEIR. Please feel free to contact our staff at SouthCoast@coastal.ca.gov with any questions.

Sincerely,

Christine Pereira

Christine Pereira
Coastal Planner

cc: Amber Dobson, District Manager, CCC
Zach Rehm, District Supervisor, CCC
Christopher Koontz, Planning Bureau Manager, City of Long Beach

CCC-43

From: Pereira, Christine@Coastal
To: Sally Gee
Cc: Rehm, Zach@Coastal; Dobson, Amber@Coastal
Subject: Coastal Commission Staff Comments on Draft Program EIR for the Los Cerritos Wetlands Restoration Plan
Date: Thursday, August 6, 2020 8:58:17 AM
Attachments: Draft PEIR for Los Cerritos Wetlands Restoration Plan - Coastal Commission Staff Comments_8.6.20.pdf

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Dear M. Gee,

Please find attached our comment letter for the Draft Program EIR for the Los Cerritos Wetlands Restoration Plan.

Thank you.

Christine Pereira | Coastal Program Analyst
CALIFORNIA COASTAL COMMISSION
South Coast District Office
301 E. Ocean Blvd, Suite 300
Long Beach, CA 90802

California Coastal Commission, August 6, 2020

Comment Letter CCC

Response CCC-1

The commenter acknowledges receipt of the Draft PEIR by the California Coastal Commission (CCC). Specific comments regarding the Draft PEIR are provided and responded to below.

Response CCC-2

The commenter states that the Draft PEIR does not acknowledge that within the CCC's retained jurisdiction area, the certified Local Coastal Program (LCP) can provide guidance as to a project's consistency with Chapter 3 of the California Coastal Act (CCA). Chapter 3.9 Land Use and Planning, Section 3.9.2 Regulatory Setting, of the Draft PEIR has been revised to make this clarification. No further revision or analysis in the Draft PEIR is required.

Response CCC-3

The commenter notes that the standard of review for coastal jurisdictions are subject to change upon, for example, the CCC's certification of the South East Area Specific Plan (SEASP) 2060 and the certification of the City of Seal Beach LCP. Chapter 3.9*, Land Use and Planning*, of the Draft PEIR acknowledges that while the SEASP 2060 has not been certified by the CCC an analysis for informational purposes of the SEASP 2060 was included in the Draft PEIR. This is because the SEASP 2060 is anticipated to be completed and issued in its final form within the lifetime of the proposed program. As further discussed in Section 3.9.2 Regulatory Setting, of the Draft PEIR a draft LCP for the City of Seal Beach was submitted to the CCC for review, but was not certified. At this time the City of Seal Beach reinitiated preparation of the Seal Beach LCP and it is unknown when the Seal Beach LCP would be certified. The City of Seal Beach has not shared a draft of the LCP with the public at this time. However, Section 3.9*, Land Use and Planning*, of the Draft PEIR has been revised to clarify that the Seal Beach LCP would be applicable to the proposed program when it is certified by the CCC.

Response CCC-4

The commenter states that it is unclear how the proposed program described in the Draft PEIR is intended to be implemented. Table 2-18 on page 2-84 of Chapter 2, *Project Description*, of this Draft EIR, provides a list of the required permits and approvals necessary for development of the proposed program, which includes coastal development permits to be obtained through the CCC and the City of Long Beach. At this time, LCWA has not yet determined the approach that will be taken in obtaining a coastal development permit. Obtaining this permit would be determined on a project level basis and subsequent to the preparation of this PEIR.

Response CCC-5

The commenter notes that the proposed program would need to be consistent with the conditions of Coastal Development Permit (CDP) No. 9-18-0395 (Beach Oil Minerals Project [BOMP]). Section 2.4.4 Los Cerritos Wetlands Oil Consolidation and Restoration Projec**t**,

in Chapter 2 Project Description, of the Draft PEIR provides background on the BOMP and proposed Los Cerritos Wetlands Restoration Pan (proposed program). While portions of the BOMP are located within the program area, a project-level environmental impact report (EIR) was completed and a CDP was conditionally approved by the CCC on December 13, 2018 for BOMP; the CDP is unrelated to the proposed program analyzed within this PEIR. LCWA will comply with all conditions associated with CDP(s) issued for individual restoration projects associated with this proposed program.

Response CCC-6

The commenter notes that the impacts associated with earthen levees/berms and flood walls can be quite different and suggests exploring these differences as part of the analysis. Chapter 5 Project Alternatives of the Draft PEIR, provides a discussion of the consideration of a flood wall option for the Central Area (rather than the earthen levees that are proposed in the program). Section 5.4.2.1 presents the analysis that led to this alternative not being carried forward, including a comparison of the levees to the flood walls.

Additionally, impacts associated with berms and flood walls were evaluated throughout the document. For example, the aesthetics analysis evaluates both an earthen berm and a flood wall as options between the South LCWA site and the Hellman Retained site. In other cases, such as in the biological resources analysis, the more impactful of the two options was assessed (i.e., the earthen berm with its larger footprint impacts more existing habitat compared to a smaller footprint flood wall).

Choosing between an earthen berm and a flood wall will be part of the refinement to the design that will be conducted at the project-level. Considerations will include how the flood control feature effects public access, impacts to habitat, and construction feasibility. Specific designs of flood walls that minimize impacts to coastal resources will be considered in the project-level design.

Response CCC-7

The commenter requests that impacts associated with the source and deposition of material and compatibility of the material with the receiving sites should be analyzed. As discussed on page ES-20 (Section ES.7.6.2, Earthwork Quantities), while cut and fill estimates have been prepared for each of the areas, the future design would seek to balance cut and fill as much as possible to avoid import and export.

The commenter further requests that “stockpiles of surplus material should avoid being sited in locations where impacts to coastal resources, including but not limited to wetlands, environmentally sensitive habitat areas, public access, and coastal views, could occur.” As discussed in Section 2.7.6.3, Stockpiling and Excess Fill Placement, excess soil from the South LCWA site could be stockpiled on the Long Beach City property site, which is currently in a degraded condition and would not impact coastal resources. In addition, soil not needed for levee construction would be placed in upland areas or exported, as described in Off-Site Soil Export under Section 2.7.6.4, Implementation Methods, to local landfills or the Los Angeles

ocean disposal site off the coast from San Pedro (LA-2) or the Newport Bay ocean disposal site off the coast from Newport Beach (LA-3).

The commenter requests "the PEIR should also consider placement of surplus soils on local beaches, if clean and compatible." Given the generally clayey and silty nature of the shallow soils, as described in Chapter 3.5, Geology, Soils, and Paleontological Resources, of the Draft PEIR, the material would generally be incompatible for a beach setting.

Response CCC-8

The commenter notes that baseline monitoring methods would need to be described in more detail for an LCP or PWP application with the CCC. Any additional details would be provided as part of these applications. The comment further suggests a governance structure to facilitate the adaptive management program is needed and should be analyzed by the PEIR. A Draft Monitoring and Adaptive Management Plan (MAMP) Framework has been included as Appendix B of the Final EIR, which includes a governance structure to facilitate the adaptive management program.

Response CCC-9

The commenter notes that it should be clear that the preferred alternative should avoid impacts to the maximum extent feasible. As discussed in Chapter 5, Alternatives, of the Draft PEIR, consistent with CEQA Guidelines Section 15126.6, each alternative was evaluated for its ability to attain most of the proposed program's objectives, its ability to reduce and/or eliminate significant impacts associated with the proposed program, and its feasibility. In addition, CEQA Guidelines Section 15126.6 states that "an EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation."

Response CCC-10

The commenter states that while Goal 2(c) of the proposed program suggests that the edges of the Los Cerritos Wetlands Complex should be compatible with neighboring land uses, the commenter notes that maximum restoration and protection of coastal resources should be prioritized over compatibility with neighboring land uses, which include industrial, commercial, and residential uses. The commenter requests that alternatives that allow the Los Cerritos Wetlands Complex to expand into buffer areas be analyzed. At this time, the proposed program has not been designed to this level of detail to show where buffers would be located in relation to adjacent uses. This level of detail will be determined as part of individual restoration projects, and considerations will be made regarding the commenter's request. The commenter also cites the SEASP, which require such buffer area and setbacks from future development, including natural drainages, rather than armored berms. Requirements of the SEASP will be taken into consideration as well at the time this level of detail is determined for individual projects. It should be noted that armored berms are not proposed within the proposed program. Rather, vegetated earthen berms will be provided and will provide for upland habitat and public access. Also, see Response to Comment No. CCC-14, below.

Response CCC-11

The commenter suggests an amendment of Goal 3 to align with Section 30210 of the Coastal Act, which requires maximum access and recreational opportunities for all people, and to encourage equitable and diverse access to the LCW beyond the surrounding community. The LCWA and its member agencies consider equitable access for all people to be an important goal. The LCW is not located in a disadvantaged community, but the LCWA considers the LCW as a regional resource that expands beyond the immediate surrounding community. Currently, through the LCWA's Stewardship Program and Stewardship Partners (including the Los Cerritos Wetlands Land Trust, El Dorado Audubon, and Aquarium of the Pacific), public programs are held regularly and open to all members of the public. Additionally, multiple K-12 students from disadvantaged communities outside the immediate area have been hosted on field trips to the LCW, thanks to the Los Cerritos Wetlands Land Trust. The LCWA will seek to expand equitable public access to the LCW while balancing conservation needs as the program moves forward. Please refer to Chapter 2 Project Description, Section 2.5 Project Objectives, of the Draft PEIR for revisions to Goal 3.

Response CCC-12

The commenter states that Goal 3 fails to highlight the existing relationship between Native Americans and this coastal area and recommends an approach to involve tribal input. Please see Responses GABACJ5 and GABACJ6. The commenter's suggestion regarding reserving a portion of the site for sacred and ceremonial tribal purposes is noted, and the LCWA will further explore this opportunity with the tribes.

Response CCC-13

The commenter notes that the City of Long Beach Land Use Element is not part of the Long Beach Local Coastal Program (LCP) and that a different land use map (Southeast Area Development Plan [SEADIP]) is used in the LCP. Chapter 3.9, Land Use and Planning, of the Draft PEIR acknowledges that the SEADIP was approved as a whole by the LCP Advisory Committee for inclusion in the LCP and functions as the current zoning for the program area. Page 3.9-2 also acknowledges that the CCC has yet to certify the proposed Southeast Area Specific Plan (SEASP) 2060; however, it is anticipated that the SEASP 2060 will be completed and issued in its final form within the lifetime of the proposed program. Chapter 3.9, Land Use and Planning, of the Draft PEIR includes an analysis of both the adopted SEADIP and proposed SEASP 2060. Figure 2-9, General Plan Land Use Designations, Section 2.6, and Section 3.9 of the Draft PEIR have been revised to reflect the land use designations in place prior to the City Council's recent adoption of an updated General Plan Land Use Element. Section 3.9 has been revised to acknowledge that the CCC has yet to certify the updated General Plan Land Use Element; however, it is anticipated that the updated General Plan Land Use Element will be certified in its final form within the lifetime of the proposed program. Chapter 3.9 includes an analysis of both the certified General Plan land use designations and the not yet certified General Plan land use designations.

Response CCC-14

The commenter suggests Chapter 2 Project Description, Section 2.7.1.3 of the Draft PEIR should include a description of how restoration projects will consider best available science and mitigate potential climate-related impacts, including but not limited to impacts resulting from sea level rise, in the refinement of restoration project design. Please refer to Section 2.7.1.3 for revisions to the Draft PEIR.

The commenter also recommends analyzing the capacity of the program to adapt to sea-level rise. The proposed program has been designed with sea-level rise in mind, including planning for sea-level rise in the height of flood management features (Section 2.7.4.3) and the marshplain elevation (Section 2.7.4.2). Additionally, the CRP considered three alternatives with varying amounts of sea-level rise resiliency, which served as the basis for the design of the proposed program.

Response CCC-15

The commenter notes it is unclear whether the roads and trails would be hardscaped. The roads would be hardscaped to provide access to heavy equipment which would be necessary for maintaining the levee system. The trails would not be hardscaped except in areas where the trail overlaps with the roads. Alternatives to paving the roads will be considered at the project-level of design and will depend on the feasibility of providing access to heavy equipment.

The commenter suggests that the EIR should analyze the potential for natural drainage areas and wetland buffers from development. The proposed program includes bioswales to capture runoff from the roads in the Central Area. The majority of the site is wetland, so no additional wetland buffers are proposed.

Response CCC-16

The commenter suggests including the proposed parking fee structure and prioritizing wetland and coastal visitors over residents of nearby neighborhoods and commercial developments. The LCWA will develop a parking fee structure and methods to prioritize certain visitors as part of the CDP application, if applicable. This level of detail would be determined on a project-level basis and subsequent to the preparation of this program EIR.

Response CCC-17

The commenter notes that all development (as defined in the Coastal Act) in or immediately adjacent to wetlands requires a CDP. As shown in **Table 2-18**, *Required Permits and Approvals*, of the Draft PEIR, permits/approvals from multiple agencies, including the CCC's permits to construct and operate, would be obtained as necessary according to specific detailed designs for the proposed restoration activity. These permits/approvals would be determined on a project level basis and subsequent to the preparation of this program EIR.

Response CCC-18

The commenter notes the Long Beach City Council has not recently authorized consolidated CDPs, so the LCWA will likely need a Local CDP and CDP from CCC. Table 2-18 *Required Permits and Approvals* has been updated accordingly.

Response CCC-19

The commenter notes that portions of the City of Long Beach's zoning code and some General Plan Elements, including the Open Space and Recreation Element, Scenic Routes Element, and Mobility Element are, in whole or in part, part of the certified Long Beach LCP. This has been clarified in the Draft PEIR in Chapter 3.9 Land Use and Planning, of the Draft PEIR. The commenter also notes that there may be more LCP policies that are applicable to the proposed program than what is listed on page 3.1-18 in Chapter 3.1 Aesthetics, of the Draft PEIR. The LCP policies listed on this page of the Draft PEIR are specific to aesthetics/visual character and do not represent the comprehensive list of policies applicable to the proposed program. In addition, the commenter notes that if certified, some of the SEASP 2060 policies might be modified from their current language as presented in the Draft PEIR. This comment is noted. The analysis provided in Chapter 3.1 Aesthetics, of the Draft PEIR represents the language for the SEASP 2060 policies that were known at the time of the writing of the Draft PEIR. Ultimately the proposed program would be consistent with what is included in the SEASP 2060 at the time of certification by the CCC.

Response CCC-20

The commenter notes that the CCC is not aware of a proposal by the City of Long Beach to amend the LCP to include the proposed aesthetic policies listed in the Draft PEIR within Chapter 3.1 Aesthetics. The text provided therein is directly quoted from the City of Long Beach LCP certified by the CCC on July 22, 1980 and as shown on pages 67 and 68 of the adopted LCP. No further clarifications or revisions to the Draft PEIR are required.

Response CCC-21

The commenter asks for additional detail regarding duration and intensity of "temporary" impacts during construction and between phases. Additional detail would be determined on a project-level basis and subsequent to the preparation of this program EIR.

Response CCC-22

The commenter states that there is no corresponding visual resources analysis as it relates to Section 30251 of the California Coastal Act. Section 3.1 Aesthetics, of the Draft PEIR, provides a consistency analysis for Section 30251. As discussed therein, while development of proposed program would change views from public viewpoints, a majority of the viewpoints would be enhanced by the proposed program and scenic quality would increase with the phasing out of oil production facilities and non-native, invasive species, and the restoration of native vegetation and wetland habitat. The proposed program was found to be consistent with this policy of the California Coastal Act.

Response CCC-23

The commenter notes that lighting design that achieves the minimum degree of illumination necessary for public safety, minimizes light trespass into adjacent non-target areas, and limits the illumination of open space and sensitive habitat areas to the maximum extent feasible serves to minimize impacts to coastal resources. Analysis provided under Impact AES4 in Section 3.1 Aesthetics, of the Draft PEIR provides an analysis of light and glare impacts during construction and operation of the proposed program. As discussed therein, during construction, any construction lighting would be aimed towards the activity and would be mostly contained within the area where work would be occurring. In addition, a lighting plan, as required by Mitigation Measure AES1 would ensure that security lighting does not pose undue light and/or glare. During operation, the proposed program would comply with the applicable lighting requirements sets forth by the cities of Seal Beach and Long Beach, including Seal Beach Municipal Code Section 11.4.20.025, which requires that lighting in parking areas be directed away from adjacent streets and properties and shall not blink, flash, change intensity, or cause glare and Long Beach Municipal Code Section 21.41.259, which requires that all parking area lighting be directed and shielded to prevent light spillover to adjacent properties. For the individual sites within the City of Long Beach, in compliance with the standards set forth in the SEADIP (PD1), all lighting would be directed downward and exterior lighting would be designed and located in such a way that it does not project off-site or onto adjacent uses. The proposed program would also comply with SEASP 2060, once adopted, which requires that prior to approval of any development within the Coastal Habitat, Wetlands, and Recreation (CHWR) land use, the project applicant shall submit a photometric plan demonstrating that the proposed program will be designed and shielded so that nighttime lighting shall be no greater than 0.10 foot-candles at the edge of the habitat. With compliance with regulatory requirements and implementation of Mitigation Measure AES-1, impacts related to light and glare during construction and operation of the proposed program was found to be less than significant.

Response CCC-24

The commenter asks if the extent of potential State and Federal jurisdictional waters includes additional areas expected to be inundated in the future with sea-level rise. No, the extent of jurisdictional waters does not include future potential areas due to sea-level rise. At the project-level, each project under the program will conduct a wetland delineation closer to the time of implementation, which will map jurisdictional waters at that time. An analysis of the potential change to wetland habitat will be conducted at the project level, based on sea-level rise scenarios.

Response CCC-25

The commenter notes that CDP No. 9-18-0395 requires any temporary impacts to not persist longer than one year. Subsequent to the preparation of this program EIR, at the project-level, each project under the program will obtain the necessary permits prior to implementation, including a CDP. The projects will follow all permit conditions.

Response CCC-26

The commenter asserts that the 1:1 mitigation ratio for special status plants is not appropriate and suggests that the restoration should take place as quickly as possible and in as few phases as possible. See Responses to Comments Nos. CDFW-4 and CDFW-9.

Response CCC-27

The commenter states that the Coastal Commission approved Trimming and Removal Policy approved by the Commission supersedes the City of Long Beach Tree Maintenance Policy in any instances where they differ. The description of Impact BIO5 has been amended to incorporate the recognition of the Tree Trimming and Removal Policy approved by the Commission for City of Long Beach areas within the Commission's retained tidelands jurisdiction.

Response CCC-28

The commenter states that the proposed Extended Phase I and Phase II archaeological investigations would require a CDP in order to carry out the development prior to the permit for the restoration project. LCWA understands that a CDP permit would be required. This comment is noted.

Response CCC-29

The commenter states that Mitigation Measure CUL7 only calls for avoidance and preservation in situ if the resource (which may be a tribal cultural resource) is significant to the tribal cultural landscape, and asks what is the threshold for significant and how will that be evaluated in the event that the Native American monitors decline significance testing and/or data recovery. The commenter states that the preferred method of treatment for all tribal cultural resources should be preservation in situ. As noted in Mitigation Measure CUL6 (see Chapter 3.4 Cultural Resources, Section 3.4.5 Project Impacts and Mitigation Measures) the threshold for significance is the California Register Criteria 1-4. Significance criteria for Native American resources will be developed in consultation with Native American Tribes to ensure cultural values ascribed to the resources, beyond those that are scientifically important, are considered in the evaluation. LCWA will consider the significance of the resource to tribes prior to requiring any subsurface investigation, and has revised CUL6 to indicate as such. LCWA understands and agrees that avoidance and preservation in place is the preferred method of treatment for all tribal cultural resources.

Response CCC-30

The commenter states that Mitigation Measure CUL7 indicates that if LCWA determines that avoidance is infeasible in light of factors such as the nature of the find, proposed project design, costs, and other considerations, then that resource shall be subject to data recovery and curation. The commenter asks why these factors would influence whether a tribal cultural resource could be capped and preserved. LCWA's intent is to avoid and preserve in place tribal cultural resources as much as possible. CEQA requires that lead agencies should, whenever feasible, seek to avoid damaging effects on archaeological resources, but provides for data recovery as a means to mitigate impacts to archaeological resources if avoidance is infeasible. CEQA Guidelines Section 15364 defines "feasible" as "capable of being accomplished in a

successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors."

Response CCC-31

The commenter states that Native American tribal input should be sought for the development of the Archaeological Resources Monitoring and Mitigation Plan and on the curation of tribal cultural resources. The commenter states that materials should first be offered to the Native American tribal governments. With regards to the first part of this comment, LCWA agrees that tribal input should be sought on the plan, and has revised Mitigation Measures CUL9 and CUL12 to include their review of this document. With regards to the second part of this comment, LCWA understands that tribes may prefer to retain ownership of artifacts. The State of California Resources Agency's *Guidelines for the Curation of Archaeological Collections* (State Historical Resources Commission and Department of Parks and Recreation, 1993) states that archaeological collections that are created by compliance with state environmental laws and regulations (such as CEQA) must be housed at qualified repositories. The guidelines also state that a collection from a Native American site may best be curated by a qualified repository maintained by a tribal museum. LCWA will consult with tribes on the final disposition of Native American archaeological materials and on the selection of the curation facility, with preference given to tribal museums for Native American collections. If a suitable repository cannot be identified, then LCWA will donate the collection to a local California Native American Tribe(s) (Gabrielino or Juañeno). In response to this comment and other comments, Mitigation Measure CUL15 has been revised, please refer to Chapter 3.4 Cultural Resources, Section 3.4.5 Project Impacts and Mitigation Measures for revisions to the Draft PEIR.

Please note that this does not pertain to Native American human remains and associated items, which will be treated in accordance with applicable state law, and the disposition of Native American human remains and associated funerary objects or grave goods shall be determined by the landowner in consultation with LCWA and the Most Likely Descendant in accordance with Mitigation Measure CUL 17: Human Remains Discoveries in Chapter 3.4 Cultural Resources, Section 3.4.5 Project Impacts and Mitigation Measures.

Response CCC-32

The commenter notes that the California Coastal Act includes policies related to geology, soils, and paleontological resources, including Sections 30253,30233, and 30244 of the California Coastal Act. Reference to these sections have been added to Chapter 3.5 Geology, Soils, and Paleontological Resources, of the Draft PEIR. No further edits or revisions are necessary.

Response CCC-33

The commenter notes that the Coastal Act requires the minimization of energy consumption and vehicle miles traveled with new development and that the program should be consistent with this policy. The commenter suggests analyzing alternatives that integrate restoration with public access facilities. Additional detail would be determined on a project level basis and subsequent to the preparation of this program EIR. At a conceptual level. the proposed program integrates restoration with public access as described in Sections 2.7.2.4, 2.7.3.4, 2.7.4.4, and 2.7.5.4.

Response CCC-34

The commenter suggests that a discussion of the role of the revised SPCC in protecting coastal resources, required under CDP 9-18-0395, Special Condition 19, could be added to Chapter 3.7 Hazards and Hazardous Materials, Section 3.7.2. However, this page is in Section 3.7.2 Environmental Setting, which describes the setting for the Synergy Oil Field site with a focus on what hazardous materials are there. SPCCs are a regulatory requirement and are better discussed in Section 3.7.3 Regulatory Framework; note that SPCCs are discussed in Clean Water Act of 1972 as amended by the Oil Pollution Act of 1990, and Unified Hazardous Waste and Hazardous Materials Management Regulatory Program. To address this comment, a section describing the above-referenced special condition has been added to Section 3.7.3 Regulatory Framework, Local.

Response CCC-35

The commenter suggests considering additional sea-level rise scenarios in Section 3.8 as well as the sustainability of the wetlands with sea-level rise. A major goal of the program is to create tidal marsh that is self-sustaining habitat. The program was designed to account for sea-level rise by allowing wetland transgression into transition and upland habitat areas, without requiring additional construction. Habitats across the program area would change in response to sea-level rise through 2100 and beyond, but they would be more resilient than under the no project alternative. The broad transition slopes between wetland and upland habitat in the South Area are intended to increase the resiliency of the restored wetland to future sea-level rise and allow wetland habitats to transgress up slope with rising sea levels. This process of "coastal rollover" has occurred over geologic time, is expected to continue and accelerate with projected sea level rise, and has been documented at marshes in California (Wasson et al., 2013) and throughout the U.S. (Morris et al., 2002). Including room for marsh transgression is considered a restoration "best practice" (Fejtek et al., 2014).

The Los Cerritos Wetlands restoration approach seeks to balance creating wetlands today versus creating upland areas where wetlands can transgress (i.e., versus upland areas that provide "future wetlands"). Areas that would be wetland under 6.6 ft. of sea-level rise or greater would not be wetland today, but would be upland habitat. Since sea-level rise is accelerating, marsh created today (while sea-level rise rates are low) should be expected to be maintained longer than marsh created later (once rates of sea-level rise have increased). While the 3.3 ft. sea-level rise scenario analyzed in Appendix H has a 17% chance of being exceeded by 2110, this means that the model projections show that it is more likely that sea-level rise will stay below 3.3 ft. by 2110, and the majority of the marsh in the program area will remain viable. If the amount of sea-level rise ends up less than the projections used in the design, this means that any designed future wetland areas would not become wetland during the design life of the project. These areas would come at the expense of providing wetland habitat today and over the near- and medium-term. Therefore, the Los Cerritos Wetlands restoration approach uses the low risk sea-level rise projections for planning wetland habitat restoration and upland transgression areas.

For flood management analyses and planning, 5 ft. of sea-level rise was considered in the design of the Central Area levees to reflect the medium risk sea-level rise scenarios. This higher amount

of sea-level rise was used since the risk associated with sea-level rise exceeding this projection has the high consequence of flooding major infrastructure and development.

Response CCC-36

The commenter notes that the California Coastal Act has several policies relating to priority land uses in the coastal zone, including Sections 30220 through 30223, and these policies should be addressed within the Draft PEIR. **Table 3.9-1**, *Consistency Analysis with Local Land Use Plans*, in Chapter 3.9 Land Use and Planning, of the Draft PEIR provides an analysis for Sections 30221, 30222, and 30223. Analysis as it relates to Section 30220 has been added to this table.

Response CCC-37

The commenter notes a typo in Chapter 3.9 Land Use and Planning, Section 3.9.5 Project Impacts and Mitigation Measures, of the Draft PEIR. This has been clarified in the PEIR.

Response CCC-38

The commenter indicates that evaluation of noise and vibration impacts on sensitive coastal resources including sensitive wildlife species should be assessed.

As indicated under Impact BIO-1, temporary indirect impacts from construction noises and vibrations could occur to Belding's savannah sparrow, California black rail, Ridgeway rail, and yellow rail, as well as to other avian species that may nest in the area. As such, in accordance with Mitigation Measure BIO4, if active nests are observed, an avoidance buffer will be demarcated by a qualified biologist with exclusion fencing and shall be maintained until the biologist determines that the young have fledged and the nest is no longer active.

Construction generated noises and vibrations are also considered under Impact BIO4 with regards to wildlife movement. As stated, an increase in noise and dust during construction may have a temporary indirect impact to terrestrial wildlife movement. However, such indirect impacts are not considered significant as an existing bike path, Pacific Coast Highway and Westminster Boulevard currently provide a high level of disturbance to terrestrial wildlife movement in the program area.

Response CCC-39

The commenter notes that the California Coastal Act includes a number of recreation-related policies that should be added to Chapter 3.13 Recreation, of the Draft PEIR.
Reference to recreation-related policies, including Sections 30210, 30211, 30212, 30212.5, 30213, 30214, 30220, 30221, 30222, 30223, 30224, 30252 of the California Coastal Act has been included in Section 3.13, *Recreation*, of the Draft PEIR. No further edits or revisions are necessary.

Response CCC-40

The commenter suggests that the PEIR propose and analyze impacts of additional transit stops. As discussed in Chapter 3.14 Transportation, of the Draft PEIR, the proposed program would not alter the local roadway configuration or permanently disrupt bus stops or bike lanes

once operational, and therefore would be consistent with all applicable transportation and traffic plans. As there are no impacts to transportation facilities, analysis of additional transit stops is not warranted. Nonetheless, LCWA notes this comment and will consider adding new bus stops as part of individual restoration projects.

Response CCC-41

The commenter suggests tailoring the program design to facilitate future implementation of the tidal connection to Steam Shovel Slough under 2nd Street. Chapter 5 Project Alternatives, Section 5.4.2.5 discusses that the restoration design for the South Synergy Oil Field site would need to be developed in further detail to explore the feasibility of tidally connecting to the Central Area. Additionally, the feasibility of raising 2nd Street would need to be explored with the City of Long Beach, with considerations made for sea-level rise related hazards, traffic impacts associated with a lengthy construction period, and engineering feasibility. If and once these various variables are better understood, this alternative could be considered feasible and LCWA could choose to move forward with design and implementation. The near-term Central Area design does not constrain the future of this alternative. If this alternative was to be moved forward in the future, a new CEQA document would be required to analyze the impacts.

Response CCC-42

The commenter notes that their comments are preliminary in nature and requests notification of future projects as they are developed. This commenter also provides contact information which is noted for the record.

Response CCC-43

Responses to the referenced letter are provided above in Responses to Comments Nos. CCC-1 to CCC-42.

Comment Letter SHP

SIGNAL HILL PETROLEUM

American Energy.
American Jobs.

July 3, 2020

Ms. Sally Gee
Los Cerritos Wetlands Authority
100 N. Old San Gabriel Canyon Road
Azusa, CA 91702

Re: Comments on the Draft Program Environmental Impact Report for the Los Cerritos Wetlands Restoration Plan ("Draft PEIR").

Dear Ms. Gee,

SHP-1 Signal Hill Petroleum, Inc. ("SHP") has previously commented on a preliminary portion of the Los Cerritos Wetlands Authority ("LCWA") Draft PEIR and a copy of our January 20, 2020 letter with our comments is attached. Our position on the issues stated in this letter have not changed with our review of the current Draft PEIR.

SHP is a staunch supporter of the LCWA and it was through SHP's commitment and significant investment that the Trust for Public Lands, the California Coastal Conservancy and SHP ultimately negotiated a deal to acquire all of the land and mineral interests of the Bryant Trust. The land ownership was then transferred to the newly formed LCWA and SHP retained the mineral ownership and entered into certain easement agreements to allow for on-going oil operations in concert with LCWA's management and upgrade of the newly acquired coastal habitat.

SHP-2 We support the over-arching goals of the Los Cerritos Wetlands Restoration Plan ("the Project") which the Draft PEIR is targeted to address. However, we believe an important project goal is missing from the Draft PEIR and that is to protect and enhance access to the significant hydrocarbon reserves that exist under the project area in conjunction with the goals of habitat restoration and maintenance. Specifically, the Easement Agreement (see January 20, 2020 letter) states: "It is the intent of the parties hereto that this Agreement shall establish and define certain parameters which shall allow for existing and future oil and gas operations to be conducted...in conjunction with open space and wildlife habitat restoration...".

We appreciate that the Draft PEIR recognizes that the Project will span decades and mentions time frames of 40 years plus. We believe this time frame is consistent with the economic future for SHP's oil and gas production within the Central LCWA Site and the Isthmus LCWA Site. At issue though, is the Draft PEIR is inconsistent with this long view in its description of project phasing activity in the LCWA Central Site. The Draft PEIR states in Section 2.7.4.1 that "The Central LCWA Site...would be available for restoration in the near term, and the existing oil operations...operated by Signal Hill Petroleum, Inc. would be protected in place by proposing to raise the wells out of the flood plain." The Project restoration referred to is breaching the San Gabriel River flood control levee and submerging the Central

LCWA Site. As we have stated before, no contract or agreement currently exists between SHP and LCWA to move forward with this scenario.

SHP-3 In 2.7.4.2 Ecosystem Restoration, Table 2-10, we are concerned that the assessment of post restoration "Managed Habitats" is overly optimistic. In the main Project scenario, the current San Gabriel River levee is breached, an "Interim levee" constructed and SHP well pads in the Central LCWA Site are raised 13 – 15 feet. We estimate that there will be a net loss of 14 acres of current habitat to the footprint of the new levees and well pads and the slopes required to construct them. Table 2-10 in the Draft PEIR references "Vegetated levees and berms" of 12.9 acres. The new levee and pad slopes will have to be covered with rip-rap rock to withstand the forces of the San Gabriel River during flood conditions and will not be "vegetated". We believe this results in a significant loss of current habitat that is not assessed in the Draft PEIR.

SHP-4 We are open to discussing the concerns expressed above and possible solutions at your convenience.

Regards,

David Slater
COO/Executive Vice President

Attachment/

Cc: S. McDaniel
A. Rothwell
D. Russell

Comment Letter SHP

SHP-5

SIGNAL HILL PETROLEUM

January 20, 2020

Mr. Mark Stanley
Executive Director
Los Cerritos Wetlands Authority
c/o Rivers and Mountains Conservancy
100 N. Old San Gabriel Canyon Road
Azusa, CA 91702

Re: Los Cerritos Wetlands Restoration Plan Draft EIR
LCWA Central and Isthmus Areas

Dear Mr. Stanley,

Signal Hill Petroleum ("SHP") is a partner in and has a vested stake in the Los Cerritos Wetlands ("LCW") "Central LCWA Area" and the "Isthmus Area". SHP financially partnered with the State of California Coastal Conservancy for the acquisition of these areas as a public/private partnership in 2006. SHP owns the mineral fee interest underlying the LCWA Central, the Bryant Central and the Isthmus Area and operates twelve oil wells and supporting oil facilities in these areas per easements contained in that certain "Termination of Oil and Gas Lease and Grant of Easement" agreement recorded in Los Angeles County on July 7, 2006 ("Easement Agreement"). The Easement Agreement includes several different types of easements, each with different rights and obligations. Most notably, there are "Exclusive Use Easements" whereby SHP has the exclusive use of these easement areas and there is no requirement in the Easement Agreement to modify, change or relocate these easement areas or the operations conducted within them.

SHP has just received and reviewed Chapter 2 of the draft Project EIR ("Draft PEIR") for the proposed Los Cerritos Wetlands Restoration Program. The Draft PEIR outlines the restoration work proposed for the LCWA Central and Isthmus Areas of the LCW. As stated above, SHP has producing oil wells in these areas and these wells have significant oil reserves and value still to recover. We have concerns about the impact of the proposed restoration plans on SHP's oil and gas production operations within the Exclusive Use Easements within these restoration areas.

Several restoration scenarios require constructing new flood control levees along the north and west boundaries of the LCWA/Bryant Central area and then breaching the existing levee opening the area up to the San Gabriel River Flood Control Channel and tidal flow. The newly constructed levees are planned to be approximately 15 feet higher than existing grade. To accommodate this change will require raising all of SHP's oil well pads and well heads in the LCWA Central Area by 15 feet. To raise the oil well pads and well heads, the wells will have to be taken off production, all equipment removed from each well, a temporary retrievable plug placed in each well, all surface equipment removed (pumping units, concrete

Signal Hill Petroleum, Inc.
2633 Cherry Avenue, Signal Hill, California 90755 (562) 595-6440 Fax: (562) 426-4587

pads, electrical equipment, etc.), and a 15 foot high casing riser fabricated and installed. The wells would then have to remain idle until such time that the levee and the well pad grading and construction are complete. Estimating that the levee/well pad construction time will be 12 – 18 months or more, the lost production value for the aggregate well downtime will be significant in addition to the expense of the well work. Further, all of SHP's wells are located within Exclusive Use Easements.

Currently, there is no agreement in place between SHP and the LCWA that would allow for such modification to SHP's wells. This was noted in the "Initial Study - Los Cerritos Wetlands Restoration Plan" dated March 2019 which states: "The timing of the long-term phase depends on decommissioning of existing oil operations and could vary from 20 years (where agreements are in place) to longer time frames. *For oil operations that do not have agreements in place with LCWA*, it is expected that ...oil and natural gas production would continue...".

The draft PEIR incorrectly states in Section 2.3.1 "Property Ownership and Oil Leases" that: "The LCWA has an agreement with Signal Hill Petroleum, Inc. on the Central LCWA site that includes "reasonable" relocation and modification of oil operations...". The existing agreement does not have any requirement for SHP to change, alter or relocate its exclusive use easement areas which are where the wells are located.

We are also, concerned that the Draft PEIR states that there will be immediate and significant restoration activity that is inconsistent with SHP's ongoing oil operations. Specifically, in Section 2.7.4 under the heading "Phasing", it states that "the Central LCWA site is available for restoration immediately...existing oil operations on the Central LCWA site operated by Signal Hill Petroleum, Inc. would be protected in place by raising the wells out of the floodplain."

We will contact your office to schedule a meeting to discuss the issues we have outlined above and possible solutions for moving this important project forward.

Regards,

David Slater
Executive Vice President/COO
Signal Hill Petroleum, Inc.

Cc: Eric Zahn, Tidal Influence

SHP-6

From: Alex Rothwell
To: Sally Gee
Cc: Dave Slater; Sean McDaniel; Debra Russell; eric@tidalinfluence.com
Subject: SHP Public Comment Letter for the LCWA Draft PEIR
Date: Monday, July 6, 2020 3:13:58 PM
Attachments: image001.png
image002.png
LCWA Draft PEIR Comments 2020-07-03.pdf

Hello Sally,

Please see SHP's public comment letter for the LCWA Draft PEIR attached. Thank you.

Respectfully,
Alex Rothwell

SIGNAL HILL PETROLEUM

Alex Rothwell | Community Relations Manager
Address: 2633 Cherry Ave. Signal Hill, CA 90755
Tel: 562.326.5258
Fax: 562.426.4587
Email: ARothwell@shpi.net
Website: www.shpi.net
Responsibility. We know the drill.

Signal Hill Petroleum, July 3, 2020

Comment Letter SHP

Response SHP-1

The commenter references an enclosed letter with comments made on a version of the PEIR shared with Signal Hill Petroleum prior to the public circulation of the Draft PEIR. The commenter indicates that Signal Hill Petroleum's position on the issues stated in the enclosed letter have not changed.

The commenter in the enclosed letter notes that there is no agreement in place between SHP and LCWA that would allow for modification to SHP's wells. In response to the referenced letter, LCWA had clarified the agreement between Signal Hill Petroleum and LCWA with the inclusion of the following language:

Chapter 2 Project Description, Section 2.7.4.5 of the Draft PEIR states that "As proposed in the Termination of Oil and Gas Lease and Grant of Easement agreement between Signal Hill Petroleum, Inc., and the LCWA, Signal Hill Petroleum, Inc. would relocate or modify aboveground pipelines and utilities on the Central LCWA site and remediate soils that have been impacted by oil operations to accommodate the restoration. Thus, restoration in the near term would include pipeline relocation, but not well relocation. Additionally, outside of this agreement, existing Signal Hill Petroleum, Inc. wells would be protected in place by proposing to raise the wells out of the floodplain to 19 ft. NAVD, 13 ft. above marsh-plain elevation. When Signal Hill Petroleum, Inc. elects to modify their oil operations, the changes would be analyzed under a separate CEQA document."

The commenter in the enclosed letter also notes concern that there will be immediate and significant restoration activity that is inconsistent with SHP's ongoing oil operations. See Section 2.1.2 which has been modified to include information regarding the next steps LCWA will take, including additional environmental review, prior to implementing individual restoration projects envisioned in the proposed program.

Response SHP-2

The commenter indicates support for the over-arching goals of the Los Cerritos Wetlands Restoration Plan but notes that a key goal that is missing is to protect and enhance access to significant hydrocarbon reserves that exist under the project area in conjunction with the goals of habitat restoration and maintenance. The commenter further notes that no contract or agreement currently exists between SHP and LCWA to move forward with the scenario of restoring the Central LCWA site, identified as a near-term phasing activity. In response to the first comment, the goals and objectives referenced in Section 2.5, Required Permits and Approvals, of the Draft PEIR do acknowledge phasing of implementation of restoration to accommodate existing and future potential changes in usage. Fundamentally, the goals and objectives are to implement habitat restoration and increase public access. In response to the second comment, see Response to Comment No. SHP-1.

Response SHP-3

The commenter expresses concern that the "managed habitats" presented in **Table 2-10**, *Post-Restoration Habitats and Acreages in the Central Area*, in the Draft PEIR are overly optimistic. The comment notes that the new levee and well pad slopes in the Central Area will have to be covered with rip-rap rock to withstand the forces of the San Gabriel River and therefore will not be vegetated. Appendix I of the Draft PEIR provides hydrodynamic modeling and an erosion analysis for the 100-year storm event on the San Gabriel River. The results showed that some erosion is likely to occur along the tidal wetland channel and along the bank of the river. Only minor erosion (<0.5 ft.) was predicted in the vicinity of the well pads or along the new levees. Additionally, this type of storm event would be infrequent with only a 1 percent annual chance of occurrence. As discussed in Section 2.7.4.3 Flood Risk and Stormwater Management\Levees, "The Central Area is expected to primarily be a backwater area during flood events, and erosion potential is expected to be limited along most of the levee reach. The new levees may incorporate buried soil cement or rock protection of the levee core with vegetation on the slopes." Rip-rap rock is not expected to be necessary along the proposed levees or gas well pads based on the hydrodynamic modeling, so the managed habitats presented in Table 2-10 are expected to be appropriate for the programmatic-level analysis.

Response SHP-4

The commenter indicated a willingness to discuss the aforementioned comments and does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response SHP-5

See Response to Comment No. SHP-1.

Response SHP-6

Responses to the referenced letter are provided above in Responses to Comments Nos. SHP-1 to SHP-5.

Comment Letter EDAUD

HAMILTON BIOLOGICAL

July 6, 2020

Ms. Sally Gee
Los Cerritos Wetlands Authority
100 North Old San Gabriel Canyon Road
Azusa, CA 91702
Transmitted by email: sgee@rmc.ca.gov

SUBJECT: COMMENTS ON DRAFT PROGRAM EIR LOS CERRITOS WETLANDS PROGRAM LONG BEACH, CALIFORNIA

Dear Ms. Gee,

EDAUD-1 On behalf of El Dorado Audubon Society, Hamilton Biological has reviewed the Draft Program EIR (DPEIR) for the Los Cerritos Wetlands Program. In 2014/2015, Audubon California retained Cooper Ecological, Inc., to provide input on advanced planning of conservation and restoration of the Los Cerritos Wetlands. Under that contract, I collaborated with the lead author, Dan Cooper, on the attached report, dated October 27, 2015, entitled, *A Conservation Vision for the Los Cerritos Wetlands, Los Angeles County/Orange County California* (Cooper and Hamilton 2015).

Historical Ecology and Landscape Change of the San Gabriel River

EDAUD-2 It is concerning that this plan to restore large areas of the Los Cerritos Wetlands appears to have been devised without any formal reference to the landmark 2007 study by Dr. Eric Stein and colleagues, *Historical Ecology and Landscape Change of the San Gabriel River and Floodplain*.[1] It is difficult to understand how natural communities of the Los Cerritos Wetlands could be competently restored under a DPEIR that contains no references to this foundational document.

Problematic Proposal for 10-Acre "Native Grassland" in South Area

Page 2-38 of the DPEIR states:

EDAUD-3

> A 10-acre grassland, raptor foraging habitat is required to be restored in the southwest corner of the site. Target native grassland species would include Alkali sacaton (*Sporobolus airoides*), purple needlegrass (*Stipa pulchra*), and alkali ryegrass (*Elymus triticoides*). This area would meet the conditions for Heron Pointe, a previously approved residential devel-

[1] Stein, E. D., S. Dark, T. Longcore, N. Hall, M. Beland, R. Grossinger, J. Casanova and M. Sutula. 2007. *Historical ecology and landscape change of the San Gabriel River and floodplain.* Tech. Rpt. 499. So. Calif. Coastal Water Rsrch. Proj. 101 pp. + append. www.rmc.ca.gov/grants/resources/499_historical_ecology.pdf

> opment located outside the program boundaries south and east of the South Area per Coastal Development Permit 5-97-367-A1. The Coastal Development Permit's Amendment Staff Report (filed on September 12, 2000) requires the creation of 9.2 acres of suitable raptor foraging habitat to support various bird species which nest and/or forage in the South Area and within Gum Grove Park.

The DPEIR's assertion that the 10-acre site "is required to be restored" to grassland, or to any other particular habitat type, is inaccurate and misleading. The site was historically part of the wetland system, but after fill spoils were deposited there the site became vegetated with non-native species of mustard, wild radish, annual grasses, etc. Since this site never was a native grassland, it cannot be "restored" to native grassland. Experience tells us that any effort to *force* this area to become a native grassland will almost certainly fail. This would represent a great monetary expense and an unacceptable loss of opportunity for legitimate ecological restoration.

EDAUD-3 Cont.

Coastal Development Permit 5-97-367-A1 requires setting aside and managing the 9.2 acres for the purpose of providing valuable foraging habitat for raptors. For the past 20 years, the area in question has been determined to satisfy this requirement despite being vegetated with various non-native weeds and grasses (i.e., habitat restoration has not been required to satisfy the permit conditions). The Coastal Development Permit calls for a Raptor Foraging Habitat Management Plan, which Glenn Lukos Associates prepared in 2001. Cooper and Hamilton (2015) reviewed this plan and found that it provided no detailed analysis of raptor usage, no restoration component, and no special maintenance measures apart from "regular clearing and mowing activities" that were already being conducted in the area.

A relevant part of the Coastal Development Permit is Special Condition 22, which places an Open Space Deed Restriction on the 9.2-acre raptor foraging area:

> **22. OPEN SPACE DEED RESTRICTION**
>
> **A.** No development, as defined in section 30106 of the Coastal Act shall occur in the raptor foraging habitat delineated by the map required pursuant to Special Condition 21 except for:
>
> 1. Activities related to raptor foraging habitat maintenance pursuant to the raptor foraging habitat management plan required pursuant to Special Condition 21.C.; and
>
> 2. The following development, if approved by the Coastal Commission as an amendment to this coastal development permit: activities related to public access, recreation, and wetland restoration provided that such development continues to designate a minimum of 9.2 acres of equivalent or better functioning raptor foraging habitat.

The Deed Restriction allows for "development" to provide public access and recreation within and around the 9.2 acres of raptor foraging habitat, but also requires that "such development continues to designate a minimum of 9.2 acres of ***equivalent or better functioning raptor foraging habitat***" (emphasis added). Section 2.7.7.2 of the DPEIR, Adaptive Management, provides general discussions of baseline and ongoing monitoring of various aspects of the project, but does not explain how the project biologists intend to substantiate the DPEIR's assumption that increased human activity in the South

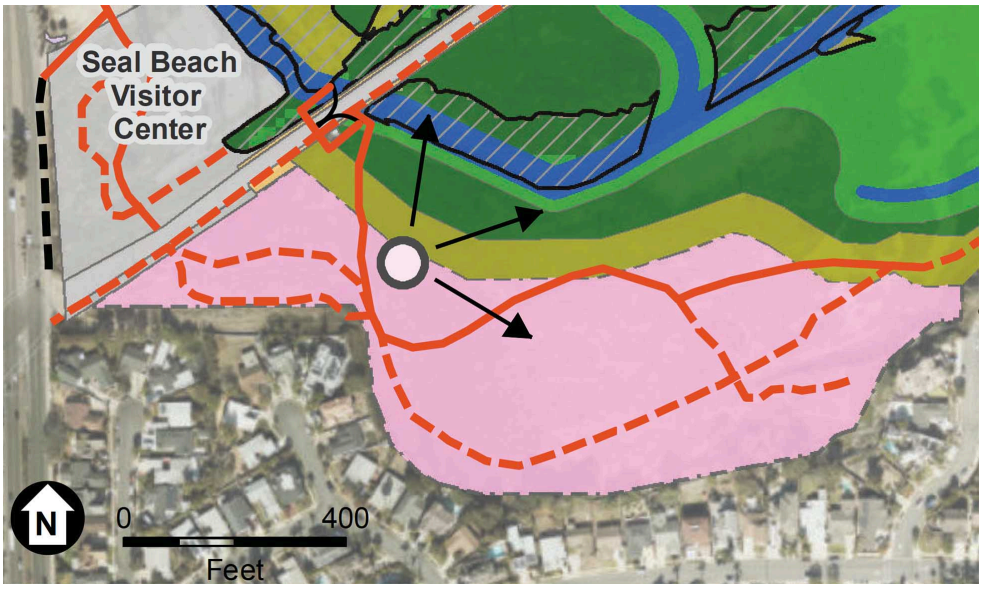
Area can be accommodated without reducing raptor use of the 9.2-acre raptor-foraging habitat area (thus violating the Deed Restriction).

The DPEIR does not quantify or describe raptor use of this area. The eBird checklist for nearby Gum Grove Park (https://ebird.org/hotspot/L738572/media?yr=all&m=) shows that White-tailed Kites, Northern Harriers, Cooper's Hawks, Red-shouldered Hawks, Red-tailed Hawks, Great Horned Owls, and American Kestrels apparently use the raptor foraging area with some regularity. Given that the 9.2-acre area is dominated by mustard and other weeds, its value for raptors appears to relate to the generally low levels of human activity in the area. Demonstrating compliance with the Deed Restriction requires the project proponents to (1) determine the current level of raptor use of the Deed Restriction area during different seasons; and (2) provide for future adequate and standardized monitoring of raptor use of the Deed Restriction area. If raptor use of the Deed Restriction area is found to be diminished, the EIR should include a mitigation measure restricting public activity specifically to restore raptor use to at least pre-project levels. If this type of approach is not taken, the potential impacts of the project on raptor foraging in the Deed Restriction area will be unknown, and the Program EIR should acknowledge a potentially significant impact not avoided or reduced to below the level of significance by the project's mitigation measures.

EDAUD-3 Cont.

Additionally, since the Deed Restriction is part of Coastal Development Permit 5-97-367-A1, and the Coastal Commission will need to issue a Coastal Development Permit for the Seal Beach portion of the project, any intensification of land use that could violate the Deed Restriction (by potentially reducing the value of the 9.2 acres for foraging raptors) could present an unnecessary regulatory obstacle for the overall project.

The following excerpt from Figure 2-16 on page 2-44 of the DPEIR shows in pink the 10-acre area proposed for "native grassland restoration" (this includes the 9.2-acre Deed Restriction area).



Excerpt from Figure 2-16 showing in pink the proposed 10-acre native grassland and raptor foraging area. An existing restricted-access trail (solid orange line) is shown running through the area, as well as multiple proposed new trails (broken orange lines) and a proposed "viewpoint" (circle with arrows).

Human activity in the Deed Restriction area currently consists of occasional use of one limited-access trail. As Figure 2-16 shows, the project would establish a network of trails leading to a new Seal Beach Visitor Center that would be built within 200 feet of the raptor foraging area. The project would also construct a "viewpoint" along the northern boundary of the raptor foraging area. Page 2-43 states:

> A new restricted trail would be constructed through the raptor habitat on the South LCWA site in the near term. The trail would connect Gum Grove Park to the existing San Gabriel River Trail, fishing area, and trails on the Isthmus area. Initially this trail would be restricted to docent-led tours until habitat areas are established and a management plan is approved. A viewpoint would be constructed in the raptor habitat area.

EDAUD-4

Each road or trail built through a relatively small patch of habitat, such as the 10-acre area in question, (a) reduces the overall area of restored habitat; (b) increases human-related disturbance in the restored habitat; (c) creates edges that can be vectors for invasive weeds; and (d) divides the larger habitat patch into smaller patches. Examining the map excerpted on the previous page, the proposed establishment of multiple trails through the pink area **would create eight or nine fragments of habitat separated from each other by roads/trails**. In such a limited area, this would clearly be placing a desire for human access and recreation over the needs of foraging raptors. The project's habitat restoration and raptor foraging habitat goals can best be achieved, while providing for adequate public access/recreation, by establishing fewer trails through this area.

Is the ultimate plan to allow dogs, bicycles, or any other non-pedestrian use of any trail through the 10-acre restoration site after the management plan is approved? If so, how would this be demonstrated to be consistent with the Deed Restriction on this area?

The DPEIR does not indicate the parties who would be responsible for leading the docent-led tours. El Dorado Audubon is interested in being involved with this activity.

EDAUD-5

The DPEIR's proposal to establish a 10-acre native grassland dominated by alkali sacaton (*Sporobolus airoides*), purple needlegrass (*Stipa pulchra*), and alkali ryegrass (*Elymus triticoides*) has a high potential to completely fail, as native grassland restoration projects often do, especially when they are undertaken in areas where grasslands never existed before. For example, in the mid-1990s, the County of Orange set out to establish 25 acres of "native grassland" adjacent to the Santa Ana River channel at North Talbert Regional Park (i.e., in an area very similar to the site proposed for native grassland restoration in the South Area). Two decades later, in 2015, Moffat & Nichol prepared for the County of Orange a remedial *Talbert Regional Park Final Habitat Restoration Plan*[2], in which they mapped the failed grassland restoration site as "Disturbed/Degraded Restoration Area." Please see my photo of the failed grassland restoration site on the next page.

[2] Moffat & Nichol. 2015. Talbert Regional Park Final Habitat Restoration Plan. Report dated December 2015, prepared in Association with Chambers Group, Inc., and New West Land Company for OC Parks, Irvine, CA. Available at https://www.ocparks.com/civicax/inc/blobfetch.aspx?BlobID=54858

EDAUD-5 Cont.



Photo taken on October 1, 2013, showing the "native grassland" restoration site at North Talbert Regional Park, along the Santa Ana River channel in Orange County. After several years of intensive efforts to "force" native grassland to become established in this area, the County of Orange eventually gave up on this restoration. *Robert A. Hamilton*.

Moffat & Nichol (2015) described the failed grassland restoration area shown above as follows:

> Portions of the Talbert Preserve were planted with native vegetation as part of a restoration effort for the site; however, not all areas were successfully restored. **Due to a lack of maintenance, many areas are now dominated by sparse nonnative ruderal vegetation** and are not likely to support native wildlife species. Nonnative species within these degraded restoration areas include fennel (*Foeniculum vulgare*), shortpod mustard, and tocalote (*Centaurea melitensis*). Scattered native coyote brush shrubs were also present, but in low densities. [emphasis added]

Having spent considerable time walking and observing the lower Santa Ana River area from the 1980s to present, I can verify that complete failure of the 25-acre native grassland restoration was *not* "due to a lack of maintenance." For multiple years during the late 1990s and early 2000s, I personally witnessed the County's **intensive but ultimately futile efforts** to kill off weeds and to plant and seed native grasses and wildflowers across the 25 acres. The site simply was not suited to establishment of grasslands.

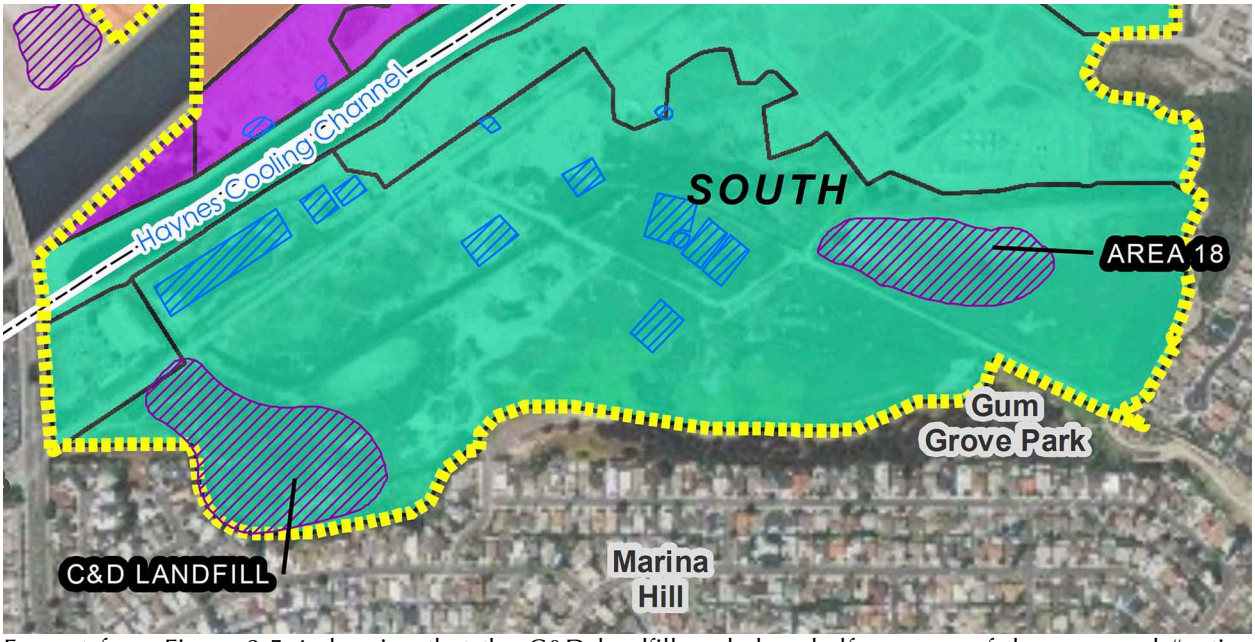
EDAUD-5 Cont.

On a more fundamental level, it makes no sense to blame "lack of maintenance" for the complete failure of a restoration project, 20+ years after initial planting. The process of ecological restoration involves (a) restoring an ecologically appropriate natural community to an area **where it occurred historically** and, (b) after a limited period of irrigation, weeding, and possibly replanting, **allowing the community to become self-sustaining**. It is not a glorified landscaping project that requires extensive ongoing maintenance to create the illusion of a natural community.

Legitimate native grasslands, composed of various native grasses and wildflowers, have proven very problematic to establish under any circumstances, but especially in areas with artificial fill soils that did not support grasslands historically. In such situations, the native species are often overwhelmed by the explosive growth of widespread non-native weeds and annual grasses better adapted to disturbed soil conditions. Soils may also be excessively saline or have other qualities that prevent establishment of the grassland species being introduced under the "restoration" plan. If the soil conditions are not suitable to begin with, no technique exists to force native grasses and wildflowers to grow in them. Regarding soils, Page 3.5-2 of the DPEIR states:

> According to Saucedo et al. (2016), artificial fill is present over most of the entire program area, likely placed during development of the oil field, construction of the nearby marina, and channelization of the San Gabriel River. The artificial fill consists of sediments that have been removed from one location and transported to another by humans. Artificial fill may contain modern debris such as asphalt, wood, bricks, concrete, metal, glass, plastic, and even plant material.

Figure 3.5-4 in the DPEIR shows that the C&D landfill underlays roughly half of the proposed native grassland restoration site.



Excerpt from Figure 3.5-4 showing that the C&D landfill underlays half or more of the proposed "native grassland" restoration site.

EDAUD-5 Cont.

Regarding the potential hazards associated with the C&D Landfill, page 3.7-9 states:

> The landfill area is not known to have had any oil wells (CalGEM, 2019). The landfill was investigated for hazardous materials in 2004 and 2006 (Anchor 2006). The landfill reportedly accepted clean fill material from city projects, private projects, and the U.S. Army Corps of Engineers (USACE) in conjunction with dredging of the San Gabriel River. When investigated further in 2006, the observed landfilled materials consisted of layered sand, silt, clay, and gravel, with chunks of concrete and asphalt of varying sizes; no other waste types were observed other than one license plate.
>
> Although not considered to be associated with the former landfilling activities, crude oil was observed along the southern portion of the landfill in 2006. The extent of the crude oil in 2006 was approximately 100 feet wide by 500 feet long by 3 to 6 inches thick at a depth of about 10 feet below the ground surface. The source is believed to be a former oil pipeline that crossed this area that was removed between 1954 and 1958.

My 32 years of experience participating in and observing restoration projects in coastal southern California leads me to conclude that the DPEIR's proposal to establish "native grassland" on artificial fill soils and a landfill, in a low-lying area that probably supported alkali meadow and/or tidal wetland historically, is very likely to fail.

One possible adverse outcome is for alkali sacaton, one of the three grass species proposed for planting, to establish a dense stand across some or all of the grassland planting area. This occurred in a section of South Talbert Regional Park that was originally intended as an extensive willow-riparian habitat restoration site (see photo below).



Photo taken on July 29, 2019, showing a dense, monotypic stand of alkali sacaton grass established in South Talbert Regional Park in Orange County. *Robert A. Hamilton*.

EDAUD-5 Cont.

Although technically a "native grassland," establishment of an extensive stand of alkali sacaton does not represent "restoration" of a natural community found along the coast of Orange or Los Angeles counties. The ecological value of such an area for foraging raptors, or for special-status wildlife species, is highly questionable. Such an outcome would not represent a successful ecological restoration, and it would not be desirable in the Los Cerritos Wetlands.

Restore Alkali Meadow Instead of "Native Grassland"

In describing the historical communities of the region, Stein et al. (2007; *Historical ecology and landscape change of the San Gabriel River and floodplain*) stated:

> **Of particular note is the loss of the vast alkali meadows, which were once the most common type of wetland in the lower watershed, but are now totally absent from the landscape.**

EDAUD-6

Page 68 of the same report identifies numerous rare or extirpated plants found in alkali meadow habitat in the area, including Nuttall's alkali grass (*Puccinellia nuttalliana*), spreading alkaliweed (*Cressa truxilensis*), saltmarsh bird's-beak (*Chloropyron maritimum* ssp. *maritimum*), southern tarweed (*Centromadia parryi* ssp. *australis*), and Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*). Pages 75–76 describe the alkali meadow community in greater detail:

> Saltgrass (*Distichlis* spp.) dominated alkali meadows at the landward edge of the tidal marsh at Alamitos Bay, and extended well beyond regular tidal influence, and were observed by early naturalists to include 'a growth of willow, salt (grasses), and moisture loving or alkali resistant plants.' . . . these alkali meadows may have expanded and contracted over time, being larger than the extent mapped within the study area during certain periods.

As discussed by Cooper and Hamilton (2015), an alkali meadow community likely occurred within or near the 10-acre area proposed for "native grassland restoration." Our report provided evidence, *based mainly on the work of Stein et al. (2007)*, that patches of alkali meadow habitat that remain in the Los Cerritos Wetlands should be considered to be an extremely important natural community for plants (including special-status species that would be impacted by grading for the project) and for wildlife.

Rather than attempting to "restore" native grassland habitat to an area of fill soils and landfill, where grassland did not historically occur and where the potential to establish a diverse and ecologically valuable native grassland is extremely low, **the plan should call for restoring 10 acres of the valuable alkali meadow habitat that likely occurred in this general area historically**. This represents a ***minimal*** level of alkali meadow restoration to be included as a component of an ecologically valid restoration of the Los Cerritos Wetlands. More would be preferable. This form of restoration could be readily achieved by grading down the existing fill to a level that would be flooded seasonally, and that would therefore support alkali-loving forbs and grasses typical of this depleted and ecologically important natural community. Any construction debris or other extraneous/hazardous materials encountered in the area of the C&D landfill would be addressed as discussed on pages 3.7-36 and 3.7-37 of the DPEIR (Impact HAZ-3).

So long as human activity is adequately managed, the 10-acre alkali meadow would provide foraging habitat for numerous raptor species at least equivalent to the mustard stand that currently occupies this space. To help ensure this outcome, it is recommended that public access through this part of the project site be limited to one or two trails running along the periphery of the restored alkali meadow, not through the middle of the restored habitat area.

EDAUD-7

Dogs and bicycles should not be permitted in the alkali meadow/raptor foraging area.

To demonstrate consistency with the existing Coastal Development Permit under intensified human use of the area, the EIR should require adequate, standardize monitoring of raptor foraging in this area, pre-project and in perpetuity, with a requirement to reduce human activity in the area if observational data show diminishment of raptor use that appears to result from intensification of human use.

In addition to its **much greater potential for successful establishment**, compared with attempting to establish "native grassland" at this site, a 10-acre alkali meadow would **provide a unique and much-needed habitat area for various rare plant species known from the project site and nearby area.** This includes the special-status species discussed below, which will be impacted by grading for the project and which may be difficult or impossible to re-establish elsewhere on the project site.

Impacts to Special-Status Plants

The DPEIR identifies populations of three rare plants on the project site: *Lasthenia glabrata* ssp. *coulteri*, *Centromadia parryi* ssp. *australis*, and *Camissoniopsis lewisii*. The first two of these are ranked 1B.1 by the California Native Plant Society (CNPS), referring to species considered "rare or Endangered in California and elsewhere, seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)." The first two have NatureServe rankings of S2 , referring to species "imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the state."

EDAUD-8

Populations of *Lasthenia glabrata* ssp. *coulteri* and *Centromadia parryi* ssp. *australis* are generally identified as Environmentally Sensitive Habitat Areas (ESHA) under the Coastal Act. The *Camissoniopsis* is not as rare as the other two, and populations may not be specifically regarded as ESHA.

Although the DPEIR identifies only a "low" potential for the CNPS-ranked Vernal Barley (*Hordeum intercedens*) to occur on the site, a local botanist who wishes to remain anonymous identified this species in a remnant patch of alkali meadow habitat at the Los Cerritos wetlands, along drying edges of seasonally-flooded, grassy swales (Cooper and Hamilton 2015). This suggests that this special-status species probably does occur on the project site.

EDAUD-9

Page 3.3-117 of the DPEIR provides the following discussion of ESHA:

> Pursuant to California Coastal Act (CCA) Section 30240 of the CCA, impacts to ESHA are generally limited to activities such as habitat restoration as noted by the Coastal Commission Staff Report (GLA 2017d). Moreover, the CCA establishes a high standard for protection of areas that are identified as environmentally sensitive. Only resource-dependent uses, such as habitat restoration, are allowed within an ESHA. Implementation of Mitigation Measures BIO-1 through BIO-10 would ensure that impacts to existing EHSA are temporary and minimized, as well as less than significant.
>
> Potential ESHA occur throughout the South, Isthmus, Central and North Areas based on the suitability to provide habitat for special-status species and/or the presence of a CDFW Sensitive Natural Community. Ground disturbing activities associated with ecosystem restoration activities, flood risk and stormwater management, development of public access and visitor facilities, and infrastructure and utility modifications would temporarily impact ESHA. These impacts, needed to implement the habitat restoration, can be allowed pursuant to Section 30240 and Section 30233(a)(b) of the CCA. Following completion of grading and restoration efforts, the overall ESHA would be expanded primarily due to the conversion of non-ESHA to ESHA. This would include the conversion of abandoned oil facilities to natural communities.

EDAUD-10

Page 3.3-96 of the DPEIR addresses potential impacts to special-status plant species:

> Suitable habitat is present or individuals have been observed in the proposed program area for 31 special-status plant species, including within the South, Isthmus, Central and North Areas (refer to Table 3.3-4). Many of these species have not been documented in the program area, but they have the potential to occur there. Ecosystem restoration activities, development of public access, and infrastructure and utility modifications may impact these species should they be present. The loss of any of these species, should they be present, would be significant. Implementation of Mitigation Measure BIO-1 would reduce impacts to these species to a less-than-significant level by requiring avoidance and/or re-establishment of special-status plants, and restoration of any impacts to these special-status species, respectively. Implementation of Mitigation Measure BIO-2 would further reduce impacts to these species through the implementation of a Worker Education Awareness Program (WEAP) and monitoring of initial work efforts by a qualified biological monitoring.

Mitigation Measure BIO-1 on page 3-3.108 states:

> Prior to ground-disturbing activities (e.g., vegetation removal and grading), a qualified botanist/biologist shall conduct a habitat assessment to determine the presence or absence of suitable habitat for special-status plant species. If suitable habitat is determined to be present, focused plant surveys should be conducted in accordance with Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW, March 20, 2018). The locations of any special-status plants within 25 feet of proposed disturbance areas shall be identified and mapped. Individual plants shall be flagged for avoidance and an avoidance buffer of at least 10 feet shall be established around the plant(s).
>
> If special-status plants cannot be avoided, they shall be incorporated into the proposed program's restoration design at a minimum ratio of 1:1 (one plant planted for every one plant removed, or 1 square foot of absolute cover planted for every 1 square foot of absolute cover removed). Special-status plants that cannot be avoided shall be salvaged prior to impacts using species-specific propagation methods, such as transplanting, seed and cuttings. Seed

EDAUD-10 Cont.

> collection shall occur during the appropriate time of year for each species. Seeds shall be propagated by a qualified horticulturalist or in a local nursery, and shall be incorporated into habitat-specific seed mixes that will be used for revegetation of the restoration areas.

Comparing Figure 2-12 and Figure 2-14 in the DPEIR with the map of special-status plant species provided as Figure 7 in Appendix C to the DPEIR (Supplemental Biological Surveys and Mapping for the Los Cerritos Wetlands), the restoration plan appears to involve mass-grading both of the known populations of *Camissoniopsis lewisii*, three known populations of *Lasthenia glabrata* ssp. *coulteri*, and several known populations of *Centromadia parryi* ssp. *australis*. Typically, mass-grading projects cannot be amended to avoid small populations of rare plants. The DPEIR must quantify the maximum levels of proposed impacts to the known populations of each special-status plant species.

Incorporation of the impacted special-status plant species "into the proposed program's restoration design," in compliance with Mitigation Measure BIO-1, does not ensure that impacts to these species will be mitigated to below the level of significance. This is because establishing new populations of special-status species where they do not already occur is difficult and prone to failure. As stated in the CNPS *Statement Opposing Transplantation as Mitigation for Impacts to Rare Plants*[3]:

> Transplantation is rarely successful in establishing rare plants at new locations. A study by the Department itself found that, even under optimum conditions with ample time for planning, transplantation was effective in only 15% of cases studied. Other reviews have found similar problems. There are many reasons for this poor success rate . . . we often know very little about the biology of rare plants. We may not be aware of all the intricate habitat requirements of each listed species. Rare plants are often specialists that exploit a particular and unusual combination of habitat attributes. They may require a particular soil type, set of pollinators, mycorrhizal fungi or other associate species, aspect, hydrological regime, microclimate or some combination of these or other factors for survival. [citations omitted]

Mitigation Measure BIO-1 must include an appropriate performance standard by which to evaluate whether each impacted rare plant population is successfully re-established. The standard should be that the new population is maintaining its numbers and extent, and the plants are reproducing themselves unassisted by irrigation, weeding, re-seeding, etc., for a period of years. In those cases where long-term monitoring shows that re-establishment is unsuccessful, Mitigation Measure BIO-1 must include contingency measures that will ensure eventual successful re-establishment of the impacted population. As the DPEIR is written, multiple rare plant populations could be wiped out without any successful replacement. This would represent an unmitigated significant impact, and could also violate the Coastal Act's strict protections for ESHA.

As discussed in these comments, the 10-acre portion of the project site currently proposed for "native grassland restoration" would be more appropriately, and more successfully, restored to an alkali meadow community. A 10-acre alkali meadow restoration site would be ideal for establishing new populations of *Lasthenia glabrata* ssp. *coul-*

[3] https://www.cnps.org/wp-content/uploads/2018/04/transplanting2.pdf

teri, *Centromadia parryi* ssp. *australis*, *Hordeum intercedens*, and possibly other plant species that occur, or that historically occurred, in the lower San Gabriel River floodplain. The proposed "native grassland restoration" would be unsuited to providing habitat for the re-establishment of rare plant populations since the species in question require alkali meadows and flats, not grasslands.

EDAUD-10 Cont.

Project Alternatives

The three identified project alternatives — minimum alteration, moderate alteration, and maximum alteration — all call for fairly extensive plantings of "coastal sage scrub/upland" habitat. These plans, like the preferred project, contain almost no restoration of alkali meadow habitat, despite the finding of Stein et al. (2007; *Historical ecology and landscape change of the San Gabriel River and floodplain*) that "vast alkali meadows . . . were once the most common type of wetland in the lower watershed, but are now totally absent from the landscape." The DPEIR should explain why this important and ecologically valuable natural community, which could be readily restored across large parts of the project site, is essentially ignored in all of the project alternatives.

EDAUD-11

Red Diamond Rattlesnake

Page 3.3-46 of the DPEIR states, "Red diamond rattlesnake has been documented on site (Tidal Influence 2012), but only one individual was observed and may have been an unauthorized release." In a report posted to iNaturalist[4], herpetologist Brian Hinds advised strongly against considering the Red Diamond Rattlesnake (*Crotalus ruber*) to be a naturally occurring species in the Los Cerritos Wetlands:

> The company in charge of the restoration of this area, posted this picture.
>
> I don't believe this ruber is native it would represent a very large range extension, and Habitat that is well out of the norm for this species. I am not aware of any historical records in the LA Basin for this species.
>
> I am entering into the Database because of the potential importance of this observation.
>
> Since this time I have been doing survey work in the LC Wetlands area, and I have not seen any other Ruber. It is my belief someone released this ruber and maybe others into the area. This is not natural ruber habitat.

EDAUD-12

Page 3.3-99 of the DPEIR states, "The coast horned lizard, coastal whiptail, and Southern California legless lizard were not observed in the program area during any general biological surveys. The red diamond rattlesnake was observed in the program area."

To avoid perpetuating the idea that the project site is part of the known or expected range of the Red Diamond Rattlesnake, the DPEIR should state that this species is very unlikely to occur there naturally. The DPEIR's impact analysis should be revised to clarify that a disjunct population is not believed to exist on the project site.

[4] www.inaturalist.org/observations/11384993

CONCLUSION

EDAUD-13 I appreciate the opportunity to review and comment upon the Draft Program EIR for the Los Cerritos Wetlands Restoration Plan. I can be reached at (562) 477-2181 or robb@hamiltonbiological.com.

Sincerely,



Robert A. Hamilton
President, Hamilton Biological, Inc.
http://hamiltonbiological.com

Attached: Cooper, D.S. and R. A. Hamilton. 2015. *A Conservation Vision for the Los Cerritos Wetlands, Los Angeles County/Orange County, California*. Revised draft, dated October 27, 2015, prepared by Cooper Ecological Monitoring, Inc., for Audubon California, San Francisco. [Appendices not included.]

cc: Mary Parsell, President, El Dorado Audubon Society
Margot Griswold & Travis Longcore, Los Angeles Audubon Society
Andrea Jones, Director of Bird Conservation, Audubon California
Samuel Schuchat, Executive Officer, California State Coastal Conservancy
Erinn Wilson, Environmental Program Manager, CDFW
Jonna Engel, Senior Staff Ecologist, California Coastal Commission

EDAUD-14

From:	Robert Hamilton
To:	Sally Gee
Cc:	Mary Parsell; Samuel Schuchat; Margot Griswold; Travis Longcore; Jones, Andrea; Jonna Engel; Erinn Wilson
Subject:	El Dorado Audubon Comments; DPEIR for the Los Cerritos Wetlands Restoration Plan
Date:	Monday, July 6, 2020 11:30:34 AM
Attachments:	Hamilton Bio_Los Cerritos Wetlands Restoration_DEIR Review_LCW Program_7-6-20.pdf LCWetlands_Cooper_Hamilton_10-27-15_No Appendices.pdf

Dear Ms. Gee,

On behalf of El Dorado Audubon, Hamilton Biological respectfully submits the attached comments on the Draft Program EIR for the Los Cerritos Wetlands Restoration Plan.

Please briefly acknowledge receipt of the attached comments via return email.

Thank you,
Robb Hamilton
President, Hamilton Biological, Inc.
562-477-2181

EDAUD-15

A CONSERVATION VISION

FOR THE

LOS CERRITOS WETLANDS

LOS ANGELES COUNTY/ORANGE COUNTY, CALIFORNIA

REVISED DRAFT

October 27, 2015

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Table of Contents

INTRODUCTION/OVERVIEW 4

SUMMARY OF BIOTA, INCLUDING SENSITIVE SPECIES 9
COMMENTS ON PREVIOUSLY-IDENTIFIED NATURAL COMMUNITIES 10
SALT FLATS 12
SOUTHERN WILLOW SCRUB 13
ALKALI MEADOW 14
BRACKISH MARSH 15
OTHER WETLAND TYPES 17
SENSITIVE SPECIES USE BY HABITAT TYPE 18
COASTAL COMMISSION PERMITTING AND OTHER CONSTRAINTS 24
HELLMAN PROPERTY RAPTOR FORAGING HABITAT SET-ASIDE 25
MANDATORY HABITAT RESTORATION AT 6400 EAST LOYNES DRIVE 26
KEYSTONE AND INDICATOR SPECIES 28
KEYSTONE SPECIES 28
INDICATOR SPECIES 29
CONSERVATION TARGETS: GOALS AND STRATEGY 30
RESTORATION RECOMMENDATIONS BY SUBAREA 39
NORTH AREA (NORTH OF SECOND STREET/WESTMINSTER AVENUE) 40
SOUTH AREA (SOUTH OF SECOND STREET/WESTMINSTER AVENUE) 42

APPENDICES 47

APPENDIX A. SPECIES LISTS 48

INTRODUCTION/OVERVIEW

The Los Cerritos Wetlands occupy approximately 500 acres near the mouth of the San Gabriel River, at the border of Los Angeles County and Orange County, and include parts of Long Beach and Seal Beach, California. Historically, the wetlands were part of the vast swath of tidal saltmarsh of Alamitos Bay, one of several large, estuarine embayments stretching from Long Beach into central Orange County, but as the area became developed and its hydrology radically altered, the total acreage of the Alamitos Bay wetlands was reduced by nearly 90 percent, from 2400 to 256 acres. The most pristine remnant, Steam Shovel Slough in Long Beach, accounts for 44 acres (roughly 20 percent of the total open space). The remainder of the wetlands supports a mix of ruderal and native vegetation, much of it within active oil fields and subject to disturbance and hydrological disruption. Limited areas of freshwater marsh and seasonal wetlands support plant and wildlife species not found in the saltmarsh or surrounding urban area, including several plant and wildlife species of conservation concern.

The Los Cerritos Wetlands Authority (LCWA) was established in 2006 through a joint powers agreement adopted by the Rivers and Mountains Conservancy, the State Coastal Conservancy, and the Cities of Long Beach and Seal Beach. The LCWA's purpose is to provide for a comprehensive program of acquisition, protection, conservation, restoration, maintenance, and operation and environmental enhancement of the Los Cerritos Wetlands area, consistent with the goals of flood protection, habitat protection and restoration, and improved water supply, water quality, groundwater recharge, and water conservation. The LCWA can acquire and own real property, but it does not have the power of eminent domain; thus, oil and other resource operations will likely continue, on at least a portion of the land, into the future. Under the LCWA, planning for Los Cerritos Wetlands has involved various biological and hydrological studies, as well as conceptual restoration plans involving engineering drawings of new tidal channels to restore wetland hydrology to degraded and disturbed areas.

Audubon (through its local chapters) has been "at the table" during the restoration planning process, and at this stage the organization and its members consider it important (a) to take a step back and review the conceptual planning and the restoration work that has been completed to date,

and (b) to set forth additional conservation priorities for the more intensive phases of restoration that are now being contemplated.

In an unusual circumstance, after we submitted an initial draft of our report to Audubon in mid-2015, a revised and improved "Final Conceptual Restoration Plan" was released by LCWA that appears to have addressed many of our initial concerns with the earlier versions that had been provided to us for analysis[1]. However, rather than restarting a new analysis from scratch, we have opted to simply note where our comments specifically apply to the earlier planning efforts (including early conceptual maps).

In general, Audubon would like to see (in the final alternative selected):

- Acknowledgment of the functions of Los Cerritos Wetlands as a component of the larger Alamitos-Anaheim Bay ecosystem (including the Seal Beach Naval Weapons Station/National Wildlife Refuge and Colorado Lagoon), specifically how its current resources, such as rare/target species (once better documented), relate to those in the surrounding area;
- More reliance on light-handed or even passive restoration in some areas, rather than creating extensive networks of tidal channels and other heavily engineered features;
- Updated surveys for sensitive plant and wildlife species of the entire Los Cerritos Wetlands complex to document usage areas that might conflict with, or inform plans for, habitat enhancement;
- Establishment of realistic species conservation goals whereby restoration and management outcomes could be measured (e.g., viable populations of wandering skipper butterflies in three distinct areas of the wetlands, or the preservation of all known occurrences of the rare Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*);
- A brief feasibility analysis for re-establishing populations of key extirpated species, such as Bernardino aster (*Symphyotrichum defoliatum*), Ridgeway's rail, and tidewater goby, through reintroduction and/or habitat restoration;

[1] Moffatt and Nichol. 2015. Los Cerritos Wetlands Final Conceptual Restoration Plan. Prepared for Los Cerritos Wetlands Authority in association with Tidal Influence, Everest International Consultants, Coastal Restoration Consultants, New West Land, Chambers Group, Inc., Kinnetic Laboratories, Inc. and Livable Communities. August 2015.

- Exploration of and reference to cost-effective, low-impact restoration actions on and off the subject property, and the potential outcomes that may further conservation goals on the wetlands overall (e.g., selective removal of eucalyptus from Gum Grove Park and replacement with native plant species in order to increase the natural character of the area and to improve habitat for native plant and wildlife species not adapted to using eucalyptus);
- Establishment of mapped "core habitat areas" that are farthest from existing edges, roads, and trails, and which will be largely protected against human-related disturbance in perpetuity.

As is the case in many of the region's large, urban open spaces, habitat conditions vary considerably within Los Cerritos Wetlands, and any plan must take into account a range of conditions, from the undisturbed tidal marsh of Steam Shovel Slough to the highly degraded/impacted landscape of Hellman Ranch, where large areas of filled-in saltmarsh support only non-native mustard and other weeds. In between these two extremes is a gradient of somewhat disturbed yet somewhat functional habitats, from saltmarsh where tidal action has been blocked, thus altering the ratio of vegetation to saltflat, to pockets of mulefat and willow that are dependent on urban runoff that provide key habitat for various native birds and other wildlife. Such "novel" or anthropogenic communities may have been absent from the LCWA focal area historically, but natural versions of these communities were present only a short distance inland, in parts of the watershed now developed. Thus, generalizations about Los Cerritos Wetlands being at once "highly degraded" and "critically important" fail to capture the actual range of habitat conditions, and should be replaced with a more nuanced understanding that acknowledges current functions of different parts of the wetlands, as well as prior conditions and future goals.

Complicating matters are two truths that limit the effectiveness of any restoration proposal: (a) oil drilling may persist across much of the conservation area for the foreseeable future, precluding significant restoration activity across large areas of otherwise productive habitat, and (b) the LCWA has had difficulty keeping homeless people from setting up camps in brushy areas across the

wetlands, which not only decreases the value of the habitat for wildlife but also increases the risk of catastrophic wildfire[2].

A third constraint involves the state of the scientific data currently being used in restoration planning. Today, the status and distribution of most species in and around Los Cerritos Wetlands remain incompletely documented, particularly for such an aggressive restoration plan. This is partially due to access restrictions, and also reflects the fact that much existing development within the conservation area predates the California Environmental Quality Act (CEQA), and therefore occurred without the range of biological surveys that would have been required in order to evaluate and mitigate the effects of development on natural resources (and which would have better documented species occurrence prior to losses to development). The recent data that have been collected and made available to the public are useful, but not all of the information has been gathered in a standardized or ideal manner suitable for conservation planning[3].

For example, a standardized waterbird survey conducted during the winter of 1979-1980 found 12,234 individuals of 53 species using the non-tidal wetland habitat alone in the Los Angeles County portion of the site (Steam Shovel Marsh and all of Orange County, including Hellman property and the Orange County Flood Control District lands were not included), with counts of several hundred waterfowl and shorebirds made on multiple dates[4]. Table 1 below provides sample counts from this survey, to give an idea of the high levels of bird use that have been recorded in the seasonal, "ruderal" wetlands (note: these should not be interpreted as comprehensive survey data, but just an example of how existing data might be used, or new data collected).

[2] Management of the homeless situation has improved following the dangerous fire of May 2014, but these types of management issues tend to be cyclical, and the situation always has the potential to deteriorate again as priorities and funding levels shift over time.
[3] We do not intend this as a criticism of work to date; we realize that access has been limited even to biologists charged with restoring and studying the site due to private property concerns and oil extraction activity.
[4] Data found in an unpublished California Department of Fish and Game report that appears to be from 1981.

Table 1. Sample counts of waterbirds at seasonal wetlands over 16 days during 1979-1981 (daily counts pooled), by subarea, at Los Cerritos Wetlands, exclusive of Orange County portion.

Species	Oil fields north of Westminster (Subareas "A" and "B")	Oil fields south of Westminster (Subareas "F", "I" and "J")
Northern Pintail		109 (J); 94 (F)
Green-winged Teal		71 (F)
Cinnamon Teal	72 (A)	115 (J)
Northern Shoveler		75 (F); 149 (J)
Semipalmated Plover		69 (J)
Black-bellied Plover	393 (B)	1314 (F)
Dunlin		253 (F)
Dowitcher (presumably Long-billed)		961 (F)
Western Sandpiper		710 (F)
American Avocet		251 (F)
Black-necked Stilt		326 (J), 115 (F)
Gulls	1000+ (A), 2000+ (B)	1000 (I)
Caspian Tern	54 (B)	

Our review of existing information did not reveal any more recent, standardized waterbird surveys conducted by a field ornithologist on the property (aside from informal birdwalks to a portion of the Hellman property at the far southeast corner), nor have nesting bird surveys or wintering raptor surveys been conducted at the wetlands. As of 2015, no professional botanist had completed site-wide habitat mapping or targeted rare plant surveys, no entomology study has been conducted, and the only fish survey we could locate for the entire wetlands was a single day of seining in 1979[5]. Therefore, while important biological baseline information has been gathered on topics such as the vegetation communities in and adjacent to tidal wetlands, and surveys for focal species have been conducted for a handful of the rarest taxa over the years, these data may not yet be complete enough for the purpose of developing comprehensive restoration and management recommendations[6]. Only by understanding the constraints that come with the land, including sensitive species usage, and by devising workable strategies to mitigate the effects of human intrusions, can biologists and planners develop a vision for the conservation and restoration of Los Cerritos Wetlands that stands a good

[5] See Table II, Fishes collected at Los Cerritos Wetlands on December 6, 1979, in "Determination of the Status of the Los Cerritos Wetlands", unpublished report, California Department of Fish and Game, undated (four species are listed, California killifish, striped mullet, tilapia and topsmelt).

[6] Several local environmental impact reports probably contain usable bird and other species information (see citations in Tidal Influence 2012) these should be tracked down and reviewed, and their relevant data presented for analysis.

chance of substantially improving habitat conditions for a variety of native plant and wildlife species, including some of the most imperiled denizens of the region, over the long term.

With the aforementioned caveats, we offer below an outline of issues for local Audubon chapters to focus their efforts on, and specific recommendations for future plant and wildlife surveys. Our recommendations are informed by an understanding of various ways in which the Los Cerritos Wetlands conservation area could contribute to conservation of biodiversity at the local and regional levels. Only after an adequate baseline is established will it be possible to thoroughly review restoration plans (in whatever form they take at that time).

Note: To improve readability of the discussions, we include scientific (Latin) names only for plant taxa, which may have many different common names; with a few exceptions, we do not include them for wildlife taxa, which generally have standardized common names. Scientific names are included for all plant and wildlife taxa listed in the tables at the end of this report.

Summary of biota, including sensitive species

Our analysis suggests that the number of plant taxa in the Los Cerritos Wetlands could be up to double the number reported in current environmental documentation[7] (see Appendix, Table A1, below). The 123 bird species listed by Tidal Influence ("Appendix A: Floral and Faunal Database" in the 2012 Habitat Assessment Report) is at least a dozen species lower than the number of species reported to eBird for just one subarea of the wetlands[8]. We also question the use of the term "database" for a simple (alphabetical) species list with no associated dates, abundance information, or documentation (sight record, photograph, specimen, etc.); we believe that an actual database, with at least cursory seasonality and abundance data, is a critical component for conservation planning.

Our own review indicates that 14 sensitive bird species, eight sensitive plants, and a handful of sensitive reptiles, mammals, and invertebrates have been recorded at Los Cerritos Wetlands, at least historically (see Appendix, Table A2). Many more sensitive plants and animals have the potential for occurrence based on their status elsewhere in the region (e.g., at Bolsa Chica) and the habitats present at the site, but lack of surveys precludes knowing for sure (see Tables A2 and A3). At least

[7] See species lists in "Tidal Influence 2012": "Los Cerritos Wetlands Habitat Assessment Report" prepared for Los Cerritos Wetlands Authority and Moffatt & Nichol by Tidal Influence, Rev. August 31, 2012.
[8] 135 species have been reported from the "Los Cerritos Wetlands" eBird hotspot as of early 2015; additional bird species have been reported from numerous other locations at the wetlands; see www.eBird.org.

14 plant and animal taxa, known from early records from Long Beach or persisting nearby, have likely been extirpated from the wetlands (Table A4). Some of these species could potentially be re-established in Los Cerritos Wetlands, either through planting/seeding (plants) or through a combination of translocation and habitat restoration/expansion (wildlife). Finally, the natural colonization of a given area by sensitive species could be facilitated by creating or expanding suitable habitat, such as planting certain areas with well-considered assemblages of native plant species (this currently occurs on a limited scale, e.g., at "Zedler Marsh" near the center of the site). For example, the California gnatcatcher, not known from the site currently or historically, has recently colonized extensive plantings of coastal scrub habitat around Bolsa Chica, and this listed species appears to be a good candidate to expand farther north to the Los Cerritos Wetlands conservation area in coming years if habitat restoration continues (others listed in Table A5). We have tried to limit our analysis and comments to species known to be present (or confirmed extirpated) here at the wetlands or in neighboring Anaheim Bay, which features similar, if much more extensive, habitats.

Comments on Previously-identified Natural Communities

NOTE: The comments had been written to refer to the 2012 restoration planning documents, and not to the more recent 2015 Final Conceptual Restoration Plan and associated mapping. We have tried to indicate where more the more recent plan addresses our initial comments and impressions.

Tidal Influence (2012) initially provided information on current and historical plant communities/habitat types of the Los Cerritos Wetlands conservation area. While we agree with many of their findings, minor inconsistencies in nomenclature create room for some confusion about the species composition of some of the habitat types present in different parts of the conservation area, as well as uncertainty regarding the composition of plant communities that would be restored in some areas. For example, nearly 90 percent of the historical habitat acreage in Los Cerritos Wetlands is believed to have been tidal saltmarsh (called "southern coastal saltmarsh" by Tidal Influence), and "alkali meadow" is said to have accounted for only approximately six percent of the historical acreage (Tidal Influence 2012; Table 1). These terms, employed again in the most recent (2015) portrayal of habitat at the site (Moffat and Nichol 2015), are widely understood but follow an outdated classification system (Holland 1986[9]). Today, agencies tend to use (and in some

[9] Holland, R. 1986. Preliminary descriptions of the terrestrial natural communities of California. Unpublished document, California Department of Fish and Game, Natural Heritage Division. Sacramento, CA.

cases have insisted that survey reports also use) a newer system, Sawyer et al. (2009[10]), which is based more on the dominant one or two plant species in a patch of vegetation. Both systems have their merits and shortcomings, but we suggest re-writing future analyses using the current one.

For "historical habitat types", Tidal Influence employed terminology used specifically for wetlands (Cowardin et al. 1979[11]), and thus in Figures 4a and 4b, they map the majority of the wetlands as "vegetated wetland (southern coastal salt marsh)" and a smaller amount as "palustrine marsh (non-tidal wetlands)."[12] "Hybrids" between these two classifications were used to develop the "Screening Alternatives" – since updated by Moffatt and Nichol (2015) – for the various wetland restoration scenarios recommended for the site[13], with classifications here based on inundation time (e.g., "low intertidal" and "mid intertidal") as well as certain Holland-like categories for some vegetation types of the restoration alternative maps ("mulefat scrub"), though not all types (including the confusing "transition zone" for upland areas just above the marsh plain). Another hybrid approach was used for existing vegetation, with 12 "coastal habitat types" consisting of six "Holland communities" plus six types of habitats not assigned to a particular plant community[14].

Notably, Tidal Influence described disturbed versions of native plant communities using two catchall terms, "ruderal wetlands" and "ruderal uplands", and these designations appear in the more recent mapping by Moffat and Nichol (2015; Figures 3-1 and 3-2). Tidal Influence defined these types as supporting less than 25 percent cover of native species, and (presumably) by their propensity to flood (as opposed to upland habitat). Using these terms, the current habitat array of Los Cerritos Wetlands has thus been described as dominated by these ruderal or "non-natural-wetland" habitats, including "ruderal uplands" (22.0%), "ruderal wetlands" (15.8%), salt flats (8.8%) and alkali meadow (7.7%)[15]. Three minor native habitats, "southern coastal brackish marsh", "southern willow scrub", and "mulefat scrub", are mapped as occurring patchily on either side of

[10] Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. A Manual of California Vegetation, Second Edition. California Native Plant Society, Sacramento. 1300 pp.
[11] Cowardin, L.M., V. Carter, F. Golet and E.T. LaRoe, 1979. Classification of wetlands and deepwater habitats of the United States. USFWS.
[12] In these examples, "palustrine marsh" appears to be roughly equivalent to "alkali meadow".
[13] Downloaded from:
http://www.intoloscerritoswetlands.org/new%20pdfs/screening%20alternatives/8%20Screening%20Alternatives.pdf
[14] In their analysis, "plant communities" are specifically native-dominated plant communities; habitats that are unvegetated ("due to harsh conditions", see p. 9) are not included as native plant communities, notably salt pan/"salt flats".
[15] Excludes subtidal and unvegetated habitats mapped as such.

Westminster Boulevard; the latter two also occur between the San Gabriel River channel and the DWP Haynes Cooling Channel, near Zedler Marsh.

We should note that this approach is not "wrong", and is similar to that taken by Johnston and colleagues (2011[16]) at the Ballona Wetlands (see, for example, their mapping of "low marsh", "mid marsh", and "upland scrub" in Figures 3.3, 4.1, etc.). An important difference, however, is that the Ballona researchers elected to omit the term "ruderal", despite predominance of non-native species across much of the Ballona Wetlands, and instead chose to add shading to native-dominated areas on their maps (see, for example, Figure 4.1). In our opinion, this approach is preferable because it does not automatically discount the importance of non-native vegetation (which may be more prevalent in some years than others) that often provides significant habitat for various target plants and animals, in some cases seasonally (such as when flooded) or as the result of other subtle factors not captured on habitat maps. We explore these issues below, and offer our comments on where our interpretation might differ from that of Tidal Influence/Moffat and Nichol.

Salt Flats

Pages 17–18 of the Tidal Influence report state:

> At LCW, [salt flats] are probably derived from a variety of degraded salt marsh habitats. At LCW, some of these areas may become brackish and support submerged algae. Many areas currently supporting this habitat at LCW lack the defining salt panne plant species *Batis maritima* (salt wort) and *Monanthochloe littoralis* (shore grass)… The flooded conditions are hot spots for wintering migratory bird species and amphibians like the Baja California treefrog, but once dry the flats become inhospitable to most wetlands organisms.

We generally agree with this assessment, but also note that salt flat habitat (referred to as "alkali flats" by Dark et al. 2007, pp. 66–68) has been nearly eliminated in southern California, even as saltmarshes have been restored. Restoration practitioners typically regard salt pan/panne habitat as inferior to tidal marsh and other vegetated habitat types, and replace it with these habitats during restoration efforts. As noted in the preceding excerpt, however, salt pannes may be *heavily* used by birds, and this is true not only in winter but during migration as well, especially when late-season storms create pools that exist for some or all of the spring migration period (generally March through May).

[16] See Johnston, K.K., E. Del Giudice-Tuttle, I.D. Medel, J. Dorsey, D.S. Cooper, and S.P. Bergquist. 2011. The Ballona Wetlands Ecological Reserve Baseline Assessment Program: 2009-2010. Santa Monica Bay Restoration Commission. Report prepared for the California Coastal Conservancy and California Dept. of Fish and Game. 446 pp. Available: http://ballonarestoration.org/wp-content/uploads/2014/03/BWER_YR1_Baseline_Report_full.pdf

Essentially, any rain event at any time of year can transform salt pan into important bird habitat. In areas with a perched groundwater table, or where topsoil has been deposited (naturally or otherwise), alkali meadow or even semi-riparian habitat can develop in or around these depressions (*Ibid*). Another important point is that many native plant species *preferentially* occur at the margins of salt pan, and not necessarily in fully tidal marsh, or even in less-frequently-inundated, or muted, tidal marsh. A relatively high proportion of these species, and this community as a whole, are of conservation concern in the region. Therefore, any loss of these habitats should be evaluated both in terms of (a) their importance to birds (and other wildlife) at multiple scales, and (b) their representation in the landscape. It is likely that additional studies and data collection would be needed to complete these analyses.

As a note, we opt to categorize salt flat habitat at Los Cerritos Marsh as "seasonal wetland", as described further below.

Southern Willow Scrub

Page 18 of the Tidal Influence report states:

> Having the most vertical stratification, [southern willow scrub] has the potential to host the greatest diversity of bird species including nesting and foraging habitat. Habitat for amphibians is also provided.

While this may be true, to our knowledge no specific data support this or any other assertion about the observed species diversity of birds or other groups in riparian habitats in the Los Cerritos Wetlands conservation area. Of the several riparian-obligate bird species that breed in southern California, none has been recorded breeding in these patches of riparian habitat at the site. Near the southeastern corner of area, riparian habitat apparently installed in association with the Heron Pointe development has been visited by the state- and federally endangered least Bell's vireo, and by several California Species of Special Concern, including yellow warbler and yellow-breasted chat. Expanding this area of riparian habitat as part of the planned restoration of Los Cerritos Wetlands would therefore be expected to bolster several small, but important, populations of sensitive bird populations, but these don't exist currently at the site. Any conservation analysis conducted as part of restoration planning should evaluate (a) creation of one large, semi-contiguous stand of riparian habitat capable of supporting relatively stable populations of the vireo and other sensitive bird species (and where this could be located), versus (b) creation of multiple independent stands (as

exists today), none of which may be large enough to reliably constitute nesting habitat for the least Bell's vireo or other sensitive bird species.

Alkali Meadow

This habitat type is prone to periodic flooding and thus functions as either grassland or seasonal wetland[17] (or a combination of the two), and this makes alkali meadow habitat very difficult to describe and map. Pages 19–20 of the Tidal Influence report state:

> [Alkali meadows] have been inadvertently recreated in Los Cerritos Wetlands as a result of former tidal salt marsh being artificially filled above sea level by fine textured saline soils. These meadows generally occur in basins formed by roadways throughout the LCWA Phase 1 Properties, the Bixby Ranch Wetlands, and Marketplace Marsh. These meadows are also found along the fringes of salt flats and are relatively low in species richness at Los Cerritos due to the manner by which this habitat type has been formed…This plant community provides breeding habitat for amphibians and foraging habitat for migrating shorebirds and ducks. These meadows provide important coastal grassland foraging habitat for raptor species (namely red-tail hawks, American kestrels, and white-tailed kites)."

Describing the historical communities of the region, Stein et al. (2007, p. XI) wrote, "Of particular note is the loss of the vast alkali meadows, which were once the most common type of wetland in the lower watershed, but are now totally absent from the landscape." Page 68 of the same report lists numerous rare or extirpated plants that were dependent on alkali meadow habitat in the area, including Nuttall's alkali grass (*Puccinellia nuttalliana*), spreading alkaliweed (*Cressa truxilensis*), saltmarsh bird's-beak (*Chloropyron maritimum* ssp. *maritimum*), southern tarweed (*Centromadia parryi* ssp. *australis*), and Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), and pages 75–76 describe the alkali meadow community in more detail:

> Saltgrass (*Distichlis* spp.) dominated alkali meadows at the landward edge of the tidal marsh at Alamitos Bay, and extended well beyond regular tidal influence, and were observed by early naturalists to include 'a growth of willow, salt (grasses)[18], and moisture loving or alkali resistant plants.' . . . these alkali meadows may have expanded and contracted over time, being larger than the extent mapped within the study area during certain periods.

[17] The terms "wetland" and "seasonal wetland" describe areas that are inundated permanently, or for extended periods on a regular basis, affecting the area's soils and vegetation; many plant communities can comprise wetlands.
[18] The mulefat thickets present at current-day Los Cerritos Wetlands appear to support an understory dominated by saltgrass (Tidal Influence 2012:19); arguably, this "mulefat scrub" vegetation type could be merged with alkali meadow, with mulefat appearing in patches where freshwater is present for longer periods, reducing alkalinity.

Notably, Table 6.2 on Page 71 of the same report is a habitat classification "crosswalk" that equates alkali meadow to "palustrine emergent saline wetland". Thus, it is likely that alkali meadow, or a seasonally-flooded equivalent, was indeed present in the historical Los Cerritos Wetlands complex, perhaps in the northeastern corner near Loynes Drive and in the far southeast between Gum Grove Park and near the current Orange County Flood Control basin, areas that Tidal Influence (2012:6–7) mapped as "palustrine marsh".

To us, this suggests that the patches of alkali meadow habitat that remain in the conservation area are extremely important at both local and regional scales, likely representing the last relicts of a once-widespread ecological community. The Tidal Influence report, together with unpublished data by a local botanist wishing to remain anonymous (see Appendix, Table A1), includes several native species as typical of this community, which is mapped as being fairly extensive both north and south of Westminster Boulevard. While the Tidal Influence report suggests that plant species diversity in these areas is low, focused botanical surveys would be needed to confirm the species richness of these areas and to determine the presence or absence of sensitive plant species. However, it is worth noting that Tidal Influence has mapped several occurrences of rare alkali meadow species within the study area, including Coulter's goldfields, and a local botanist (unpubl. data) recently collected the CNPS-ranked *Hordeum intercedens* from alkali meadow habitat at the wetlands (he found the grass growing along drying edges of seasonally-flooded, grassy swales). Still, we acknowledge and appreciate the fact that a relatively large – and apparently accurate – area of the wetlands complex was recently remapped as "alkali meadow" by Moffat and Nichol (2015; Figures 3-1 and 3-2).

Brackish Marsh

When the San Gabriel River ran freely, brackish areas would have been particularly extensive during the winter and spring months, when rains and snowmelt would have brought strong flows of fresh water to mix with the salty tidal marshes, and generally rare during the dry summer and early fall months, limited to areas fed by perennial springs. Given this temporal shifting under natural conditions, it is unsurprising that Tidal Influence (2012) considered the historical extent of "southern coastal brackish marsh" to be poorly understood, and Stein et al. (2007) did not mention brackish marsh by name. However, the description by Tidal Influence (2012:67) of brackish marsh in today's Los Cerritos Wetlands as a reed-dominated wetland fed by anthropogenic irrigation and street runoff is probably better treated as the "perennial freshwater wetland" community that was present in the historical lower San Gabriel River floodplain, including parts of north Long Beach,

within the broad band of seasonal and spring-fed wetlands. In the Los Cerritos Wetlands conservation area, the largest area currently classified as brackish marsh is at Marketplace Marsh, but we also note that the habitat is additionally mapped "in oil field drainage ditches along roadsides, adjacent to street curb-cuts, and within deeper basins fed by culverts from urban areas." These habitat areas are poorly known to us, as they are off-limits to the public.

Under normal (non-drought) conditions, Marketplace Marsh is a small freshwater pond surrounded by a wide border of cattails (*Typha* sp.) and California bulrush (*Schoenoplectus californicus*). Given that this area has not been subject to the tides for many years, it is probably best considered a form of freshwater marsh despite the presence of alkaline soil (see Table 6.2 in Stein et al. 2007). In the modern landscape of southern California, we should note that nearly *all* freshwater wetlands are substantially affected by urban runoff and flood control manipulations, and Marketplace Marsh is typical, in that it is fed by urban runoff from the adjacent shopping center. This "man-made" aspect of the marsh does not detract from its importance to local wildlife (and plants), particularly considering that natural versions of this habitat are essentially absent from the landscape. As in so many parts of the region, only anthropogenic, or at least human-influenced, marsh remains. Thus, we suggest a reclassification of Marketplace Marsh and critical evaluation of the other wetland types mapped as "southern coastal brackish marsh", to the more appropriate "perennial freshwater wetlands" or similar[19], to better reflect the freshwater plants and wildlife present; however, we are not wholly opposed to retaining the term "brackish".

It appears that the value of Marketplace Marsh, however it is ultimately classified, has been downplayed in the latest Final Conceptual Restoration Plan (Moffat and Nichol 2015, p. 32):

> "Brackish marsh is a productive and rare habitat in Southern California and worthy of restoration where conditions allow. However, urban runoff can deliver nutrients and other pollutants into the ecosystem, making it a generally undesirable source of water where habitat is the primary focus. It is probably better to develop bioswales or other storm water treatment wetlands off-site that do not have a habitat focus or develop a mechanism that allows urban runoff to enter the restored marsh after contaminants have been reduced, ideally in a way that mimics the frequency and magnitude of storm events."

Based on our observations, Marketplace Marsh is actually providing high quality habitat for many plant and wildlife species, including those that have become locally rare in the Los Angeles Basin

[19] Acknowledgment of perennial freshwater wetlands at the site is important for future species occurrence as well; it is possible that western pond turtle (*Actinemys marmorata*), for example, could be introduced here, as it has been essentially eliminated from coastal Los Angeles County and opportunities for reestablishment are few.

through the decades. Most, if not all, of these do not avoid areas of treated wastewater or urban runoff, so it is unclear why this quality would limit the habitat values here.

Other Wetland Types

Biologists struggle to classify various forms of disturbed coastal wetlands that were historically extensive and subject to tidal influence but that have been degraded and fragmented, leaving remnants of saltmarsh and large areas of ruderal vegetation. At the Ballona Wetlands, for example, Johnston (2011; Figure 4.1) mapped such habitat (dominated by pickleweed and ruderal vegetation) as "Estuarine high marsh" and "Estuarine mid marsh", depending on the frequency and duration of inundation, even though it is typically precipitation, rather than tidal flow, that inundates the habitat. Areas farther removed from tidal influence that are wholly flooded by precipitation are mapped as "seasonal wetland" even though they may share the same vegetation as high (or mid) marsh; neither of these are called "brackish marsh", nor should they be. We are not advocating the adoption of these terms for the marsh at Los Cerritos Wetlands, but simply pointing out the usefulness in defining or even creating terms that reflect the conditions *on the ground*, rather than trying to fit the conditions on the ground to existing terms.

Working in the San Francisco Bay Area, Baye (2000[20]) treated similar habitats as "Diked Bayland Plant Communities", writing that they "can resemble (vegetation) of local tidal salt marshes, tidal brackish marshes, non-tidal perennial freshwater marshes, or seasonally wet grasslands" and that "some also have characteristics similar to components of tidal marshes which are now regionally scarce or extirpated, such as high marsh pans". Baye (2000:37) noted that "diked wetlands usually have lower native species richness than their analogous natural plant communities, and often a larger component of exotic plant species…the result of past land uses". However, regarding the potential conservation value of diked bayland habitats, Baye (2000:40) observed that such areas:

> …still provide important plant conservation functions [including where] agriculture and development have eliminated most historic natural seasonal wetlands in supra-tidal grasslands [and] the original vernal pool flora which occurred in subsaline to alkaline depressions…has been largely extirpated in its original location, but persists in artificial equivalent topography and edaphic conditions in some diked seasonal wetlands. . . [Such areas may] provide important founder populations for opportunities to restore vernal pool and swale systems.

[20] See "Plants and environments of diked baylands", pp. 33-42, In: Goals Project. 2000. Baylands Ecosystem Species and Community Profiles: Life histories and environmental requirements of key plants, fish and wildlife. Prepared by the San Francisco Bay Area Wetlands Ecosystem Golas Project. P.R. Olofson, ed., San Francisco Bay Regional Water Quality Control Board, Oakland.

Similar statements could apply to disturbed coastal wetland fragments in the Los Cerritos Wetlands conservation area – occurrences of southern tarplant, for example, hint at areas that could support vernal pool vegetation (and fauna). Rather than dismissing the value of these sites in favor of fully tidal wetlands[21], we would urge planners to more fully document the flora and fauna of all areas of small, seasonal/anthropomorphic wetlands throughout the Los Cerritos Wetlands complex, in case some rare element has found its way into one of them. The area where Coulter's goldfields occur, for example, is a mostly-dry ditch within an active oil field that is disked annually, killing off most of the plants each year; this is the type of habitat that could easily be overlooked by overly focusing on recreating a particular habitat type at the expense of a seemingly degraded one.

Sensitive Species Use by Habitat Type

A species may be considered to be "sensitive" 1) if listed as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS) and/or California Department of Fish and Wildlife (CDFW); 2) if biologists identify regional, statewide, or range-wide population declines (includes, for example, California Species of Special Concern); or 3) if biologists recognize local populations as being sparse, rapidly dwindling, or otherwise unstable (includes, for example, Los Angeles County Bird Species of Special Concern)[22].

Legal protection for sensitive species varies widely. Species listed as threatened or endangered, and their required habitats, are accorded fairly strict protection under the federal and state endangered species acts. Non-listed sensitive species generally warrant consideration during planning of actions that may adversely affect their populations. For example, the Los Angeles County Department of Regional Planning now considers all Los Angeles County Bird Species of Special Concern) as part of their review process for proposed development projects; several of these species occur, or potentially occur, at Los Cerritos Wetlands (Table A6). In some cases, impacts to sensitive species may be considered "significant" under the California Environmental Quality Act (CEQA), thus

[21] From Moffat and Nichol (2015, p. 32): "Shallow basins (some bermed in by oil roads) retain rainwater and can pond for several months in wet years. When ponded, these areas are used by waterfowl and shore birds. Reintroduction of tides will cause these habitats to convert and/or be reduced in area. While these ponds are currently providing occasional ecosystem functions, it is probably not desirable to protect these habitats from conversion to tidal salt marsh in place. There may be opportunities to recreate some of the lost functions in different areas of the complex."

[22] Refer to http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/spanimals.pdf for animals and http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/spplants.pdf for plants, and to Los Angeles County Sensitive Bird Species Working Group. 2009. Los Angeles County's Sensitive Bird Species. Western Tanager 75(3):1-11, available at: http://losangelesaudubon.org/index.php/conservation-a-restoration-mainmenu-82/sensitive-species-report-mainmenu-150

requiring mitigation to avoid or minimize adverse impacts to the extent feasible. In the context of a restoration project, actions that impact a moderately sensitive species may be considered appropriate if they are needed to improve habitat conditions for a more sensitive one. Careful analysis should be conducted to ensure that restoration prioritizes the preservation and restoration of the more sensitive and ecologically important species and communities, and minimizes impacts to any sensitive species.

Table A1 (see Appendix) lists plant species historically recorded in the vicinity of Los Cerritos Wetlands that lack special status and that have may been extirpated from the conservation area. Table A2 lists sensitive species known to occur within the Los Cerritos Wetlands conservation area or that have at least moderate potential to occur there. Table A4 lists species known only from historical records, or from the general Long Beach area, but not in the habitat types now represented within the conservation area. Finally, Table A5 lists special-status species unlikely to occur at Los Cerritos Wetlands today, but that might be supported if proper habitat conditions are established.

For the following analysis, it is useful to group sensitive species according to a short list of habitat types (see e.g., Table A3). The seven main plant and wildlife habitats we use are: **Saltmarsh**, **Seasonal Wetland**, **Freshwater Marsh**, **Coastal Prairie/Scrub**, **Riparian**, **Tidal Channel** and **Urban/Ruderal**. We treat as Saltmarsh any area supporting vegetation typical of tidal or muted-tidal conditions, acknowledging that, for some purposes, areas fully deprived of tidal influence may best be considered as Seasonal Wetland even if they support pickleweed or other typical Saltmarsh plant species. We include salt flat/salt panne as a form of Seasonal Wetland habitat because it is clearly a seasonally inundated habitat, and because its edges support species more typical of Seasonal Wetland habitat than any other[23]. Our Freshwater Marsh includes the "brackish marsh" community mapped by Tidal Influence (2012), at least in part (i.e., at Marketplace Marsh), and Riparian incorporates both "southern willow scrub" and "mulefat scrub." Coastal Prairie/Scrub habitat, while marginal at the site, is treated separately from weedy areas of fill, which we treat as Urban/Ruderal. Obviously, these categories are subjective and open to various interpretations, and each one typically grades into and overlaps others.

[23] We note that some authors use "salt panne" to describe features within a tidal marsh, where geology produces barren, salt-encrusted patches often within a sea of pickleweed and other saltmarsh vegetation. Obviously this isn't a situation that currently exists at Los Cerritos Wetlands, though it likely did in the past. Today, the salt panne habitat here is totally separated from tidal influence, yet nonetheless holds some conservation value that should be acknowledged.

Saltmarsh (included muted saltmarsh) at Los Cerritos Wetlands provides the primary habitat for Belding's savannah sparrow, wandering skipper, southern saltmarsh harvest mouse, Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), and two species of seablite. Each of these species is dependent on this habitat type, or on vegetation immediately adjacent to Saltmarsh, such as Seasonal Wetlands that have a strong component of Saltmarsh species. Saltmarsh provides secondary habitat for several raptors (e.g., northern harrier, white-tailed kite, burrowing owl, peregrine falcon) as well as loggerhead shrike and southwestern spiny rush, all of which also occur readily in other habitat types. Species that could potentially be present, or which could occur following restoration, include short-eared owl, large-billed savannah sparrow, San Diego black-tailed jackrabbit, south coast marsh vole, southern California saltmarsh shrew, and tidewater goby. Finally, special-status saltmarsh species believed absent, but which could be re-introduced to the area, include the light-footed Ridgway's [clapper] rail and saltmarsh bird's-beak; non-sensitive plants likely extirpated from this habitat include California saltbush (*Atriplex californica*). If any species with at least moderate potential for occurrence has not been explicitly searched for, protocol-level surveys should be initiated that would detect them or confirm their absence.

Much of the Saltmarsh habitat at Los Cerritos Wetlands is "muted", having been deprived of tidal influence for many years, even decades. Where alkali levels allow, these areas have been invaded by non-native weeds or even Riparian plants, and where alkali levels are too high to support even Saltmarsh plants this habitat takes the form of unvegetated salt pan. Even though these are clearly anthropogenic habitats, we consider it preferable to classify them as they exist today, rather than as they once were (tidal saltmarsh) or what they could be with a change in management. To this end, we treat these below as "seasonal wetlands", a broad habitat with potentially many subdivisions. Obviously, if the vegetation of a given site is clearly dominated by Saltmarsh species (e.g., pickleweed), it should be classified as such; thus, the Seasonal Wetland category generally applies to areas that are typically inundated during the rainy season and consistently arid from late spring through fall, and that do not support vegetation that would be classified as "marsh".

Seasonal Wetland habitat at Los Cerritos Wetlands provides the primary habitat for two special-status species known to persist here, southern tarplant and vernal barley (*Hordeum intercedens*), the latter identified in surveys by a local botanist but not treated in current documentation. Seasonal wetland provides secondary habitat for the Saltmarsh species listed above, as well as for terns from local breeding colonies (including elegant tern, least tern and black skimmer) and snowy plover.

Davidson's saltscale (*Atriplex serenana* var. *davidsonii*) may persist, as it still occurs at Anaheim Bay, and three other rare species of *Atriplex* — Coulter's saltbush (*A. coulteri*), south coast saltscale (*A. pacifica*), Parish's brittlescale (*A. parishii*) — could be re-introduced if indeed they are not present (all are very difficult for even experienced naturalists to identify and can resemble more widespread, non-native taxa). This habitat could also support (re-introduced) San Diego black-tailed jackrabbit. Several regionally rare birds are found in Seasonal Wetland habitat, including the greater white-fronted goose, snow goose, long-billed curlew, horned lark, and western meadowlark. Many plant species found in seasonal wetlands that lack any classification of sensitivity at the state level are nonetheless very rare in Los Angeles and Orange counties; the following species potentially occur at Los Cerritos Wetlands, or could be re-introduced if determined to be extirpated. These include *Atriplex argentea* (observed by D. S. Cooper in 2014 at Hellman property), *Baccharis douglasii*, *Euthamia occidentalis*, *Galium trifidum*, *Gnaphalium palustre*, *Hordeum brachyantherum*, *Hordeum depressum*, *Juncus bufonius*, several species of *Lepidium*, *Nitrophila occidentalis*, *Rumex salicifolius*, *Sesuvium verrucosum*, *Sidalcea neomexicana* ssp. *thurberi* and *Spergularia marina*[24]. All of these species could be considered to be of "local concern" and addressed in future restoration plans if found to be present. They should be searched for and documented at Los Cerritos Wetlands, or survey data showing their absence should be made available.

Freshwater Marsh is arguably one of the least-known communities at Los Cerritos Wetlands, and is only well developed at a single site, Marketplace Marsh, where freshwater is provided by urban runoff, creating somewhat brackish conditions. Southwestern spiny rush is a sensitive plant species often found at the margins of Freshwater Marsh. The northern harrier uses this habitat for foraging, and could potentially breed there in the future. Clark's marsh wren, a narrow southern California endemic that may be present at Marketplace Marsh (April and early July records in eBird), is heavily dependent on dense Freshwater Marsh habitat. Other sensitive species potentially present, at least seasonally, include redhead, least bittern, short-eared owl, yellow-headed and tricolored blackbirds, South Coast garter snake, and western pond turtle. Regionally-rare birds found in Freshwater Marsh habitat include the American bittern and nesting populations of white-faced ibis, Virginia rail and sora. Rare plants potentially present include San Bernardino aster (*Symphyotrichum defoliatum*), small spikerush (*Eleocharis parvula*), and lucky morning glory (*Calystegia felix*). As with Seasonal Wetland, Freshwater Marsh supports many species widespread in the state but uncommon to rare (or

[24] *Spergularia marina* has been (re)introduced at Zedler Marsh at Los Cerritos Wetlands, *per* E. Zahn, Tidal Influence.

extirpated) in the Los Angeles/ Orange County area. Species to look for include *Ammannia coccinea, Symphyotrichum lanceolatum* var. *hesperium, Baccharis douglasii, Cyperus erythrorhizos, C. esculentus, C. niger, C. odoratus, Erigeron philadelphicus, Euthamia occidentalis, Galium trifidum, Oenanthe sarmentosa, Petunia parviflora, Phyla lanceolata, Persicaria lapathifolia, Ranunculus cymbalaria* var. *saximontanus*, and *Rumex salicifolius*. All of these species should be searched for and documented at Los Cerritos Wetlands, or survey data showing their absence should be made available.

Coastal Prairie and Coastal Scrub habitats would have occurred naturally in a shifting matrix in the South Bay/Long Beach area just inland of coastal wetland habitat; they are extremely limited at Los Cerritos Wetlands. A relict occurrence is found along a small bluff at the southern end of the site, adjacent to Gum Grove Park. The flora here appears depauperate, but access is limited and surveys are lacking. A handful of sensitive bird species may make occasional use of this habitat, including several raptors (including burrowing owl) and loggerhead shrike, and two reptiles may be present, coast horned lizard and San Bernardino ringneck snake. Few sensitive plants are likely to persist at the site currently, although *Phacelia ramosissima* var. *austrolittoralis*[25] may well occur since it is tolerant to disturbance and occurs readily in urban-edge situations, and the much rarer coast woolly-heads (*Nemacaulis denudata* var. *denudata*) persists at nearby Bolsa Chica in habitat not dissimilar to that present at Los Cerritos Wetlands[26]. Various specialized plants and wildlife associated with this general habitat type, such as the Pacific pocket mouse and Brand's phacelia (*Phacelia stellaris*), were likely lost many decades ago, and would not have high probabilities of becoming established at the site if they were translocated there due to degradation and/or limited extent of the remaining habitat. Species with less specific habitat requirements, such as the San Diego black-tailed jackrabbit, could probably be re-introduced. As mentioned previously, there is potential for California gnatcatchers from Bolsa Chica to colonize the small (5-acre) area of restored Coastal Scrub habitat near Zedler Marsh, and it may make sense to expand this limited area of upland habitat northeast along the Haynes Cooling Channel to the slopes of the Orange County Flood Control basin near Westminster Boulevard. Elsewhere in the conservation area, plantings of Coastal Prairie and Coastal Scrub habitat may make sense only in limited areas of upland around the edges of the wetlands.

[25] Taxonomy uncertain; may be indistinguishable from more widespread forms, *per* A.C. Sanders, UCR Herbarium.
[26] See Roberts, F.M. 2008. The vascular plants of Orange County, California. An Annotated Checklist. F.M. Roberts Publications, San Luis Rey, California.

Riparian habitat, like Freshwater Marsh, was likely either absent or extremely limited in the vicinity of Los Cerritos Wetlands historically, yet today it is an important habitat type, at least at the margins of the conservation area. Within the last several years, five acres of dense riparian scrub (mixed with a more xeric coastal scrub) have been created just east of Gum Grove Park, adjacent to the Heron Pointe housing development, and much smaller stands dot other parts of the wetlands, including Marketplace Marsh. The flora and fauna of the Heron Pointe site is complicated by the amount of introduced plant material used in restoration, and the area is fenced off to keep the public out, but limited eBird data suggest that sensitive, riparian-obligate bird species may be in the process of colonizing this area. Species recorded there recently include the least Bell's vireo, yellow warbler, and yellow-breasted chat. Both the white-tailed kite and Cooper's hawk favor these types of situations, where riparian trees are surrounded by low, herbaceous habitat, as habitats for nesting and roosting. Contemporary plant and bird occurrence data are also limited for riparian species at Marketplace Marsh, which has been gated private property for decades. As alluded to previously, ecotones between Riparian and other habitat types, such as Seasonal Wetland and Freshwater Marsh, can be extremely productive habitat for birds and many other wildlife species, with the willows and mulefat providing cover and food sources for a variety of species. Presumed extirpated species that could be reintroduced into these habitats include south coast garter snake (*Thamnophis sirtalis* ssp.), and plants such as *Calystegia felix*, *Helianthus nuttallii* ssp. *parishii*, *Nasturtium gambelii*, and *Symphyotrichum defoliatum*.

Tidal Channel habitat is found in both the Los Cerritos Channel and associated Steam Shovel Slough at the northern end of the site, as well as along the lower San Gabriel River channel and the associated Hayes Cooling Channel that parallels the river. Within the conservation area, Tidal Channel represents the primary habitat for the green sea turtle, California brown pelican, and various terns, and provide habitat for less frequently-occurring sensitive species such as the brant. Small numbers of marine-wintering waterfowl, such as the common loon, ruddy duck, bufflehead, and surf scoter, regularly overwinter on the area's tidal channels. Two sensitive subspecies of savannah sparrow — Belding's and large-billed — would be expected to forage at the edges of local tidal channels, even on bare rock, particularly where adjacent to Saltmarsh habitat. The endangered tidewater goby has been considered as having a low likelihood of occurring, presumably due to the lack of true brackish/estuarine conditions (Steam Shovel Slough, the primary intact saltmarsh habitat at the site, has no freshwater input), but fish surveys have not been conducted since the 1980s (LCWA *in litt.*, November 14, 2014).

Urban/Ruderal habitat is obviously widespread in the region, but a few key areas deserve mention, especially Gum Grove Park, which occupies the southern boundary of the southern area of the site. The park includes a small population of southern tarplant, as well as fragmentary coastal sage scrub (see "Coastal Prairie and Coastal Scrub" above). It also supports several nesting raptors, though these are the typically widespread species such as the Red-tailed Hawk (M. Parsell, unpubl. data). Other areas of Ruderal habitat occur throughout the entire conservation area, each of which should be carefully investigated to confirm absence of cryptic native species, particularly those that can only be detected under certain circumstances (for example, some low-lying areas that transform into seasonal wetlands during rainy years may be passed off as non-native grasslands or weedy upland fields during drier years). Even expanses of iceplant can hide pockets of natives within small gaps, and cannot be written off as having low value without appropriate surveys. Certain urban habitats near wetlands can provide important habitat for nesting bird species, especially nesting colonial waterbirds (e.g., herons, egrets, and cormorants) and raptors. The species involved may not have special status (e.g., California Species of Special Concern), but a nesting site of any species that tends to be re-used year after year may be recognized as a sensitive resource (e.g., an Environmentally Sensitive Area per criteria in Section 30107.5 of the California Coastal Act). One well-known urban nesting colony near the conservation area is the marina portion of Alamitos Bay, which has supported nesting colonial waterbirds for several years[27]. These waders presumably forage in a variety of habitats within Los Cerritos Wetlands during the spring and summer nesting season.

Coastal Commission Permitting and Other Constraints

The entire Los Cerritos Wetlands conservation area lies within the Coastal Zone and is therefore subject to the permitting authority of the California Coastal Commission. Permitting authority for actions that take place in the Long Beach portion of the conservation area is conferred to the City of Long Beach, which has a certified Local Coastal Program (LCP) as well as a current/ongoing "Southeast Area Specific Plan[28], although apparently some of the Los Cerritos Wetlands within the City limits are uncertified. The City of Seal Beach does not have a certified LCP but apparently is in the process of developing one, with completion scheduled for 2016[29]. Therefore, a Coastal

[27] Cooper, D. S. unpublished data. Twenty nests great blue heron and 15 nests of black-crowned night-heron and/or snowy egret on 2 June 2012 in "trees in parking lot & pier area along N. Marina Dr. and road to Alamitos Bay Fuel Dock from 225 N. Marina Dr. to 255 N. Marina Dr. on north side of parking lot."
[28] http://www.lbds.info/seadip_update/
[29] www.coastal.ca.gov/lcp/lcpgrant/apps/LCPAGP_CityofSealBeach.pdf

Development Permit issued directly by the Coastal Commission is required for any actions that take place in the Seal Beach portion of the conservation area, including any restoration actions, as required in specific parts of the conservation area under existing Coastal Development Permits or Restoration Orders. Two main ones, the raptor foraging area on the Hellman Property, and the habitat restoration order along Loynes Drive, are discussed below.

Hellman Property Raptor Foraging Habitat Set-aside

In compliance with Coastal Development Permit (Nos. 5-97-367/5-97-367-A1) issued for the Heron Pointe development on the Hellman Property, in 2002 an Open Space Deed Restriction was issued that implemented various Special Conditions of the Permit. This included Special Condition No. 21, which required (a) the setting aside of at least "9.2 contiguous acres of contiguous raptor foraging habitat" adjacent to and north of Gum Grove Park, and (b) preparation of a raptor foraging habitat management plan that identifies various management measures intended to prevent loss of raptor foraging habitat functions and values. The 9.2-acre area set aside in compliance with Special Condition No. 21 consists primarily of relatively flat land that supports a tall (often exceeding two-meter-high) non-native herbaceous grassland, dominated by such ruderal species as black mustard (*Brassica nigra*), wild radish (*Raphanus sativus*), and various non-native annual grasses. Glenn Lukos Associates prepared a summary of their 2001 Raptor Foraging Habitat Management Program and reported that the 9.2-acre area:

> … consists primarily of relatively flat land that supports non-native grassland and ruderal species. Survey results [from 2001] indicate that American kestrels and White-tailed kites actively hunt and kill prey within the 9.2-are study area as do red tail hawks [*sic*], although at a lower rate.

Attractiveness of the 9.2-acre set-aside area for raptors was attributed to the following:

> The combination of numerous utility poles, telephone wires, fence posts, and other structures, provides numerous perching platforms from which raptors can scan the open grasslands and ruderal area below. The proximity of the utility poles and structures to the open fields creates an optimal field of view for the raptors. Additionally, the open fields are conducive to high levels of rodent activity.

There is no indication that the analysis provided above is based on anything more than the conjecture of the biologist(s) who prepared the report. For example, no small mammal trapping was conducted to determine the population levels of different prey species. The report contains no specific information on the numbers of different raptor species observed foraging in this area, the seasonality of use, the locations of any raptor nesting documented nearby, or the potential relationship between raptor populations on the Hellman property and those in the nearby Seal Beach National Wildlife Refuge. The Raptor Foraging Habitat Management Program did not

identify any maintenance measures apart from "regular clearing and mowing activities" that were already being conducted in the area; specifically, they note "vegetation clearing and/or discing will be maintained at its current level within the 9.2-acre area and will be performed in the same manner." Presumably, this means "the same manner" as was being routinely conducted at the time. The condition of the 9.2-acre area does not appear to have changed substantially since 2001 (i.e., the area continues to support a mix of annual grassland and ruderal mustard and radish stands), but the current mowing regime, if any, is not known to us. American kestrels and red-tailed hawks still forage extensively in this area; information provided by local birders and records submitted to eBird (www.eBird.org) suggest that the white-tailed kite has become rare over the years

Conservation efforts in the 9.2-acre area of the Hellman property are therefore constrained by the Open Space Deed Restriction, although the wording of the Deed Restriction allows for active restoration or other conservation measures in this area, so long as they would not degrade existing raptor foraging habitat functions and values. Therefore, before any conservation actions are taken in the 9.2-acre set-aside area, we recommend an updated survey of raptor foraging activity and habitat usage (of utility poles and lines, fences, etc.) and an evaluation of the likely results of any proposed changes to the vegetation, maintenance activities, or human use of this area. Any changes to its intended use for foraging raptors would have to be approved by the Coastal Commission (or the City of Seal Beach, if this area eventually becomes covered under a certified LCP). We also recommend that future maps showing restoration alternatives accurately depict and describe this area as requiring special attention to ensure that it continue to be attractive to foraging raptors (or that it be managed in such a way that improves its function to raptor foraging).

Mandatory Habitat Restoration at 6400 East Loynes Drive

This 9.38-acre parcel, situated between Loynes Drive and the north bank of Los Cerritos Channel, near the northern boundary of the conservation area, is part of an old landfill operation (refuse dump) used to fill coastal marshland during the 1940s and 1950s. The top layer of the landfill was disturbed by unpermitted grading that occurred on 19 and 20 March 2009, and which altered the topography and removed most of the vegetation from the site. Apparently, the grading also exposed the old dump. This area was then covered with fill imported pursuant to Coastal Commission Emergency Permit 5-09-068-G. Commission staff issued the emergency permit on 7 April 2009 because the certified City of Long Beach LCP did not contain provisions for the issuance of emergency permits.

Following the issuance of the emergency permit, the applicant constructed a six-inch thick cap over a 50,000 square foot portion of the dump. A condition of Emergency Permit 5-09-068-G required the applicant to apply to the City of Long Beach for the follow-up permit. On 12 October 2009 the City of Long Beach approved Local Coastal Development Permit 0904-15 to allow the import of one thousand cubic yards of soil to re-establish and maintain the cap over the existing landfill (in response to Coastal Commission Emergency Permit 5-09-068-G), and to allow weed abatement to comply with a Fire Department order. Several persons appealed this decision to the City Planning Commission because the local coastal development permit did not include a condition requiring any restoration of the project site. On December 3, 2009, the Planning Commission held a public hearing and approved Local Coastal Development Permit 0904-15 with conditions. The appeals were denied, but the Planning Commission added Special Condition Ten, which states: "The applicant shall comply with a remediation plan to be prepared by staff and submitted to the Planning Commission for consideration within 90 days."

The Planning Commission's decision was not appealable to the Long Beach City Council. On 25 January 2010 the Coastal Commission received the first of seven valid appeals of Local Coastal Development Permit 0904-15. The appeals called for restoration of the graded area of the site. On 10 March 2010 the Commission determined that a substantial issue existed with respect to the grounds of the appeals because: (a) the certified LCP designated the bay-fronting site for restoration as a brackish pond; (b) the certified LCP required that open space and natural habitat areas be preserved and that the waters of Alamitos Bay be protected from runoff; and (c) the absence of a detailed and enforceable habitat protection and restoration plan could adversely affect wildlife, wetlands, and the quality of adjacent tidal waters.

On 19 November 2010 the Coastal Commission approved Coastal Development Permit A-5-LOB-10-015. As part of the approval, the Commission modified Special Condition One, changing staff's recommendation to restore habitat on the site to a requirement for the applicant to install an impermeable dump cap and to contour the site to encourage the restoration of seasonal pools in certain portions of the disturbed site. This change required the Commission to adopt revised findings, which the Commission approved on 12 May 2011.

On 8 March 2012 the applicant requested an amendment to Coastal Development Permit A-5-LOB-10-015, deleting the requirement for the installation of an impermeable cap over the dump as part of

the re-vegetation plan because the installation of such a cap would cause lateral gas migration and necessitate the construction of methane gas collection system with extensive re-grading of the property and the installation of numerous gas extraction wells, pipelines and a gas-burning plant. As part of the same amendment that allowed for deletion of the cap, the Commission required restoration of the affected area with native Grassland/Coastal Scrub species. At the end of five years (= 2017), a minimum of 80% of the disturbed area shall be required to be covered with native plants, and no more than 5% of the disturbed area shall be allowed to be covered with non-native plants at any time[30]. As of October 2015, the site shows little evidence of successful native habitat restoration or creation of seasonal pools (R. A. Hamilton, pers. obs.).

Keystone and Indicator Species

Ecologists have developed many systems for describing species' roles in the ecosystem, two of which we consider most applicable to future conservation and habitat management at the scale of Los Cerritos Wetlands:

1. **Keystone Species (expanded definition)**, which hold a particularly important place in the ecosystem, either in providing food and resources for a diverse array of other taxa (e.g., "heritage" oak trees), or which, if removed, would result in a significant shift/change in the ecosystem (e.g., gray wolf in Rocky Mountain ecosystems); and

2. **Indicator Species**, which are easily-detected plants and animals characteristic of a particular native habitat that is in good, functional condition.

Keystone Species

For the Los Cerritos Wetlands, Keystone Species could include plants that support the species that comprise its distinctive natural communities, such as shore grass (*Distichlis littoralis*) and pickleweed (*Salicornia* spp.), both heavily used by Belding's savannah sparrow; willows (*Salix*) which support riparian-obligate species, and alkali rye (*Eylmus triticoides*), which appears to dominate the alkali meadow ecosystem. Aquatic taxa such as eelgrass (*Zostera marina*) are critical to the occurrence of brant and other marine birds, and marine fishes, including "baitfish" which are fed upon by locally-

[30] Any future change in land use at this site would require an amendment to Coastal Development Permit A-5-LOB-10-015 from the Coastal Commission or an additional coastal development permit from the Coastal Commission or from the City of Long Beach consistent with the certified LCP.

nesting terns. Fall-blooming shrubs such as coast goldenbush (*Isocoma menziesii*) and southern tarplant (*Centromadia parryi* ssp. *australis*) support a huge diversity of native pollinators (flying invertebrates such as flies, bees and wasps) that help maintain intact ecological relationships, and the rarer native spring annuals, such as Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), may be critical to support rare coastal invertebrates when they emerge in spring. While research on these interactions is sparse, it is clear that as sites become degraded around the region, these host-pollinator interactions become frayed and diversity collapses as more widespread, less-specialized species become increasingly dominant. Opportunities to maintain relatively intact systems, such as at Los Cerritos Wetlands, should be enhanced where possible.

Common and widespread species should not be overlooked as keystone species. California ground squirrels, for example, maintain both the sparse vegetation required for many locally uncommon plants (especially native annuals), and their complex burrow systems are utilized by burrowing owls and native reptile species such as side-blotched lizard and various snakes. Coyotes are another example of a keystone species, as their predation serves to check feral cat numbers.

Although they are non-native (and note that we are *not* advocating to keep them), eucalyptus and even palm trees may also be thought of as keystone species, in that a suite of locally-occurring wildlife species (including several native to the area) depend heavily on these tall trees, which add habitat elements that would otherwise be absent from the local landscape. Tree-dependent wildlife includes the monarch butterfly and various resident and migratory songbirds (mostly in eucalyptus) and nesting raptors, herons, and possibly bats (eucalyptus or palm). Prior to the introduction of these trees, it is unlikely that any of these wildlife species occurred at the site in their current roles, and we are not advocating that exotic trees take precedent over native communities such as Coastal Scrub and Coastal Prairie; indeed, the outright removal of these trees would likely be a boon to the native ecosystem here, even if it means, for example, that foraging raptors and herons might need to fly slightly farther distances to build nests (eucalyptus and other trees are still abundant throughout the region). Still, recognizing the functions of all habitat elements that currently exist, whether they stay or go, is a necessary part of restoration planning.

Indicator Species

Indicator species are native taxa associated with particularly robust examples of a particular habitat; ideally, they should be both readily detectable and reliably associated with a given resource.

Suggested currently-occurring indicator species at Los Cerritos Wetlands include Clark's marsh wren (Freshwater Marsh), Belding's savannah sparrow and wandering skipper (Saltmarsh), and yellow warbler (Riparian). Certain indicator species may utilize two or more habitats types, but may be useful to track, monitor, and manage for nonetheless. Examples of these "cross-habitat" indicator species include the California least tern, elegant tern, and black skimmer, colonial species that nest on sandy islets, coastal strand, and protected dunes, and forage in tidal channels of various depths and configurations. Three uncommon raptors, northern harrier, white-tailed kite, and burrowing owl, may range widely over a variety of open habitats (marshes, alkali meadow, coastal prairie and even saltpan), but require large blocks of flat, undisturbed habitat to do so. Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), mentioned earlier as a keystone species for native pollinators, is also an indicator species for intact "high saltmarsh", the zone not typically inundated by tidal flow, but maintained by winter precipitation. Species of perennial seablite (*Suaeda* spp.) are strong indicators of intact saltmarsh, as these plants tend to vanish as local saltmarshes become fragmented and degraded. The monarch butterfly is a strong indicator of dense eucalyptus groves, but may also be seen as a "contra-indicator" for native habitats that were displaced when the exotic trees were planted. The brant is a strong indicator for eelgrass beds and a healthy intertidal zone; the wintering population of this small goose at nearby Bolsa Chica Ecological Reserve has exploded in response to tidal basin restoration.

Conservation Targets: Goals and Strategy

What does successful restoration look like? For some projects, including typical mitigation efforts required in conjunction with development, simply planting suitable plants native to the region and keeping them alive for at least a few years will satisfy regulators. To be conducted with true ecological integrity, however, restoration must be carefully planned in light of current, former, and future ecological conditions and constraints. Each degraded site has a unique history of disturbance and a certain array of species dependent on it, or extirpated from it, and only the most carefully planned and executed large-scale efforts have potential to achieve holistic ecosystem restoration.

At its root, ecological restoration must start with history as a guide, looking at what plant and animal communities would have occurred in a given area and attempting to re-create them as faithfully as possible. This imperative is reflected in a recent "international primer" on restoration from the

Society for Ecological Restoration, which succinctly lays out guiding principles that apply to any ecological sound restoration attempt[31]:

> Restoration attempts to return an ecosystem to its historic trajectory. Historic conditions are therefore the ideal starting point for restoration design. The restored ecosystem will not necessarily recover its former state, since contemporary constraints and conditions may cause it to develop along an altered trajectory. The historic trajectory of a severely impacted ecosystem may be difficult or impossible to determine with accuracy. Nevertheless, the general direction and boundaries of that trajectory can be established through a combination of knowledge of the damaged ecosystem's pre-existing structure, composition and functioning, studies on comparable intact ecosystems, information about regional environmental conditions, and analysis of other ecological, cultural and historical reference information. These combined sources allow the historic trajectory or reference conditions to be charted from baseline ecological data and predictive models, and its emulation in the restoration process should aid in piloting the ecosystem towards improved health and integrity.

Despite a considerable amount of baseline data-collection (by Tidal Influence and others), the make-up of the current natural communities of the wetlands are still imperfectly known, as the site has never seen a formal, comprehensive botanical survey, a butterfly survey, a fish survey, nor site-wide, standardized pitfall trapping for reptiles and small mammals, some of the main groups that might inform restoration at what is now a relatively urbanized/degraded site. Bird occurrence data is much better known thanks to regular walks at the Hellman property and submission of these data to eBird, but large areas of the site – perhaps the majority – are not regularly visited by birders (generally due to legal access issues). Areas most conspicuously lacking wildlife data include Steam Shovel Slough, oil lands north of Westminster Boulevard, Marketplace Marsh and the alkali meadow immediately to the east, and the Orange County Flood Control District wetlands north of the Hellman property[32]. Thus, while important and presumably effective restoration work is ongoing in parts of the site, rare but important ecological events that would inform this and future restoration and habitat creation, such as an overwintering burrowing owl or a least tern nesting attempt on a little-used berm on the property, or an inconspicuous saltbush population growing amid oil wells, might well be completely missed by ongoing ecological investigation associated with restoration work at the site.

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[31] SER 2004. SER International Primer on Ecological Restoration, Society of Ecological Restoration International Science and Policy Working Group. Version 2, October 2004 (1). Available online at: http://www.ser.org/resources/resources-detail-view/ser-international-primer-on-ecological-restoration

[32] Currently (2015) LCWA has initiated bird/wildlife data collection at a portion of the flood control basin site, which should inform future conservation efforts here (*fide* E. Zahn).

Therefore, we cannot conclude that all the natural areas of the wetlands are understood well enough to justify active restoration over most of the site, since without a baseline there is little way of know what we're "restoring to" and thus, how to measure its success. For this reason, we suggest a refocus on conducting a series of comprehensive biological surveys, or synthesizing existing surveys where available, working with partner-landowners on the site, while still engaging in limited planting where appropriate. We also encourage incorporating wildlife monitoring into current restoration protocols and goals, and to make these data publically available, to inform analysis of what's working and what still needs to be done. As touched upon previously, establishing vegetation in a given area may be relatively straightforward, but unless we can observe that the new community resembles an earlier one *ecologically*, this is not getting to true/complete restoration (assuming it is possible, and in some areas and cases, it is not). In some respects, planting vegetation that resembles what might have been present is simply another way for humans to indulge our predilections, and to exert our will over the land. We also note that planting and seeding can be fraught with unintended consequences[33], especially near urban areas where any water (i.e., through irrigation) acts as a magnet for non-native plants and animals (such as Argentine ant *Linepithema humile*).

Too often, planting is not monitored for anything other than the growth of the installed plants; if they are doing well, the community is assumed to also be doing well. This simplistic view fails to address ecological integrity of the natural system – is it sustainable on its own, are native species dominant, etc. Lack of monitoring can also miss major developments that could inform the restoration. To take a local example, the Ballona Wetlands backdune relict in Playa del Rey has been the site of weed-pulling and native plantings (most recently, of *Eriogonum parvifolium* the foodplant of the federally listed El Segundo blue butterfly *Euphilotes battoides allyni*) since the 1980s, but it wasn't until 2011 that anyone checked to see if it was achieving the desired function (nor had anyone agreed on what the actual goal of this restoration was, other than to remove non-natives). In fact, the El Segundo blue is now resident there (pers. obs.), along with a second, equally rare (but un-listed) dune endemic butterfly, the dune metalmark (*Apodemia virgulti arenaria*). Only a tiny portion of the backdune has been planted with the favored buckwheat; much of the remainder is a mix of

[33] Longcore, T., R. Mattoni, G. Pratt, and C. Rich. 2000. On the perils of ecological restoration: lessons from the El Segundo Blue Butterfly. Pp. 281–286 in J. Keeley, M. Baer-Keeley, and C.J. Fotheringham, eds., 2nd Interface Between Ecology and Land Development in California. Open-File Report 00-62, U.S. Geological Survey, Sacramento, Calif.

(native) dune bush-lupine (*Lupinus chamissonis*) and willow (*Salix* spp.)[34]. Unfortunately, no further surveys are planned to determine whether these plants are attracting other rare obligate species back to the site, yet the "restoration" is ongoing.

We do not intend this to be a critique of current work, but more a call for additional effort and perhaps a slightly different focus. Ecological restoration at any scale entails historical research, current ecological study, detailed planning involving multiple interested parties, plant collection and propagation, site preparation, installation, maintenance, monitoring, and the identification and implementation of corrective measures. With room for error and uncertainty at each step, we should generally look for restoration to be moving the ecology of a given area in a direction that resembles earlier, less-degraded conditions, with clear goals and measurable outcomes. Complex ecological relationships take long periods to become established and native plant and wildlife species may take long periods to colonize newly created suitable habitat. Through historical collections and notes of botanists, however, enough is known about the original natural communities of the Los Angeles Basin more than a century ago to make a decent guess at what a "pre-invaded" habitat would have looked like. Ideally, those original species will be reasonably suited to the current soil and climate conditions, and therefore capable of fostering complex ecological communities that will be sustainable into the future[35].

To help ensure a useful final result, the conservation targets must involve both Goals and Strategies. This measured, deliberate approach is reflected in IUCN's recent review of recommendations for restoration[36], which measures the relative success of restoration against three "core principles" of best practices:

1. Effectiveness in re-establishing and maintaining protected area values;
2. Efficiency in maximizing beneficial outcomes while minimizing costs in time, resources and effort; and

[34] Discussed in training manual for Ballona Wetlands docents. See: http://www.cooperecological.com/ballonatrainingmanualnew.pdf

[35] However, simply planting "whatever will grow", even if native to southern California, does not constitute restoration; weeds will readily grow too. This is the problem – the species that are native are often outcompeted by those that aren't, or by those widespread native species that have wide ecological tolerances, meaning that success cannot be based on simply getting plants to thrive, but on what kind of ecosystem is being re-established, and for what species.

[36] Keenleyside, K.A., N. Dudley, S. Cairns, C.M. Hall, and S. Stolton. 2012. Ecological Restoration for Protected Areas: Principles, Guidelines and Best Practices. Gland, Switzerland: IUCN. x + 120pp.; available online at: http://data.iucn.org/dbtw-wpd/edocs/PAG-018.pdf

3. Level of engagement through collaboration with partners and stakeholders, promoting participation and enhancing visitor experience.

In the Best Practices chapter, Principal 1 warns against rushing to restore an area that may be functional on its own, or encouraged to self-restore with only minimal intervention, by first identifying when active restoration is the best option. Additional guidelines highlight the need to restore ecosystem structure and function, ecosystem resilience, and connectivity "within and beyond the boundaries of protected areas".

The Los Cerritos Wetlands, a large area that maintains some relatively pristine habitat but which has such tremendous potential for improvement in many parts, represents an ideal landscape in which to implement the Best Practices developed by the IUCN. Toward this end, we outline the following goals and strategies.

Goal 1. Protect and expand the best remaining examples of intact, native-rich habitat (even if currently dominated by exotic plant species).

Strategy: Inventory and map existing areas dominated by native species, or that provide important habitat values even if dominated by exotic species, and devise plans for their protection. Design restoration that increases the "effective size" of these habitats, where possible.

Native-rich habitats are found scattered around Los Cerritos Wetlands, but have never been comprehensively mapped at a scale that is useful for restoration and enhancement. For example, large areas of potential seasonal wetland habitat have been mapped simply as "Ruderal" without recognizing – or clearly indicating via mapping – the potential value of these areas to migratory waterbirds, invertebrates, and other taxa. Some of these habitats could support open-country bird and herptile species, for example, but only if they remain large and unfragmented by trails and landscaping. Current maps showing levels and types of wildlife activity within different parts of the conservation area are urgently needed to inform ongoing restoration planning. Once these are known, an assessment of the most critical areas to preserve and restore can be made. Within these selected areas, better conservation outcomes may be achieved through implementation of "light touch" management actions, such as fencing, signage, and outreach, than through intensive weeding

or planting of natives. Surveys to locate indicator/keystone species may be done concurrently to this mapping effort.

Goal 2. Identify, protect, and attempt to link rare/relictual plant and animal occurrences, such as occurrences of Coulter's goldfields, *Suaeda* species, and potential vernal pools.

Strategy: Continue to encourage visits by knowledgeable botanists, birders, and others to explore the site and submit their findings.

Parks and reserves around the world plan annual "Bioblitz" events that bring together scientists and interested citizens to document as many species – of everything – as possible in a single 24-hour period. As a little-known "diamond in the rough" on the California coast with many groups already interested in its conservation, the Los Cerritos Wetlands would attract many experts and laypeople to a well-conceived Bioblitz program. Once the key locations of target species are known, restoration strategy may be modified to better protect these occurrences, or least take them fully into account during development of restoration alternatives. We also note that, while informative at a certain level, data from monthly birdwalks that have been conducted at the Hellman site should not be extrapolated to other areas of the open space. Proper surveys must be conducted by experts who are familiar with subtle distinguishing fieldmarks, including vocalizations in the case of birds, and not by non-professional volunteers[37]. Otherwise, key species may be overlooked, misidentified, considered resident and breeding when actually present only during migration or winter, etc. We also urge planners to retain rare occurrences, particularly of plants, in place and buffered against disturbance (even from nearby restoration), rather than presuming that they could be transplanted or worked around as the surrounding habitat is modified.

Goal 3. Identify areas for extirpated species to return, and design restoration to encourage this.

Strategy: Develop a realistic strategy for encouraging species like California least tern, San Diego black-tailed jackrabbit, and others to return to using the wetlands, through habitat enhancement, future creation/restoration and/or re-introduction.

[37] We acknowledge the importance of volunteer-obtained data, but recognize that professional surveys are needed to confirm hard-to-identify species and to "ground-truth" reports from volunteers.

One of the major challenges to restoration at Los Cerritos Wetlands will be to reach agreement on the ecological communities to be established in each part of the conservation area. We advocate a transparent and deliberative restoration process that (a) considers the full range of species that have potential to occur at Los Cerritos Wetlands, and (b) explicitly considers the potential to establish conditions favorable to sensitive wildlife species that have been extirpated from the area, or that occur nearby, and that could either colonize naturally or be introduced back into the area. Since the existing planning documents do not provide complete lists of special-status species, including historical/extirpated species, we prepared Tables A2 and A4 in Appendix A so that this important information can be incorporated into restoration planning.

As an example, the California least tern bred in three areas of the wetlands into the 1970s: the "Pumpkin Patch" adjacent to Marketplace shopping center, and at two sites near Steam Shovel Slough on either side of Pacific Coast Highway (*fide* Charles Collins, CSULB). Although least terns continue to visit the site, and Los Cerritos Wetlands was included in the statewide survey of the species, no suitable breeding habitat has been maintained here in decades. Re-establishing a suitable area of nesting habitat for this species would entail setting aside a fairly large expanse of sandy/bare soil substrate that would be protected from predators and disturbance (e.g., with effective fencing or deep water). Areas suitable for re-establishment of this species are found in several parts of the wetlands, including along the spit of land just north of Steamshovel Slough. "Restoring" that area with Coastal Scrub would effectively preclude establishing a California least tern nesting colony there. Whether the recovery of a Coastal Scrub ecosystem would be preferable to a least tern colony should be debated based on many factors, including the likelihood of restoration success, the representation of each element in the landscape, etc.

> **Goal 4. Increase the size of small, native-dominated habitat patches, and connect isolated ones.**
>
> **Strategy:** After completing botanical surveys, employ targeted weeding to control exotic weeds from specific areas, followed by seeding and planting to expand and connect smaller patches of native habitat.

Unrelated to an overall, dramatic restoration plan involving creating new tidal channels and Saltmarsh, abundant opportunities exist for small-scale restoration through the site, similar to that

already in progress at Zedler Marsh. Areas such as Gum Grove Park and the Hellman Property support several small, isolated patches of native scrub that could be expanded outward (even slightly), or linked to create weed-free corridors (i.e., lanes of native species through the weeds) through aggressive weeding and planting. Examples include small vernal pools at the northern base of Gum Grove Park, as well as patches of bladderpod (*Peritoma arborea*) and sparse native shrubs along the low bluff just west of there, on the Hellman Property.

We also encourage the use of locally-sourced material (i.e., from the Long Beach/South Bay area), and discourage following general habitat guidelines issued by nationwide programs such as the "Native Seed Network" (e.g., "Coastal Sage Scrub[38]") or simply figuring out where a plant "can" grow (see, e.g., U.S. Forest Service guidelines[39]) which are intended more for gardening projects. Unless a plant can be located in life or as a herbarium voucher from the south coastal Los Angeles Plain (e.g., the Environmental Protection Agency's "Ecoregion 85d")[40] – and not from the Santa Monica Mountains, Puente Hills, or other non-basin areas, it should be not be intentionally introduced to the Los Cerritos Wetlands.

Goal 5. Slowly convert portions Gum Grove Park, and other degraded areas back into functional native ecosystems, while maintaining compatible existing uses.

Strategy: Use professional crews to begin to slowly retire non-native ornamental trees and shrubs (e.g., eucalyptus) where they are serving only marginal ecological or aesthetic purpose.

The widespread planting of exotic eucalytpus trees, locally and regionally, and the capacity of eucalyptus to survive and exclude native plants from its understory, have contributed to the decline of many native species that cannot use eucalyptus as habitat. At Gum Grove Park, eucalyptus trees provide arboreal cover otherwise largely lacking from the area, and many trees could be retained, but the dense forest could be strategically thinned and reduced in size (following appropriate surveys for raptors, monarch butterflies, and other sensitive species) and gradually replanted with more appropriate Coastal Scrub species while retaining appropriately-sized raptor/monarch areas within

[38] http://www.nativeseednetwork.org/ecomap?state=CA
[39] http://www.fs.fed.us/wwetac/threat_map/SeedZones_Intro.html
[40] http://www.epa.gov/wed/pages/ecoregions/level_iii_iv.htm#Level%20IV

the grove. We would recommend against planting more trees here, even ones native to southern California, since this bluff was most likely covered with Coastal Scrub, rather than oak woodland, riparian woodland, or other tree-dominated communities.

Goal 6. Prioritize areas of oil fields for gradual restoration to functional native ecosystems, such as seasonal wetlands, while maintaining existing uses.

Strategy: Map and analyze vegetation and habitat usage by target species on oil company lands.

As explained above, large areas of oil company property are excluded from existing mapping of proposed restoration, and some of those areas may be making important contributions to the biological diversity of the overall Los Cerritos Wetlands ecosystem. For example, a large area of the northern/Los Angeles County portion of the wetlands (owned by Synergy), is being contemplated for use as a wetlands land bank. Careful planning of its restoration should acknowledge its current role in supporting rare and significant plant and wildlife populations and uses, rather than its being seen as a "blank slate" for habitat creation. If appropriate and adequate surveys conducted by reputable specialists demonstrate that most or all of this area is truly degraded beyond the point of providing important habitat for biologically sensitive native species, we would support efforts to restore this area using whatever methods would be most appropriate and provide the greatest ecological benefits (including "heavy-handed" restoration of full tidal wetlands).

Goal 7. Maintain at least two core habitat areas where human activity is minimized.

Strategy: Map and analyze existing human use patterns, including roads and trails, and design at least two core areas (north and south).

Although limited in size and fragmented/degraded by roads, fences, and oil operations, Los Cerritos Wetlands include some of the last areas of open, undeveloped habitat left in coastal Los Angeles County. The simple fact that one cannot drive across the wetlands from north to south means that American kestrels can forage there every day without getting hit by cars, and flocks of meadowlarks and shorebirds can pass low over the land, largely unimpeded.

This recommendation deals with "common" species as much as with rare and protected ones, and seeks to acknowledge the rare and easily-lost "intact" quality of open space in the region. Features that break up the contiguity of this low, coastal ecosystem, such as piles of rusty pipe, cement foundations of old buildings, utility poles, redundant fences, berms and piles of rubble, and even palm trees, should be removed as quickly as possible from identified core areas, and future introduction of infrastructure, however minimal (irrigation pipes, wooden fences, walking paths) should be directed to their edges. This will benefit both the wildlife at the site, but also the human visitors, who will then have the opportunity to see the wetlands in a more undisturbed, naturally-functioning state. Logical core areas would be the entire northern area north of Westminster (including Steamshovel Slough), the middle area of LCWA Phase I west of the San Gabriel River Channel (east of Marketplace Marsh), and the entire Hellman property.

Restoration Recommendations by Subarea

NOTE: The comments had been written to refer to the 2012 restoration planning documents, and not to the more recent 2015 Final Conceptual Restoration Plan and associated mapping. We have tried to indicate where more the more recent plan addresses our initial comments and impressions.

It is important to recognize that virtually every part of the Los Cerritos Wetlands conservation area represents a form of bird and wildlife habitat, however degraded or impacted it may appear. Some areas offer niches for numerous species, others for only a handful. In some cases, as with pickleweed-dominated saltmarsh or salt pan, a particular vegetation or habitat type may represent the sole or strongly preferred habitat for a single species, even if little else occurs there. Documentation of the area's historical biota is a critical element of conservation, and may be used to guide restoration planning. Current restoration proposals for the site have been presented as a series of maps (see above link to LCWA site), which were treated as six separate "alternatives" by Tidal Influence (2012), subsequently reduced to three by Moffatt and Nichol (2015), each differing in extent and intensity of land transformation ("light touch" vs. dramatic altering of existing topography and hydrology)[41]. The following summary of the geographic subareas of Los Cerritos

[41] We have elected to retain the initial numbering system in the 2012 plan, with the thought that these alternatives (and their numbering system) is likely to change again as the restoration planning proceeds.

Wetlands briefly describes the main habitat types present and how proposed restoration actions may be expected to change the ecological resources in each subarea.

North Area (north of Second Street/Westminster Avenue)

Loynes Property

Main habitat types: Urban/Ruderal

This 10-acre site is now undergoing a partial re-vegetation attempt, following an incident in 2009 involving ground disturbance and vegetation removal, and uncovering part of a capped toxic waste dump. Proposed restoration alternatives recommend leaving it as-is (Alternatives 1 and 2); revegetating it with Coastal Scrub (Alternatives 3 and 4) or a mix of Coastal Scrub and Brackish Marsh (Alternative 5); or excavating a tidal channel and revegetating it with Saltmarsh (Alternative 6). As discussed subsequently, under "Coastal Commission Permitting and Other Constraints", a 2012 amendment to Coastal Development Permit A-5-LOB-10-015 requires most of this area to be restored with native Grassland/Coastal Scrub species. At the end of five years (= 2017), a minimum of 80% of the disturbed area shall be required to be covered with native plants, and no more than 5% of the disturbed area shall be allowed to be covered with non-native plants at any time[42]. As of January 2015, the site shows little evidence of successful native habitat restoration or creation of seasonal pools (R. A. Hamilton, pers. obs.).

Our recommendations: Because the herbaceous/ruderal habitat at this site is likely used by foraging raptors, such as the white-tailed kite, northern harrier, and American kestrel, the status of these species should be assessed. The area may also be used to some degree by Belding's savannah sparrows resident at nearby Steam Shovel Slough. At least one sensitive wildlife species, the burrowing owl, may occur here in the winter, at least sporadically, as there is a tiny relict population nearby at Seal Beach NWR, and migrants continue to pass through the region each fall. The area could also serve as a suitable re-introduction site for various plant species that have been extirpated from the area, such as Davidson's saltbush. However, we recognize that the site is very small, and not connected meaningfully to any other seasonal wetland/grassland habitat. Therefore, any change to the site should probably be seen as incremental to the restoration of the larger wetlands complex.

[42] Any future change in land use at this site would require an amendment to Coastal Development Permit A-5-LOB-10-015 from the Coastal Commission or an additional coastal development permit from the Coastal Commission or from the City of Long Beach consistent with the certified LCP.

"Northern Oil Fields" (former Berger and Dean property)

Main habitat types: Saltmarsh and Urban/Ruderal.

Most of the northern portion of Los Cerritos Wetlands is under a single ownership, which represents a significant opportunity for comprehensive restoration of an intact area of approximately 150 acres. The northern third of this subarea is dominated by 44-acre Steam Shovel Slough, a relatively intact tidal marsh widely recognized as one of the best examples of this habitat type remaining in southern California. Steam Shovel Slough is known to support a large population of Belding's savannah sparrow, and large numbers of shorebirds forage and roost here during stopover periods in migration. Several proposed restoration alternatives envision constructing new tidal channels or culverts to connect the southern edge of Steam Shovel Slough to the oil field area to the south, and Alternative 4 envisions the construction of a new freshwater channel running along its eastern edge. Some alternatives propose removing the fill material on the north and east sides of the slough and replanting with Coastal Scrub while others (Alternatives 1 and 2) recommend no change to this area.

Alternatives for the remainder of the property — the roughly 100 acres south of Steam Shovel Slough — involve constructing an array of culverts, tidal channels, and basins. These would extend those that exist at Steam Shovel Slough (Alternatives 1 and 2) or be independent of the slough and connect to Los Cerritos Channel (Alternatives 4 and 6); if the latter, wetland hydrology would be provided either by a new channel dug along the eastern edge of the property (Alternative 4) or (presumably) via a culvert from the existing Los Cerritos Channel (Alternative 6). Alternatives 3 and 5 would leave the current "connective hydrology" intact, and would simply employ culverts to convey water (presumably from precipitation and local runoff) around the site.

Our recommendations: We recommend leaving the hydrology of Steam Shovel Slough intact as much as possible (i.e., without expanding culverts or creating new tidal channels), to avoid the potential for unforeseen consequences that could either inundate the marsh too frequently or leave it too dry. As for the remainder of the site, we have not seen adequate plant and wildlife surveys to determine the impact of proposed tidal channels, inundation, and dramatic vegetation change as proposed by Alternatives other than 3 and 5. If surveys determine that no sensitive elements are present (rare species, etc.), then creating new tidal channels here, and tidal saltmarsh, would appear to be a positive outcome, and would greatly expand the valuable habitat already provided by Steam Shovel Slough. This could, in turn, enable saltmarsh species present at nearby Alamitos Bay to

colonize; species with potential to move into this area, either naturally or through translocation, include the brant and the light-footed Ridgway's rail.

South Area (south of Second Street/Westminster Avenue)

West side of San Gabriel River (includes City of Long Beach, part of the Bryant Properties, and "LCWA Phase I")

Main habitat types: Seasonal Wetland, Freshwater Marsh, Saltmarsh, Urban/Ruderal, and Riparian.

With three parcels under separate ownership, it is particularly important to establish a coherent restoration vision for this entire 65-acre subarea, especially since at least one of these areas (Bryant Properties along Westminster/Second Street) is still being contemplated for future commercial development. Proposed alternatives recommend creating a tidal connection to the San Gabriel River on the east (Alternatives 1 and 6), creating a second tidal connection on the north (under Studebaker Road; Alternatives 2 and 4), or introducing smaller culverts to convey seasonal precipitation (or more perennial runoff) around the site without tidal connections (Alternatives 3 and 5). As with other subareas, some alternatives would be highly disruptive to the existing habitats (mostly forms of Ruderal habitat), while others, such as Alternative 3, allow for most of the existing elements to remain unchanged.

Our recommendations: In our opinion, the vegetation communities present on the land differ somewhat from those mapped by Tidal Influence (Figure 3-1, Opportunities and Constraints). In particular, the Freshwater Marsh at Marketplace Marsh is mapped as Southern Coastal Brackish Marsh, the same habitat type mapped at various seasonal wetlands around the property [Note: this appears to have been updated/improved with the 2015 Final Conceptual Restoration Plan]. We consider Marketplace Marsh to be unique in the Los Cerritos Wetlands and believe that it should be treated as a separate habitat type, as it supports a completely different and important bird community (e.g., nesting song sparrow and red-winged blackbird, potentially breeding waterfowl). Elsewhere in this subarea, the large expanse in the northeast mapped as Alkali Meadow appears to us to be Ruderal Marsh, or possibly Muted Tidal Marsh, that has grown in with non-native grasses. Whether this area supports native meadow species such as alkali bulrush (*Bolboschoenus maritimus*), or alkali sink species such as various saltbushes (*Atriplex* spp.), is not known, as no survey data exists (or has not been made available to us as of this writing). Were sufficient cover and/or diversity of native species found to be present, we believe the Alkali Meadow area would represent a very high

conservation priority, regardless of whether it was once fully tidal marsh, since this habitat type is now almost eradicated from the Los Angeles Basin, where it was once widespread.

We would also like to see a discussion of the value of the Riparian Scrub habitat at the site. This habitat type is also locally and regionally rare, and supports different suites of plants and wildlife than do the surrounding wetlands and uplands in the conservation area. The Riparian Scrub in this subarea could potentially be expanded or enhanced through restoration, if appropriate. For example, the border between Marketplace Marsh and the adjacent shopping center could be planted with native willows and even cottonwoods that would provide both screening and useful habitat for a variety of native wildlife species. Since the nearest extant areas of Riparian Scrub lie nearly a mile away, however, restoring a small area of Riparian Scrub at Marketplace Marsh probably would not allow any extirpated riparian species to recolonize the area (since those species generally require large expanses of riparian habitat for breeding and foraging). Therefore, devoting some of the low-lying area around Marketplace Marsh to Riparian Scrub could be seen to represent an "opportunity cost" for some type of herbaceous wetland restoration that might produce a better conservation outcome.

East Side of San Gabriel River ("LCWA Phase I", part of the Bryant Properties)

Main habitat types: Saltmarsh and Urban/Ruderal (being restored to Coastal Scrub).

This narrow strip of land separates the San Gabriel River channel from the Haynes Cooling Channel, and is otherwise contiguous to the largest (more than 150-acre) expanse of contiguous open space remaining at Los Cerritos Wetlands, that of the Hellman property/"LCWA Phase II" and the Orange County Flood Control District retention basin. Proposed restoration includes expanding the tidal connection to the San Gabriel River and converting most of this strip to tidal saltmarsh (Alternatives 1, 2, and 4), potentially grading portions of the area to increase tidal coverage (Alternatives 2, 6?), or leaving the surrounding levees intact and focusing on restoration to seasonal (rain-filled) wetland and upland (presumably Coastal Scrub) habitat. Some of this "low-impact" restoration (clearing weeds and planting natives) has already commenced within this subarea.

Our recommendations: Given its proximity to much more extensive open space to the southeast (separated by a narrow "cooling channel"), this strip could contribute meaningfully to the aggregate amount of habitat in the southern half of Los Cerritos Wetlands, expanding the area needed by area-sensitive bird species such as the northern harrier, and providing increased habitat acreage for

extirpated taxa such as the light-footed Ridgway's rail. Ruderal upland habitats, if not inundated by tidal restoration, could be converted to Dune Scrub habitat (with importation of sand) that could support rare plant species (e.g., *Nemacaulis denudata*), and could be managed for nesting California least terns. The area could also form part of a substantial block of Coastal Scrub habitat extending from the existing scrub restoration area near Zedler Marsh southeast toward Gum Grove Park, following the northern base of the bluffs. This would be large enough to support several pairs of California gnatcatchers (if they were to colonize from nearby Bolsa Chica) and would provide useful habitat for a variety of wintering sparrows and other migratory songbirds.

Orange County Flood Control Basin

Current habitat types: Seasonal Wetland and Freshwater Marsh.

Proposed restoration of this large (30-acre) subarea includes planting with grassland and Coastal Scrub species or grading and creation of freshwater wetlands (Alternative 1; map not clear); re-contouring with fill to raise ground level then creating one (Alternative 4 and 6) or two (Alternative 2) tidal openings linking to the "cooling channel"; complete conversion to brackish marsh (Alternative 3), presumably with no fill/tidal connection; and a mixed-habitat approach with both wetland and riparian elements (Alternative 5).

Our recommendations: A substantial amount of high Freshwater Marsh habitat already occurs along an inlet channel in this subarea but is not shown on existing habitat maps. The floor of the basin is one of the largest contiguous blocks of Seasonal Wetland habitat in the entire Los Cerritos Wetlands complex. We are not aware of recent survey information on species use of this area in association with LCWA planning, but this basin is known in the birding community for supporting variably large numbers of waterfowl and shorebirds (e.g., green-winged teal, western and least sandpipers, avocets, dowitchers, yellowlegs) and could potentially support localized and/or declining Freshwater Marsh species as the white-faced ibis, Wilson's snipe, Clark's marsh wren and tricolored blackbird. Brackish, shallow-water wetland habitat is actually limited in the current configuration of Los Cerritos Wetlands. During fall and winter, burrowing owls could use the edges of the basin, and their breeding here is not inconceivable. Large-scale habitat creation here might be problematic; new tidal wetlands would require a considerable amount of fill, with no guarantee that they would function as planned. Coastal Scrub plantings could be done, but might conflict with the low, open profile attractive to waterbirds (present in the existing condition). Management issues, assuming the

basin would remain under the ownership of Orange County Flood Control, combined with the uniqueness and reasonable functionality of the existing habitat, makes this one of the less attractive locations for a dramatic wetland restoration proposal.

LCWA "Phase II"/Hellman property

Current habitat types: Urban/Ruderal, Saltmarsh, Seasonal Wetland and Coastal Scrub.

This subarea includes a diverse mix of intact habitat remnants (especially along tidal channels and where sufficient ground water serves to sub-irrigate Saltmarsh vegetation) as well as highly-disturbed Ruderal habitats, such as mustard fields north of Gum Grove Park. It is also the only area where relict stands of Coastal Scrub remain, mostly confined to the low bluffs at the southwestern corner west of Gum Grove Park. Proposed restoration seeks to use "selective grading" to enhance tidal flow across the majority of the site, either hydrologically unconnected (Alternative 1) or connected (Alternatives 2, 4, and 6) to the Orange County Flood Control basin to the north. The basin would be filled with excavated earth from elsewhere on the property. The remaining uplands would be restored, presumably to Coastal Scrub habitat. Other alternatives (3 and 5) would rely on short culverts strategically placed to improve flow within the subarea, and would add no hydrological connectivity to the Flood Control basin. Eelgrass restoration would be attempted within the "cooling channel" under several proposed alternatives.

Our recommendations: We recognize the importance of restoring the muted-tidal habitats, filled areas, and other ruderal habitats in the Phase II subarea, but also note that this area supports the largest population of the rare Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*) in the Los Cerritos Wetlands conservation area. This species would not thrive with frequent tidal inundation. We would also like to see more detail on the distribution of other rare plants and other species (such as tiger beetles) here, to ensure that existing occupied areas would be avoided (or to have more certainty that they would not be negatively impacted under various alternatives). Given the existing constraints on 9 acres of this area (to remain "raptor habitat", per an agreement with the California Coastal Commission), it might make sense to devote an even larger area of this subarea to Seasonal Wetland habitat (which is heavily utilized by raptors), augmenting the 9 acres mandated. Proper management, starting with rmoval of iceplant and other invasive species, but expanding to regular mowing as needed, could encourage a return of now-rare raptors such as white-tailed kite, ferruginous hawk and burrowing owl to the site (all three persist at Seal Beach NWR to the east).

Gum Grove Park (just outside project area)

Current habitat types: Urban/Ruderal.

Gum Grove Park lies just outside the Los Cerritos Wetlands conservation area, and so has not been treated in the various restoration alternatives presented. As it represents a large block of open space adjacent to even more open space, however, we consider this area crucially important to address.

Our recommendations: We recommend a complete "makeover" of this park, removing all eucalyptus and other non-native trees not currently and regularly used by nesting raptors and/or substantial numbers of wintering monarch butterflies. We suggest that surveys for wintering monarchs and nesting and wintering birds commence immediately. Southern tarweed is also known from this park. Portions of the park that do not serve important ecological functions should be identified and restored to a variety of native habitats, including Coastal Scrub and Coastal Prairie, and, if any seeps/springs exist, Riparian habitats.

APPENDICES

Appendix A. Species Lists

Comment Letter EDAUD

From: Mary Parsell
To: Sally Gee; Sam Schuchat; Andrea JonesAUDUBON
Subject: El Dorado Audubon -- PEIR Comments
Date: Monday, July 6, 2020 1:54:08 PM

El Dorado Audubon Society

June 9, 2020

RE: PEIR Los Cerritos Wetlands

Ms. Sally Gee
LCWA

Dear Sally:

EDAUD-16 Here are some additional comments from El Dorado Audubon. These are in addition to report from Hamilton Biological. Please confirm receipt.

EDAUD-17 We have been involved in the stewardship program since 2007 and have submitted records of birds observed and recorded on ebird.org to the Los Cerritos Wetlands Authority
(Bird species consistent with our records except that we have observed Tri-colored Blackbird in 2015 on the Marketplace Pond, owned by City of LB and visable from Shopkeeper Road.)

EDAUD-18 **Trails:**
Some are limited access with locks. What does this mean? What is the purpose? Is it to protect birds and wildlife?
At Bolsa Chica the trials are open to everyone and any group can lead a walk there. If there is to be a docent program El Dorado Audubon would like to be involved.

EDAUD-19 Dogs and bikes: We do not think that dogs or bikes should be allowed on the Los Cerritos Wetlands trails. People coming off the San Gabriel River bike path need to park and lock the bikes and walk the trails.

EDAUD-20 Picnic tables We are not in favor of picnic tables in the Los Cerritos Wetlands. As an example, many school kids visit San Joaquin Marsh in Irvine, CA but they have their lunches off-site.

EDAUD-21 **Public Parks in the area:**
Sim's Pond is not a public park. It is a biological reserve owned by the City of Long Beach, observation of pond's birds and other wildlife is from the sidewalk fence outside. Sidewalk is along Pacific Coast Highway and Loynes Dr.

Sincerely,

Mary Parsell
President
El Dorado Audubon

mfp2001@hotmail.com

El Dorado Audubon, June 9, 2020 and July 6, 2020

Comment Letter EDAUD

Response EDAUD-1

This commenter acknowledges receipt of the Draft PEIR by El Dorado Audubon Society. This commenter provides a summary of commenter's prior work with El Dorado Audubon Society and does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted. Specific comments regarding the Draft PEIR are provided and responded to below.

Response EDAUD-2

This commenter expresses concerns that Stein et al. 2007 was not used as a reference for the PEIR. The restoration designs in the PEIR are based upon the alternatives presented in the LCWA's Conceptual Restoration Plan which references Stein et al. 2007 throughout. Furthermore, Section 3.3 of the PEIR references Tidal Influence 2012 which presents historical ecology data and perspectives from not only Stein et al. 2007 but also from Grossinger et al. 2011. *Historical Wetlands of the Southern California Coast: An Atlas of US Coast Survey T-sheets, 1851-1889.* Dr. Eric Stein has been a member of the LCWA's Technical Advisory Committee throughout the planning process.

Response EDAUD-3

The commenter expresses concern about the location of the required 9.2-acre raptor foraging habitat area. In response, the 9.2-acre raptor foraging area has been relocated to the approved triangular shaped area indicated in *Hellman Ranch Raptor Foraging Habitat. 2001. Prepared by Glenn Lukos Associates, for John Laing Homes. August 2001. 9 pages.* See Section 2.7.2.2 and **Figure 2-12***, Proposed South Area Near-Term Restoration*, of the Draft PEIR. This location will not overlap with public access facilities and will include a mixture of transition zone and tidal marsh habitat. The details of this area's monitoring will be determined during the coastal develop permitting process. The proposed grassland is now indicated as transition zone and is expected to be a mix of upper marsh, coastal scrub and saline depressional wetlands similar to alkali meadow. The plant palette and habitat distribution of this area will be determined during the project level design effort for the South LCWA site.

Response EDAUD-4

The commenter expresses continuous concerns about the location of the required 9.2-acre raptor foraging habitat area as mentioned in EDAUD-3 above. In response, the 9.2-acre raptor foraging area has been relocated to the approved triangular shaped area indicated in *Hellman Ranch Raptor Foraging Habitat. 2001. Prepared by Glenn Lukos Associates for John Laing Homes. August 2001. 9 pages*, as described in Response to Comment EDAUD-3. The details of this area's trail and recreational use will be determined during the coastal development permit process. No decision regarding parties responsible for conducting docent tours has been made and El Dorado Audubon will be welcomed to participate.

Response EDAUD-5

The commenter expresses concern for the unlikely success of native grassland restoration projects, at least within the 9.2-acre area mentioned in EDAUD-3 and EDAUD-4 above. In response, the mention of native grassland and the proposed grassland is now indicated as transition zone which is expected to be a mix of upper marsh, coastal scrub and saline depressional wetlands similar to alkali meadow (see Section 2.7.2.2). The plant palette and habitat distribution of this area will be determined during the project level design effort for the South LCWA Site.

Response EDAUD-6

The commenter expresses that alkali meadow should be restored instead of native grassland. The proposed native grassland location is now indicated as transition zone and is expected to be a mix of upper marsh, coastal scrub and saline depressional wetlands similar to alkali meadow. The plant palette and habitat distribution of this area will be determined during the project level design effort for the South LCWA Site. For the purposes of the PEIR, alkali meadow habitat is considered as a transitional zone habitat type as it is often found around the fringes of coastal salt marsh. It should be noted that historically alkali meadows were not found within the program boundary and those that existed within the watershed were alkaline systems that functioned with very different chemistry based on different groundwater dynamics found further inland. However, plant communities do exist within the program boundary currently that resemble alkali meadows and these communities can be enhanced/created in transitional areas but will be more saline in their chemistry due to tidally influenced groundwater as opposed to inland alkaline systems.

Response EDAUD-7

The commenter expresses concern about public access impacts on the alkali meadow/raptor foraging area. In response the 9.2-acre raptor foraging area has been relocated to the approved triangular shaped area indicated in *Hellman Ranch Raptor Foraging Habitat. 2001. Prepared by Glenn Lukos Associates for John Laing Homes. August 2001. 9 pages.* See Section 2.7.2.2. This location will not overlap with public access facilities and will include a mixture of upland, transition zone and tidal marsh habitat. The PEIR provides the largest potential footprint for public access facilities in order to quantify the maximum potential impacts from public access on biological resources. The dashed lines in **Figure 2-16**, *South Area, Near Term Public Access*, of the Draft PEIR indicate "New Restricted Access Trail (Guided)" which means these trails will not be open to the general public for day use activities. Only one trail for public day use is indicated.

Response EDAUD-8

The commenter expresses the merits of restoring alkali meadow habitat with special-status plant species, especially southern tarweed (*Centromadia parryi* ssp. *australis*), and Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), which are both present within the restoration program area. In response, the area in question is now indicated as transition zone which will include saline depressional wetlands similar to alkali meadows once found along the tidal fringes of the San Gabriel River watershed. The plant palette details of this habitat will be determined during the project level design effort for the South LCWA Site. The two special-status plant

species, southern tarweed and Coulter's goldfields, will both be incorporated into the overall restoration program.

Response EDAUD-9

The commenter suggests the "Low" potential for occurrence ranking in regards to the CNPS-ranked Vernal Barley (*Hordeum intercedens*) may not be accurate, based on a local report of this species being present within alkali meadow habitat. In response, this ranking has been changed to "Present" and a description of the anecdote provided by the commenter has been included in Section 3.3.3, and **Table 3.34**, *Special Status Plant with the Potential to Occur within the Program Area,* of the Draft PEIR.

Response EDAUD10

The commenter raises concern that the Mitigation Measure BIO1 will not be sufficient to reduce impacts to special-status plant species potential restoration activities involving mass grading. As requested by the commenter, Mitigation Measure BIO1 has been revised. Please see Chapter 3.3 Biological Resources, Section 3.3.5 Project Impacts and Mitigation Measures for revisions to the Draft PEIR.

Surveying timing has been modified in the mitigation measures to provide baseline species information prior to the design of phased restoration plans. Please see Responses to Comments Nos. CDFW-2 and CDFW-3 for more specific details regarding biological survey timing. Please also see Response to Comment No. LCWLT-11 regarding survey timing specific to special-status plants and Response to Comment No. LCWLT-12 regarding survey timing in general for biological resources.

Response EDAUD-11

The commenter expresses that the PEIR should explain why alkali meadow is ignored by the proposed restoration alternatives. In response, the formerly proposed 10 acres of grassland has been removed from the project description and is now indicated as transition zone (see Chapter 2). The plant palette details of this habitat will be determined during the project level design effort for the South LCWA Site. Furthermore, it is expected that the "alkali meadow-like" plant communities will be restored along the edges of all salt marsh areas, especially where freshwater influence exists. The potential for other areas to be restored as plant communities that resemble alkali meadows will be determined during project level habitat restoration design.

Response EDAUD-12

The commenter expresses concern about perpetuating the idea that the project site is part of the known or expected range of the Red Diamond Rattlesnake. This concern is already addressed within Chapter 3.3 Biological Resources, Section 3.3.2.5, of the Draft PEIR where it is stated that "Red diamond rattlesnake has been documented on site (Tidal Influence 2012), but only one individual was observed and may have been an unauthorized release." The suspected introduction nature of this species occurrence has been revised in the PEIR.

Response EDAUD-13

The commenter concludes the comment letter but does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response EDAUD-14

The commenter included an email introduction for the submitted comment letter but does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted. Responses to the referenced letter are provided above in Responses to Comments Nos. EDAUD-1 to EDAUD-13.

Response EDAUD-15

The commenter does not include an applicable document referenced from the submitted comment letter. It does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted. The commenter is thanked for providing the reference, *A Conservation Vision for the Los Cerritos Wetlands, Los Angeles County/Orange County, California*, prepared by D.S. Cooper and R.A. Hamilton for Audubon California. October 27, 2015.

Response EDAUD-16

The commenter states the comments supplement those submitted in the El Dorado Audubon comment letter written by Robert Hamilton. It does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted. Responses to the referenced El Dorado Audubon letter are provided above in Responses to Comments Nos. EDAUD-1 to EDAUD-13.

Response EDAUD-17

The commenter states that the tri-colored blackbird has been observed as recently as 2015 within the program boundary. Chapter 3.3 Biological Resources, Section 3.3.2.5 has been amended to indicate the presence of this species within the program boundary.

Response EDAUD-18

The commenter asks for clarification on the meaning of trails that have "limited access with locks" and indicates that at Bolsa Chica the trails are open to everyone. The PEIR proposes that some trails will only be open for restricted use either for maintenance or for access to other land use areas. The trails open for day use by the general public are located in areas where public access will not impact birds and wildlife. No decision regarding parties responsible for conducting docent tours has been made and El Dorado Audubon will be welcomed to participate.

Response EDAUD-19

The commenter expresses concern for use of trails by dogs and bikes. This comment is noted and will be taken into consideration when the LCWA is developing guidelines for visitor use.

Response EDAUD-20

The commenter expresses concern for picnic tables in the Los Cerritos Wetlands. This comment is noted and will be taken into consideration when the LCWA is developing guidelines for visitor use.

Response EDAUD-21

The commenter expresses that Sims' Pond is not a public park. **Figure 2-9**, *General Plan Designations*, of the Draft PEIR indicates Sims' Pond as "open space," consistent with the biological reserve status mentioned in the comment.

Comment Letter LCWLT

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July 6, 2020

By U.S. Mail and Email: sgee@rmc.ca.gov

Ms. Sally Gee
Los Cerritos Wetlands Authority
100 N. Old San Gabriel Canyon Road
Azusa, CA 91702

Re: Draft Programmatic Environmental Impact Report and Selection of Alternatives for the Los Cerritos Wetlands Restoration Plan

Dear Ms. Gee,

LCWLT-1

These comments are submitted on behalf of Los Cerritos Wetland Land Trust ("LCWLT") in connection with the draft programmatic environmental impact report (DPEIR) prepared for the Los Cerritos Wetlands Restoration Plan ("Project"). LCWLT has spent more than a decade educating and advocating for the protection and restoration of Los Cerritos Wetlands. The Los Cerritos Wetlands Authority (LCWA's) Los Cerritos Wetlands Restoration Plan presents a once-in-a-lifetime opportunity for comprehensive planning of the restoration of Los Cerritos Wetlands as well as to attract funding for important restoration pilots, activities and projects. The restoration of the Los Cerritos Wetlands is one of LCWLT's primary goals, and LCWLT appreciates the opportunity to comment on the Project and its environmental review at an early stage of development.

These comments are organized to address high level Project-related comments in the body of the letter. Specific comments concerning the inadequacies of the DPEIR are largely relegated in the Appendix. LCWLT aims to continue working with the Authority and its experts to maximize the value of the DPEIR to inform restoration options while at the same time clarifying the limitations of the DPEIR under CEQA. LCWLT welcomes the opportunity to discuss these comments with the Authority and to explore a path forward for the Final EIR and ultimately, approval of the Los Cerritos Wetlands Optimized Restoration Plan.[1]

[1] The Project Description section zeroes in on the focus of this DPEIR – specifically to provide information for an Optimized Restoration Plan, and environmental support for its adoption following additional work and public input. See Section 2.8 Required Approvals.

LCWLT has concluded that the DPEIR contains valuable information about a wide range of opportunities for restoring Los Cerritos Wetlands. For certain portions of the wetlands and certain planned activities, the DPEIR has limited value for purposes of environmental review pursuant to the California Environmental Quality Act (CEQA). Specifically, the DPEIR contains many deficiencies that render it inadequate under CEQA for all but the most environmentally benign projects. These deficiencies are enumerated in the attached appendix. If the EIR was not being presented for certification, LCWLT would have no objections to the document. Unfortunately, CEQA permits the Authority to rely on a certified EIR as the basis for future project, pilot and other entitlements. As the document is not specific as to the activities covered, LCWLT is concerned about the PEIR's use for activities whose environmental impacts have not been adequately disclosed, analyzed, or mitigated. In this instance, the DPEIR lacks clarity about the covered activity (the Optimized Restoration Plan) and instead suggests that any and all pilots, projects and activities listed in the DPEIR could be covered by the DPEIR, subject to project by project review.[2] There is no guarantee of future environmental analysis for projects not adequately analyzed in the DPEIR. As a practical matter, the lack of specificity regarding what the DPEIR "covers" is likely to result in confusion as to what activities are covered, and may lead to uncertainty, wasted time, wasted resources, and CEQA abuses. Given the absence of specific Project descriptions and site information in the DPEIR, the lack of a wetlands delineation, and deficiencies in the biological resources analysis, the document fails to provide a sufficient program or project-level analysis under CEQA for all but the most benign projects.[3]

LCWLT-1 Cont.

LCWLT appreciates the DPEIR's exploration of an alternative that would restore tidal flow to the Central Area of the Project from areas located above 2nd Street. The DPEIR's discussion of this alternative should be expanded and recirculated, or in the alternative, be revised to acknowledge the merits of this alternative and to commit to further exploration as part of the range of alternatives separate from this DPEIR. The DPEIR recognizes that this alternative would satisfy Project objectives by maximizing the area available for wetland restoration – the Project's overarching purpose. The alternative would minimize the area needed for berms and seawalls. Important for CEQA compliance, many of the Project's significant and adverse environmental impacts would be "substantially lessened" under such an alternative. Shorter berms would reduce significant environmental impacts, as smaller berms would require less ground disturbance, grading, movement of materials, truck traffic and disruption of habitat. Shorter berms would also limit the adverse aesthetic impacts presented by walls that would otherwise reach up to 18 feet in height. Thus, an alternative restoring tidal flow to

[2] See e.g., both Introduction and Executive Summary of the DPEIR.

[3] Projects that may proceed without additional environmental review are likely those that either have only beneficial impacts, are already adequately covered by a separate EIR and/or are already allowed by-right. The DPEIR may be sufficient to support revision and adoption of the Optimized Restoration Plan with additional information and analysis described herein.

LCWLT-1 End

the Central Area through conduits run below 2nd Street would have beneficial impacts on biological resources, air quality, traffic, and aesthetics, at the very least.

I. The DPEIR is Unclear About the Covered Actions.

The DPEIR is clear that the purpose of the Los Cerritos Wetlands Restoration Plan is the long term restoration of wetlands, habitat, and tidal flow, while increasing public access and appreciation. However, that is where the clarity ends. The Introduction, Executive Summary and Project Description sections of the DPEIR inconsistently describe the "project" covered by the DPEIR. Only the Project Description zeroes in on the Los Cerritos Wetlands Optimized Restoration Plan as the focus of the DPEIR. The Project, as described throughout the DPEIR, would involve a variety of activities and large amounts of earth moving over 503 acres of land held by ten landowners. Activities would include "remediation or containment of contaminated soil and groundwater, grading, revegetation, construction of new public access opportunities (including trails, visitor center, parking lots, and viewpoints), construction of flood management facilities (including earthen levees and berms, and walls), modification of existing infrastructure and utilities, and integrating experimental actions and research into the proposed program." (DPEIR p. 2-27.) The DPEIR is vague on details, however, in order to "accommodate existing and future potential changes in land ownership and usage…funding." (DPEIR p. 2-30.) The DPEIR notes, "the timing of construction at each site is dependent on multiple variables, including property transfers, removal of oil infrastructure, and related facilities, availability of funding, and permit approvals." (*Ibid*.)

LCWLT-2

As to actual activities and what will happen on which part of the wetlands, when, little information is included. An EIR's purpose is to eliminate this confusion:

> The CEQA process is intended to be a careful examination, fully open to the public, of the environmental consequences of a given project, covering the entire project, from start to finish. This examination is intended to provide the fullest information reasonably available upon which the decision makers and the public they serve can rely in determining whether or not to start the project at all, not merely to decide whether to finish it. The EIR is intended to furnish both the road map and the environmental price tag for a project, so that the decision maker and the public both know, before the journey begins, just where the journey will lead, and how much they-and the environment-will have to give up in order to take that journey.

(*NRDC v. City of Los Angeles* (2002) 103 Cal.App.4th 268, 271.)

LCWLT-2 Cont.

While the DPEIR includes a litany of possible actions and activities at each given site, it does not clarify which specific actions would be authorized by the Authority's approval of the Project and certification of this EIR. On the contrary, the Introduction, Executive Summary, and Project Description are inconsistent about the environmental review that may occur in the future before steps are taken toward Project implementation. These inconsistencies will cause confusion regarding both the activities covered by the EIR and the need for future environmental review. Even if CEQA abuses are avoided, confusion over the specific purpose of this EIR will waste time and resources better spent restoring the wetlands. It makes sense that future actions may have less definition, given the uncertainty about future land uses and ownership. However, the DPEIR does not list which actions and activities, if any, can happen without additional environmental review.

For example, some Project activities are part of the Beach Oil Minerals Project and have already been approved with project-level environmental review. The DPEIR does not make this clear. Instead, the Executive Summary provides, "This Draft PEIR would support permit applications, construction contracts, and other actions required to implement the proposed program and to adopt mitigation measures that are intended to reduce or eliminate significant environmental impacts." (DPEIR, section 1.1.) A reader could interpret this to mean that the Program EIR will authorize all Project activities without further review. In the next sentence, the DPEIR contemplates CEQA review, but does not commit to it:

> This PEIR serves as a first-tier environmental document that focuses on the overall effects of implementing the activities that make up the proposed program. As a first-tier environmental document, this PEIR will serve as the foundation for subsequent CEQA analysis (e.g., Project level EIRs, addendums) which *may* be conducted for project-specific restoration designs.

(*Ibid*, emphasis added.) The DPEIR's Project Description takes a similar tack, noting:

> Subsequent to the preparation of this DPEIR, LCWA may develop more detailed designs that would serve to implement the proposed program activities…As individual restoration projects are fully developed, LCWA would conduct CEQA analysis for individual projects as appropriate *or may determine that no additional CEQA analysis is requ*ired.

(DPEIR p. 2-83, emphasis added.) The Project Description repeats this at page 2-1: "As a first-tier environmental document, this PEIR will serve as the foundation for subsequent CEQA analysis (e.g., project-level EIRs, addendums) which *may* be conducted for project-specific restoration designs." (DPEIR p. 2-1, emphasis added.) The Introduction,

by contrast, is clear that some Project activities could go forward without additional review:

LCWLT-2 Cont.

> If the environmental effects resulting from an action are fully covered by the analysis in this PEIR and no new mitigation measures are required, then the action is within the scope of this PEIR, and no additional environmental documentation is necessary (CEQA Guidelines Section 15168(c)(2)). I

(DPEIR, section 1.3.4.)

Another section of the Project Description indicates that this DPEIR is meant to inform the finalization of the Los Cerritos Wetlands Optimized Restoration Plan, not to authorize any immediate construction. Page 2-1 reads, "After the PEIR, the Los Cerritos Wetlands Optimized Restoration Plan will be developed. The restoration design presented in the Los Cerritos Wetlands Optimized Restoration Plan will be informed by this PEIR and public input."

LCWLT supports a scenario wherein the DPEIR will only inform the development of the Los Cerritos Wetlands Optimized Restoration Plan. However, LCWLT is concerned that project activities may go forward without additional, detailed, project descriptions and future, adequate CEQA review. The DPEIR must be revised to make any tiering clear and to clarify which Project activities, if any, can proceed without additional CEQA review. The Authority cannot wait until a future Project-related activity is proposed or funded, and then decide if additional CEQA review is required. Based on LCWLT's review of the DPEIR and its lack of specificity, it appears that the only DPEIR-described activities that can move forward without additional CEQA review are likely those that been the subject of a separate certified environmental document and/or are exempt from CEQA altogether. LCWLT is not reassured by the DPEIR's statements that proposed projects would be individually reviewed to determine whether additional environmental review is needed in the future.

The Authority's use of a program EIR, as opposed to a project-specific EIR, does not excuse the obligation to provide clear and detailed information to the public. "The ultimate inquiry . . . is whether the EIR includes enough detail 'to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project.' " (*Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502, 516.) As circulated, the DPEIR does not include the requisite detail.

The Court of Appeal provided recent guidance about the distinctions between program and project EIRs:

> Designating an EIR as a program EIR . . . does not by itself decrease the level of analysis otherwise required in the EIR. [I]n considering a challenge to a program EIR, 'it is unconstructive to ask whether the EIR provided 'project-level' as opposed to 'program-level' detail and analysis. Instead, we focus on whether the EIR provided 'decisionmakers with sufficient analysis to intelligently consider the environmental consequences of [the] project.'

LCWLT-2 End

(*Cleveland National Forest Foundation v. SANDAG* (2017) 17 Cal.App.5th 413, 426.). Even if more precise information may be available during project-specific review, the Authority "must still provide reasonably obtainable information, or explain (supported by substantial evidence) why it cannot do so. '[I]f known impacts are not analyzed and addressed in a program EIR, they may potentially escape analysis in a later-tier EIR.' (Forest Foundation, supra, 17 Cal.App.5th at p. 440.)" (*Golden Door v. County of San Diego* (2020) Slip. Opinion, pp. 101-102.)

LCWLT supports efforts to restore the wetlands, but CEQA requires that the activities involved in these efforts be clearly delineated for public understanding. Due to the absence of clear information about the future activities covered by this Program EIR, LCWLT felt it incumbent to exhaust its administrative remedies as required by CEQA. (See Attachment 2.)

II. The Authority Should Consider and Expand the DPEIR's Discussion of the Alternative of a Tidal Connection Below 2nd Street to the Central Area for Inclusion in the Optimized Restoration Plan.

"One of [an EIR's] major functions . . . is to ensure that *all reasonable alternatives* to proposed projects are thoroughly assessed by the responsible official." (*Laurel Heights Improvement Ass'n. v. Regents of the University of California* (1988) 47 Cal. 3d 376, 400.) LCWLT urges the Authority to consider an alternative that avoids immediate action on the Long Beach City property portion of the Central Area and ultimately restores tidal flow to the area via conduits running below 2nd Street. An example of this alternative is provided in Figure 5-3 of the DPEIR (CRP Alternative 3 – Maximum Alteration, See Attachment 1).

LCWLT-3

Under this alternative, the Authority would make the interim berm between the Long Beach City Property and the LCWA Central property permanent. Restoration work planned for the LCWA and Bryant sites could proceed. However, the Authority would wait to restore tidal flow to the Long Beach City property. Once tidal flow has been restored to the Synergy property via the lower channel, tidal flow could be brought under 2nd Street to the Long Beach City Property. Steamshovel Slough and the restoration work

already planned for that portion of the Project would not be affected. Again, the wetlands restoration planned for the LCWA property and Bryant portion of the Central Area, where berms and floodwalls would have reduced aesthetic impacts, could continue.

LCWLT-3 Cont.

This alternative presents several advantages:

- First, the alternative would not disrupt near term restoration plans for the Isthmus, South, and North areas, or those planned for the LCWA and the Bryant portions of the Central area.

- Second, it eliminates the need to breach the San Gabriel River levee to restore tidal flow to the Long Beach City property, preventing the project's greatest risk for increased flooding on adjacent roads and private property.

- Third, it eliminates the need for 120-foot-wide, 15-foot-tall berms or 18-foot-tall flood walls for flood protection. Restoring tidal flow to the Long Beach City property in the Central area via the Los Cerritos Channel requires flood protection, but the distance and the large amount of available land for water flow between the channel and the property permits the use of shorter and smaller berms.

- Fourth, it would improve wetland connectivity by joining a larger area of wetland between the Colorado Lagoon, Alamitos Bay, the Los Cerritos Channel, and both sides of 2nd Street.

- Fifth, shorter berms would reduce the aesthetic impact. The City of Long Beach's Southeast Area Specific Plan includes graphics depicting beautiful views of the wetlands. If the Central area is developed as proposed in the DPEIR, residents and visitors to Long Beach will never see these views. Instead, the beloved Los Cerritos Wetlands will be walled off with vegetated berms or sea walls that rise as tall as buildings along Pacific Coast Highway, 2nd Street, and Shopkeeper Road.

- Sixth, this alternative makes sense from an environmental impact standpoint. Along with the reductions in aesthetic impacts, the use of smaller berms or sea walls would reduce impacts related to construction, air quality, and ground disturbance. The Proposed Project would require 191,000-263,000 cubic yards of cut and fill in the Central area, alone, most of that for construction of the perimeter levee. (DPEIR p. 2-70.) Smaller berms would need less earth movement.

- Seventh, and most important, the reduction in berm heights (and therefore, necessary widths) would maximize the amount of land available in the Central Area for wetland restoration.

- Eighth, flow restoration from the Los Cerritos Channel and North Area, which already have wetlands species, may enhance seeding and the spread of native species to the Central area. Flow from the North Area, as opposed to that from the San Gabriel River, would also eliminate the likelihood that the river's contamination and trash could diminish water quality and habitat in the Central Area.

LCWLT-3 Cont.

Not inconsequentially, this alternative would provide more flexibility in the placement of the Beach Oil Minerals pipeline installation, flexibility that will be necessary to meet the Coastal Commission's special conditions.

The DPEIR endorses the view that this alternative satisfies the Project objectives and could reduce environmental impacts, the very purpose of a CEQA alternative. (Pub. Resources Code s. 21002.1) The DPEIR agrees that the restoration of a tidal connection from Steamshovel Slough to the Central Area "meets the program objectives because it would restore tidal wetland processes and functions and maximize contiguous habitat areas and buffers." (DPEIR p. 5-21.) While LCWLT would prefer a connection that avoids Steamshovel Slough, the same conclusions would apply to tidal restoration via the lower Los Cerritos Channel breach in at the Synergy property. As to levees, the DPEIR notes, "The footprint of the levee for this alternative would take up less space than the footprint of the levee in the proposed program, because the existing flood protection along the Los Cerritos Channel is not as high as the flood protection along the San Gabriel River. The smaller footprint would provide additional space for wetland restoration compared to the proposed program." (DPEIR p. 5-21.) Thus, this alternative would meet the Project objectives *to a greater degree than the proposed Project*.

The DPEIR further agrees that this alternative would likely reduce the Project's significant air quality impacts "because a substantially lower amount of fill may be moved on-site" and would cause fewer impacts to existing biological resources. (DPEIR p. 5-21.)

Despite these clear benefits, the DPEIR rejects this alternative due to the claim that it is infeasible. (DPEIR p. 5-21.) The alternative could not occur until the Los Cerritos Wetlands Oil Consolidation and Restoration Project has removed wells from the North Area and the Long Beach City Property, which is not expected to be complete for 20 years. However, the DPEIR is explicit that, "If the timing of that project were to change, this alternative could be considered feasible." (*Ibid*.) The DPEIR forgets that the Los Cerritos Wetlands Restoration Project is a long-range plan. Large portions of the Project, including the restoration planned for the North Area, will not be occurring within the next 20 years, anyway. This is true for portions of the Central Area, which are listed

as "Long Term (20 + years)." (DPEIR p. 2-69.) The DPEIR admits it was designed for maximum flexibility to "accommodate existing and future changes in land ownership and usage" and funding. (DPEIR p. 2-30.) Thus, the Authority's rejection of this alternative because it cannot occur *immediately* lacks substantial evidence.

LCWLT-3 Cont.

Notably, the City of Long Beach has not yet completed its Climate Action and Adaptation Plan. A report will be given at the June 25, 2020 City Council meeting, but no documents have been made public. The Authority is already aware that large portions of the site and surrounding areas will experience sea level rise during the implementation of the Project. Thus, before the Authority commits to a program that will breach the existing San Gabriel River levee, it is incumbent that the City of Long Beach review the implications in its Climate Action and Adaptation Plan. If the Authority delays breaching the San Gabriel River levee, the plans can be harmonized such that the Restoration will not jeopardize Long Beach's sea level rise adaptation strategy. Given that sea level rise will inundate larger portions of the Project site in the future, without the breach, the City of Long Beach and the Authority may decide that breaching the River levee is neither practical nor desirable. The Long Beach City property may be needed for sea level rise protection. The interplay between Long Beach's Climate Action and Adaptation Plan and this Restoration Plan must be explored.

The DPEIR also rejects this alternative because it would require creating a tidal connection under 2nd Street, "either through a set of culverts or by building a bridge or causeway over an open channel." (DPEIR p. 5-21.) The DPEIR claims, "This would result in extensive construction and transportation impacts." (*Ibid*.) While this may be correct, the DPEIR contains no analysis in support of the idea that 2nd Street construction would have more extensive environmental impacts than the construction of giant berms or sea walls and the elimination of wetland habitat. On the contrary, if sea level is going to rise, it is likely that the level of 2nd Street will need to be raised to avoid inundation. Construction and disturbance will be required, anyway, at some future point. Perhaps when 2nd Street is raised, it can become the berm that would otherwise be constructed. This would avoid the aesthetic, air quality, and biological resources impacts of unnecessary berms and walls. It is also possible that the culverts connecting tidal flow beneath 2nd Street could be constructed at the time 2nd Street is raised to avoid sea level rise.

As it satisfies the requirements of a CEQA alternative, and as the Authority has not provided substantial evidence for its rejection, LCWLT urges the Authority to expand its discussion of an alternative that implements the Central Area restoration but delays implementation on the Long Beach City Property until tidal flow can be restored below 2nd Street. This alternative satisfies the Project objectives to a greater degree than the proposed Project, would reduce significant environmental impacts, and permits alignment

between the Los Cerritos Wetlands Restoration Plan and Long Beach's Climate Action and Adaptation Plan that would otherwise be foreclosed. Once expanded, the DPEIR's discussion should be recirculated. In the alternative the DPEIR should be revised to acknowledge the merits of this alternative and to commit to further exploration of it as part of the range of alternatives separate from this DPEIR, for example, in the Optimized Restoration Plan.

LCWLT-3 End

III. Additional Concerns of the LCWLT.

LCWLT-4

LCWLT has been unable to locate a wetlands delineation for the restoration area. Thus, it appears that the DPEIR was prepared without reference to a wetlands delineation. A wetlands delineation is critical to resolving both biological and jurisdictional issues of this Project. The circulation of a DPEIR prior to the completion of a wetlands delineation puts the cart before the horse.

LCWLT-5

The DPEIR hydrology analysis recognizes the diminished water quality of water flowing through the San Gabriel River. The potential impacts of this water must be explored in much greater detail moving forward.

LCWLT-6

LCWLT is further concerned about the treatment of oil wells in the restoration area. For example, wells operated by Signal Hill Oil will remain in the Central Area, even after full restoration, but wells from other companies have been removed. The full removal and proper abandonment of wells is critical to restoration of a maximum amount of the Project site. There are also wells on the Hellman Ranch property that have been idle since 1928 but have not been officially abandoned. (See, https://www.latimes.com/projects/california-oil-well-drilling-idle-cleanup/map/.). LCWLT requests information the Authority has about the number of wells located on the property, number sealed off in the last ten years, and the number that are idle.

LCWLT-7

The LCWLT also seeks the Authority's rationale for excluding the Hitchcock property from the Project. As the Restoration Project includes private property such as the Hellman Retained site and the Bryant site, the private nature of the Hitchcock site does not appear to be the barrier. The California Coastal Commission has recognized the importance of the site's upland habitat; its inclusion in the Plan should be considered. (See, Attachment 3.)

Conclusion

LCWLT-8

The DPEIR contains valuable information about some of the options available for restoration in the wetlands, it is not adequate as an information document under CEQA. The document must be revised to clarify which activities the Authority believes are

LCWLT-8 Cont.

covered by this EIR and which activities will require further environmental review. LCWLT encourages the Authority to limit the use of the DPEIR to support refinement of the Los Cerritos Wetland Optimized Restoration Plan, assuming additional analysis of alternatives recommended herein, inclusion of those alternatives, and robust public engagement in the process. The DPEIR must also be revised to thoroughly explore an alternative that brings tidal flow to the Central Area below 2nd Street while avoiding the aesthetic, construction, and air quality impacts of the tallest berms. If not done in the DPEIR, the Authority should commit to further exploring this alternative when it finalizes the Los Cerritos Wetlands Optimized Restoration Plan. Finally, the Authority and its team must perform the studies and analysis needed to adequately disclose, analyze, and mitigate the Project's likely impacts on wildlife and sensitive species. This information must be included in a revised DPEIR and recirculated for public comment.

LCWLT supports a path forward consisting of the following steps:

1. Authority responds to comments and revises the text of the DPEIR. The revised document will clarify:

    a) The PEIR is intended to inform the Los Cerritos Wetlands Optimized Restoration Plan and not to provide environmental review for activities (projects, pilots and other activities) listed in detail in the DPEIR;

    b) The PEIR will reclassify the alternative for the Central Area discussed above as an alternative for incorporation into the Los Cerritos Wetlands Optimized Restoration Plan; and

    c) The only restoration projects or activities listed in the PEIR that may proceed are those that have been fully addressed by a certified EIR and/or any activities that are otherwise exempt from CEQA. Any other projects, pilots or activities cannot rely on the PEIR for other than general background information for cumulative impacts. The document cannot be relied upon for full analysis of the impacts of these projects.

2. If the Authority certifies the PEIR, it will be for the purpose of informing the drafting of the Los Cerritos Wetlands Optimized Restoration Plan.

3. Once finalized and certified, the PEIR and additional information as needed (e.g., on the LCWLT alternative for the central area) should be used to inform an Optimized Restoration Plan, including, as warranted, a description of alternatives that are extended to a longer term phase and need further study.

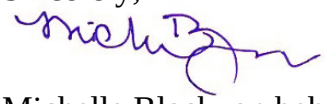
4. The Optimized Restoration Plan draft will be the subject of public review. To the extent additional environmental review is needed to adopt the Optimized Restoration Plan, this review should be occur.

LCWLT-8
End

5. The PEIR and the Optimized Restoration Plan, once completed, will have value to guide and inform projects, pilots, activities. However, any of those projects, pilots and activities not fully addressed in another certified environmental document or that otherwise would be exempt from CEQA will require additional environmental review unless large-scale revisions are first made to this DPEIR.

LCWLT looks forward to continued cooperation with the Authority as the Los Cerritos Wetlands Restoration Project moves forward and as the Authority finalizes the Los Cerritos Wetlands Optimized Restoration Plan. Thank you for the opportunity to comment.

Sincerely,



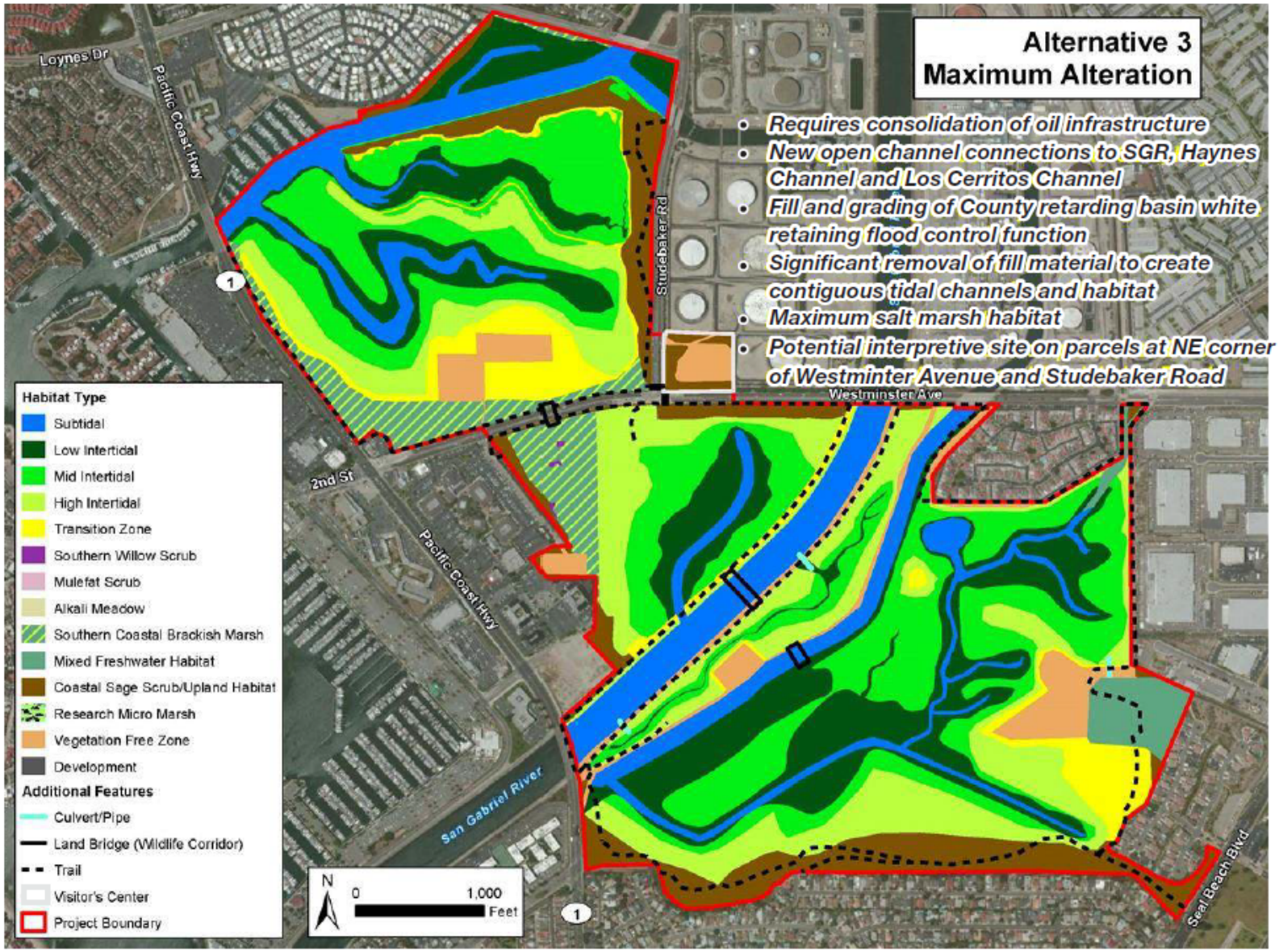
Michelle Black, on behalf of
Los Cerritos Wetlands Land Trust

Attachments:

1. DPEIR Figure 5-3, CRP Alternative 3 – Maximum Alteration
2. Appendix of Deficiencies Identified in Draft Environmental Report
3. California Coastal Commission Staff Report, available at https://documents.coastal.ca.gov/reports/2012/3/Th13a-3-2012.pdf

LCWLT-9

ATTACHMENT 1



SOURCE: Moffatt & Nichol, 2019
NOTE: Figure 5-3: Habitat types listed include all those proposed for Alternatives 1-3. Alternative 3 does not include the restoration of Research Micro Marsh or Mulefat Scrub.

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 5-3
CRP Alternative 3 – Maximum Alteration

ESA

LAX D170537.00 - Los Cerritos Wetlands Restoration Program EIR 05 Graphics GIS-Modeling/Illustrator

ATTACHMENT 2

ATTACHMENT 2

Appendix: Deficiencies Identified in Draft Environmental Impact Report

If approved, the Project would authorize a variety of construction projects related to habitat restoration, the restoration of tidal flow, stormwater management, earthwork, grading, parking lot construction, levee, berm, and flood wall construction, soil import, soil export, revegetation, levee breaching, and soil remediation. Of greatest concern, the DPEIR fails to provide sufficient baseline information about the Project site and the specific Project activities and entitlements that would be authorized or approved by the certification of the Program EIR. Additionally, the DPEIR fails to fully disclose, analyze, and mitigate the Project's impacts on the biological resources of Los Cerritos Wetlands as required by the California Environmental Quality Act.

I. General CEQA Requirements.

LCWLT-10

The California Environmental Quality Act (CEQA) serves two basic, interrelated functions: ensuring environmental protection and encouraging governmental transparency. (*Citizens of Goleta Valley v. Bd. of Supervisors* (1990) 52 Cal. 3d 553, 564.) CEQA requires full disclosure of a project's significant environmental effects so that decision-makers and the public are informed of these consequences before the project is approved, to ensure that government officials are held accountable for these consequences. (*Laurel Heights Improvement Ass'n of San Francisco v. Regents of the University of California* (1988) 47 Cal.3d 376, 392.) The environmental impact report (EIR) process is the "heart of CEQA" and is the chief mechanism to effectuate its statutory purposes. (*In Re Bay-Delta Programmatic EIR Coordinated Proceedings* (2008) 43 Cal. 4th 1143, 1162.) LCWLT is concerned that the DPEIR fails to adequately disclose, analyze, and mitigate many of the Project's significant adverse environmental impacts.

Although an EIR need not be perfect, the Authority "must use its best efforts to find out and disclose all that it reasonably can." (CEQA Guidelines § 15144.) If important information cannot be obtained, the EIR must explain why. (*Sierra Club v. County of Fresno* (2017) 6 Cal.5th 502, 519-522.) The Authority must also "ensure that CEQA [GHG] analysis stays in step with evolving scientific knowledge and state regulatory schemes." (*Cleveland National Forest Foundation v. San Diego Assn. of Governments* (2017) 3 Cal.5th 497, 519.)

The DPEIR admits the Project would have significant adverse impacts with regard to air quality. Additionally, the Project would likely have significant adverse impacts on

biological resources, including sensitive species, although these impacts are neither disclosed nor mitigated in the DPEIR. Instead, large portions of the Project site and many sensitive species are not assessed at all. Furthermore, the DPEIR's analysis is infected by a lack of specificity in the project description and missing, but necessary, baseline information.

LCWLT-10 End

Many of the Project's significant and adverse environmental impacts would be "substantially lessened" under an alternative that restores the tidal connection to the Central Area using the lower channel constructed at the North Area. As recognized in the DPEIR, such an alternative would satisfy Project objectives by maximizing the area available for restoration and minimizing the area needed for berms and seawalls. The smaller berms would also lessen significant environmental impacts, as smaller berms would require less ground disturbance, grading, movement of materials, truck traffic and disruption of habitat. Smaller berms would also limit adverse aesthetic impacts created by up to 18-foot-high sea walls that would block water views from 2nd Street, Pacific Coast Highway, and Shopkeeper Road. Thus, an alternative restoring tidal flow to the Central Area via the North Area would have beneficial impacts on biological resources, air quality, traffic, and aesthetics, at the very least.

II. The Biological Resources Analysis is Inadequate.

The DPEIR's biological resources analysis fails to meet basic requirement of a biological resources analysis – to survey the Project site and disclose what lives there. This basic failure has led to an inadequate baseline for analysis. The consultants failed to survey the entire site, to survey all sensitive species likely to inhabit the site, to conduct surveys at appropriate times of year for the species being surveyed, or to conduct repeat rare plant surveys in appropriate locations. The obvious result is that the analysis likely understates the number of and population sizes of sensitive species that could be affected by the Project's construction and reconfiguration of hydrological and tidal connections. Consequently, the DPEIR fails to disclose, analyze, or mitigate the Project's impacts to biological resources. The existing analysis must be substantially expanded, updated, and recirculated before the Project moves forward.

LCWLT-11

Deficiencies in the DPEIR include, but are not limited to:

We have reviewed the Supplemental Biological Surveys and Mapping for the Los Cerritos Wetlands, conducted by Coastal Restoration Consultants in 2019. (Appendix C). The Supplemental Biological Surveys and Mapping have limitations that affect the adequacy of the biological resources analysis but were not disclosed.

- Certain areas of the Los Cerritos Wetlands complex were not mapped or surveyed, but this was not disclosed in the DPEIR, and no reasons were provided for this omission. The Hellman Retained site, Los Alamitos Retarding Basin site, South LCWA site, and Northern and Southern Synergy Oil sites must be surveyed. Without these surveys, the biological resources analysis lacks an adequate baseline for analysis and any substantial evidence for claims regarding the presence or absence of species.

LCWLT-11 cont.

- The blooming periods for the three species targeted during the effort are: *Camissoniopsis lewisii* (March - May), *Lasthenia glabrata ssp. coulteri* (Feb - June), and *Centromadia parryi ssp. australis* (May - Nov). Therefore, surveys should have been conducted for all areas between February and June when these plant populations appear to be blooming, with an additional survey again in the late summer for *Centromadia parryi ssp. australis*. This doesn't account for additional rare plant species blooming periods with the potential to occur on site. Based on what appears to be GPS tracking of the surveyors, full coverage for rare plants did not occur and areas avoided were not discussed or disclosed in the report. Furthermore, the areas surveyed were not covered multiple times for the blooming periods of all rare plants with the potential to be found on site. For example, the Zedler Marsh site was only covered on May 1, 2018; the majority of the Central Bryant Site and the Central LCWA Site was only covered on April 30, with smaller areas resurveyed on May 9, May 10, and Oct 22, 2018. Full coverage of these areas was not conducted during any of the surveys based on the tracking lines provided. For the South LCWA site, full coverage was not shown, and not all areas surveyed were revisited to account for the different blooming periods. Although full coverage may not have been possible during the wetter months, no disclosure was provided as to why full coverage was not provided during the surveys. Locating these rare plants is important because mitigation for these plants must achieve a ratio of 1:1. With accurate location of these rare populations, Project implementation can be designed to avoid these areas or provide insight as to where mitigation (seed collection, soil salvage) should occur.

- Rare plant surveys must be repeated during normal rain years. Plant surveys were conducted during the 2016-2017 rainfall season, during which only 3.65 inches of rainfall was recorded. As average rainfall at the nearest weather station is 11.32 inches, these plant surveys were conducted during drought conditions. The consultants claimed to identify the remains of target plant species that germinated during a previous, above-average rainfall. However, the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service do not generally accept the

results of rare plant surveys taken during droughts. Forensic surveys are unreliable and understate the full potential of rare plants that may be present onsite. Reliable surveys require a good rain year.

- Mitigation Measure Bio-1 requires rare plant surveys, but it does not require that the surveys occur during the appropriate blooming period. The measure should be revised to require surveys for areas not covered during the last two years, during the appropriate blooming periods of the season prior to any planned construction.

LCWLT-11
End

- The consultants failed to survey rare plant species or disclose a list of rare plant species that have been documented in the area between Palos Verdes and Bolsa Chica: *Aphanisma blitoides* (coastal bluffs), *Orcuttia californica* (vernal pools), *Abronia villosa var. aurita* (coastal scrub), *Euphorbia misera* (coastal scrub), *Nemacaulis denudata var. denudat*a (coastal dunes), *Atriplex serenana var. davidsonii* (wetland/riparian), *Isocoma menziesii var. decumbens* (coastal scrub), *Suaeda esteroa* (marshes, swamps), *Nasturtium gambelii* (marshes, swamps), *Astragalus hornii var. hornii* (meadows and seeps), *Helianthus nuttallii ssp. parishii* (marshes, swamps), *Calystegia felix* (meadows and seeps), *Dudleya multicaulis* (coastal scrub), *Nama stenocarpa* (marshes, swamps), *Atriplex parishii* (playas, vernal pools), *Navarretia prostrata* (meadows and seeps), *Chloropyron maritimum ssp. maritimum* (marshes, swamps), *Sidalcea neomexicana* (playas), *Symphyotrichum defoliatum* (meadows and seeps), *Eryngium aristulatum var. parishii* (grasslands, vernal pools), *Centromadia pungens ssp. laevis* (meadows and seeps), *Atriplex pacifica* (coastal scrub, playas), *Astragalus pycnostachyus var. lanosissimus* (marshes, swamps). A full suite of surveys during the appropriate blooming periods should be conducted during a year with adequate rainfall. This is important to understand the distribution of rare plants and assist with restoration planning, especially when there could be a conversion of vegetation/land types within the site, and seed collection and soil salvage is important for areas known to host rare plant species.

Concerns specific to the DPEIR's biological resources analysis include:

- The DPEIR states that biologists from GLA conducted detailed biological assessments and surveys on the program area (i.e., North and Central Areas) between 2010 and 2017. These surveys included the following: focused surveys for special-status plants and animals; vegetation mapping; delineation and assessment of wetlands and other aquatic resources; and general and focused biological surveys to obtain floral and faunal inventories, including wintering and breeding season surveys for the

LCWLT-12

burrowing owl (*Athene cunicularia*) and focused surveys for special-status plants. (DPEIR p. 3.3-2.) The DPEIR is not clear as to whether full coverage surveys were completed in 2017 and whether all rare plant species with the potential to occur onsite were surveyed. The DPEIR must base its analysis on the most current data.

LCWLT-12 cont.

- Existing conditions, health of the system, and vegetation communities can change over time, but are not reflected in the DPEIR. The habitat assessments and vegetation mapping are not current. For example, 9 years has passed since the last survey. (DPEIR p. 3.3-2.) We recommend that habitat be reassessed for areas that have not been updated over the past 4-5 years. This is important to understand the health of a system as it currently exists (the baseline for analysis) and the potential conversion of land types. New surveys will also provide a path to the success of the restoration plan. Current data on species diversity, cover, and distribution as well as non-native plant percentage cover will all contribute to the design and success criteria for this project.

- The DPEIR notes that CRC conducted Supplemental Surveys in 2018 that included updated vegetation mapping, a jurisdictional wetlands and waters assessment, mapping of Environmentally Sensitive Habitat Areas (ESHA), focused surveys for three special-status plants, and opportunistic avian observations on the four areas of the proposed program. (DPEIR p. 3.3-2.) The CDFW and USFWS generally do not accept the results of rare plant surveys taken during drought conditions. Forensic surveys are not reliable, and do not capture the full potential of rare plants to be found on site. A full suite of surveys should be conducted during the appropriate blooming periods for all rare plant species with the potential to occur on site, during a year with adequate rainfall. This is important to understand the distribution of rare plants and assist with restoration planning, especially when there could be a conversion of vegetation/land types within the site. In addition, opportunistic avian surveys do not account for species distribution, numbers, and migration patterns though and within the site. Avian point counts should be conducted to fully understand how avian species are utilizing the site, and how the restoration plan design can be prepared to benefit avian species. This will also be helpful to analyze the biological value and functionality of the project area once restoration implementation has been completed.

- In 2019, CRC conducted a review of the California Native Plant Society (CNPS) On-line Inventory and the California Natural Diversity Database (CNDDB) (CRC 2019) to identify special-status plants and wildlife species that have been previously

LCWLT-12 cont.

documented in the region. The areas that were queried included the United States Geological Survey (USGS) 7.5' minute quadrangle map for Anaheim, La Habra, Long Beach, Los Alamitos, Newport Beach, Seal Beach, South Gate and Whittier. The results of these database searches revealed special-status plant species that may have the potential to occur within the proposed program area. A complete list of plant species observed within the program area during CRC's 2019 assessment is provided in the floral compendium included in the Supplemental Biological Technical Report (Appendix C1). (DPEIR p. 3.3-2.) However, a species list was not provided in the Supplemental Biological Technical Report. Furthermore, only three species were targeted during the survey effort. The CNDDB listed 29 species in the area between Palos Verdes and Bolsa Chica, an area much less than the 8 quadrangles supposedly searched. Approximately 40 plants were evaluated in the EIR of which 30 have a high potential or are present on site and were not mentioned in this report. Ten species were determined to have a moderate potential or to be present on the entire project site. A full list of rare plants from not only CNDDB but also the IPAC and USFWS Sensitive species database should be thoroughly reviewed to determine the targeted species and a full suite of surveys should be conducted during a non-drought year during the appropriate blooming periods for all targeted species. Additionally, a full list of plant species observed during the surveys was not included in the report. The report is also devoid of surveys conducted in the following areas in the spring and fall of 2018: Southern areas: Hellman Retained site, Los Alamitos Retarding Basin site, South LCWA Site; and Northern areas: Northern and Southern Synergy Oil sites. These areas comprise approximately 50 percent of the site. Finally, the surveys did not occur in 2019; they occurred on March 5, April 17, April 30, May 1, May 9, May 10, and Oct 22, 2018.

- Focused botanical surveys were conducted at the Central Area (Pumpkin Patch site) in 2011, 2013, and 2016. Focused botanical surveys for the North Area (Synergy Oil Field site) were conducted in 2015 and 2016. During the 2015 survey, there was a significant focus on southern tarplant on the North Area (Synergy Oil Field site) because of the substantial numbers observed germinating early in the season that year. (DPEIR p. 3.3-3.) Focused surveys for rare plants are generally valid for up to two years, unless the surveys were performed in good conditions (above average rainfall). Here, four to five years has passed since the last time this area was surveyed. Incorporating rainfall data for 2014/2015 may be needed to support valid survey results. In addition, it is not clear if all rare plants with the potential to occur were targeted during the survey effort. This must be clarified.

- The DPEIR claims focused botanical surveys were conducted in all four areas in 2018 by CRC but the surveys focused only on three species: southern tarplant (*Centromadia parryi ssp. australis*), Coulter's goldfields (*Lasthenia glabrata ssp. coulteri*), and Lewis' evening primrose (*Camissoniopsis lewisii*). (DPEIR p. 3.3-3.). However, it is clear that these surveys did not cover all areas. Omitted sites include the Hellman Retained site, Los Alamitos Retarding Basin site, South LCWA Site, and Northern and Southern Synergy Oil sites.

- The DPEIR also explains that botanical surveys and jurisdictional delineations were performed on the City Property site by AECOM, Tidal Influence, and Vandermost Consulting Services, Inc. (VCS) as set forth in the 2016 Biological Resources Assessment and Wetland Delineation: Southeast Area Development and Improvement Plan (Placeworks and VCS Environmental 2016). (DPEIR p. 3.3-3.) Four years have passed since the surveys were conducted; they are outdated. It is not clear whether focused plant surveys included all species with a potential to occur within the survey area. If species were omitted, this must be corrected.

LCWLT-12 cont.

- The burrowing owl surveys are also insufficient. Although burrowing owls are known to have high site fidelity, the absence of burrowing owls during the surveys should not be considered valid since the surveys did not cover the entire area. Further, breeding surveys were only conducted in 2015, 5 years ago. Portions of these areas were visited during the non-breeding season. However, according to the CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012): Non-breeding season (1 September to 31 January) surveys may provide information on burrowing owl occupancy, but do not substitute for breeding season surveys because results are typically inconclusive. Burrowing owls are more difficult to detect during the non-breeding season and their seasonal residency status is difficult to ascertain. Burrowing owls surveys must be repeated during the breeding season.

- The DPEIR states the 2018 jurisdictional assessment was conducted to identify and map potential federal waters that are likely to be considered jurisdictional by the USACE and potential state waters that are likely to be considered jurisdictional by the RWQCB, CDFW and CCC jurisdiction within the program area. (DPEIR p. 3.3-3.) However, the water assessment was not conducted within the entire Program Area as suggested by the DPEIR. The assessment did not include Southern areas including the Hellman Retained site, Los Alamitos Retarding Basin site, and South LCWA Site.

LCWLT-12 cont.

- DPEIR Table 3.3-5, Special-Status Wildlife with Potential to Occur, claims to provide a summary of all wildlife species determined to have potential to occur with the program area based on (1) species identified by the 2019 CNDDB as occurring (either currently or historically) in the USGS Anaheim, La Habra, Long Beach, Los Alamitos, Newport Beach, Seal Beach, South Gate and Whittier Quadrangles and (2) records of special-status species that are known to occur within the vicinity of the proposed program, or for which potentially suitable habitat occurs on site. (DPEIR p. 3.3-37.). Reference to the underlying report, however, demonstrates mention of only CNDDB. There is no evidence that of IPac or USFWS Sensitive species databases were consulted for full analysis. The CNDDB is a positive sighting database and should not be used solely to evaluate which species have the potential to occur on site.

- Table 3.3-6, Special-Status Wildlife with Potential to Occur within the Program Area, claims to provide a summary of all special-status wildlife species determined to be present or to have potential to occur within each of the four program areas. (DPEIR p. 3.3-55.) Yet, the potential for occurrence does not match the determinations in the Table 3-3.5. For example, one species, the state and federally endangered Ridgeways rail is listed as "present" in Table 3-3.5 but is not on Table 3.3-6. At page 3.3-104, the species is listed as "not present." This should be clarified and verified with adequate surveys.The PFO table states this species was observed on site. Suitable foraging and breeding habitat is present within North Area (Steamshovel Slough) and tidal marsh areas in the South and Isthmus Areas and non-tidal marsh in the Central Area. Since focused protocol level surveys have not been conducted for many of the state and federally listed species, it is important for this document maintain consistency when analyzing and determining potential for occurrence since it is an effective tool to identify parameters in efforts to increase biological value for the restoration design. In addition, the proposed program has the potential to impact areas that could potentially meet the definition for ESHA as defined under the CCA. Without focused surveys to determine presence of these species, the PFO analysis is used to help determine whether the habitat supports or is likely to support state- or federally listed threatened or endangered animal species, California Fully Protected species, or other special-status animal species. Based on this definition of an ESHA, it is probable that the boundaries of the ESHA could change and more ESHA areas could be impacted. These tables must be updated for accuracy and consistency.

- The DPEIR notes that certain habitats have been documented in the proposed program area and have the potential to be considered ESHA because of their

LCWLT-12 cont.

potential to support one of more of the following special-status species: western snowy plover, American peregrine falcon, white-tailed kite, Belding's savannah sparrow, least Bell's vireo, California least tern, Pacific green sea turtle, Coulter's goldfields, estuary seablite and southern tarplant. (DPEIR p. 3.3-61.) The DPEIR and report omit the following California state sensitive species and one State and federally listed species: red diamond rattlesnake (SSC), burrowing owl (SSC), loggerhead shrike (SSC), Ridgeway Rail (SE/FE), short-eared owl (SSC), yellow-breasted chat (SSC). Potential ESHAs should consider native vegetation that supports or is likely to support state- or federally listed threatened or endangered animal species, California Fully Protected species, or other special-status animal species (e.g., listed by CDFW as Species of Special Concern or have a CNDDB state rank of S1, S2, or S3). The report and DPEIR should be updated with evaluations considering these species for potential ESHA habitat designations.

- Northern anchovy (*Engraulis mordax*), Pacific sardine (*Sardinops sagax*), Pacific mackerel (*Scomber japonicas*), and jack mackerel (*Trachurus symmetricus*), species managed under the Coastal Pelagic Fishery Management Plan, are all common in nearshore ocean waters and could swim into the channels in the Project. Three species managed under the Pacific Groundfish Fishery Managed Plan potentially could swim into the channel. These plans and the species managed under these plans should be discussed in this document to show how important this area is as EFH. (DPEIR p. 3.3-62.)

- The DPEIR considers the loss of suitable invertebrate habitat during grading to be temporary and less than significant, since the purpose of the proposed program is to enhance and restore habitat that is suitable for wildlife, including special-status invertebrate species. (DPEIR p. 3.3-96.) Wetlands are among the world's most valuable and most threatened habitats, and invertebrates are an extremely important component in these ecosystems. These invertebrates are one of the primary trophic links between lower plants and higher vertebrates (i.e., amphibians, birds and fish). This document doesn't analyze and discuss the invertebrate species and their role in this ecosystem. Grading will kill aquatic invertebrates. Soils within mudflat areas should be salvaged (where feasible) for areas that are proposed for activities such as grading. This will increase invertebrate survival and dispersal into newly land converted areas.

- Mitigation Measure Bio-1 (p. 3.3-108) does not adequately protect rare plants, as written. While the measure states that rare plant surveys should be conducted in

suitable habitat areas, it does not state that surveys must occur during the appropriate blooming periods. This measure protects the rare plants if construction occurs in mid- to late summer. However, if construction occurs in early spring, the surveys are not adequate since they would be performed outside the blooming period of herbaceous plants. There are areas that have not been surveyed and have no recent historical data that can be used to determine seed salvage areas. The measure should also be clarified regarding transplantation. Although transplanting rare herbaceous plant species is rarely successful, seed collection and propagation is can be successful. If ground disturbing work is proposed for areas where historical rare plant species and/or populations have been identified, the soils should be salvaged and replaced on site.

LCWLT-12 cont.

- Mitigation Measure Bio-2 can also be improved (p. 3.3-109.) The measure provides that initial grading and vegetation removal activities shall be supervised by a qualified monitoring biologist. The biologist shall ensure that impacts to special-status plants and wildlife, including wetland vegetation, are minimized to the greatest extent feasible during implementation of program activities on the South, Isthmus, Central and North Areas. However, the methods in which the biologist will ensure impacts are minimized are not specified. For example, work areas and avoidance areas should be clearly delineated (staking, flagging, silt fencing where feasible). Also, this measure doesn't specifically state how often the biologist is present. The biologist should be present daily and conduct sweeps prior to activities, especially during the nesting bird season. As written, the measure is impermissibly vague and deferred.

- Mitigation Measure Bio-4 provides: If construction or maintenance activities will occur during the avian nesting season (January 1 through August 31), a qualified biologist shall conduct pre-construction nesting avian surveys within no more than 5 days prior to the initiation of construction activities to identify any active nests. If a lapse in work of 5 days or longer occurs, another survey shall be conducted to verify if any new nests have been constructed prior to work being reinitiated. (DPEIR p. 3.3-109.) This will not adequately protect birds. Some bird species can build nests in 2 or 3 days. To protect our bird species, especially with sensitive bird species known on site, we suggest no more than a 72-hour window prior to work activities. In addition, it is unclear as to how a "lapse" and the "work area" is defined. We presume that the entire site will not have restoration implementation activities at once, and that work will be phased in areas. A survey of the entire site would not be adequate to identify new nests in areas that are more than 500 feet from existing

activities. Please consider revising to: "If no work has occurred for 72 hours, or if an area is located more than 500 feet from an active work area and 72 hours has passed within this area, a nesting bird survey should be conducted prior to work in that area to ensure that no active nests will be impacted." As project permit requirements change from project to project and contractors are required to adhere to different mitigation and avoidance measures, we suggest the preparation of an agency approved Nesting Bird Management Plan This Nesting Bird Management Plan (NBMP) that describes the measures that will be taken by the contractors to assure that avian protection measures are implemented to avoid and minimize impacts to nesting birds during construction. The NBMP should provide a description of protocols and methods that will be implemented to avoid and minimize impacts to nesting birds associated with construction of the Project. The NBMP should provide guidance for complying with federal and state regulations, including: nest surveying and monitoring methods, guidelines for establishing nest buffers, instructions for monitoring and reporting avian nesting activities, recommended nesting deterrents, and nest removal strategies.

LCWLT-12
End

- Mitigation Impact Bio-9 states: There are several aboveground pipelines and racks sited throughout the program boundary, many of which occur over wetland areas and will need to be removed. Based on the method of pipeline, rack, and tank removal, and the already disturbed areas that would be used to facilitate the removals, no impacts to CDFW Sensitive Natural Communities or riparian habitats are expected to occur. (DPEIR p. 3.3-112.) Substantial evidence has not been provided that impacts will not occur. The methods for removal should be reviewed by the agencies prior to demolition and removal. For example, it should be clear that the pipes will be disassembled and lifted off the ground and not dragged through wetland areas.

These concerns must be addressed in an expanded and updated biological resources analysis which must then be recirculated for public comment before the Project may proceed.

III. The Noise Analysis Fails to Consider the Impacts of Noise on the Wetlands.

LCWLT-13

Although the Project is aimed at restoring and enhancing wetlands, the DPEIR's noise analysis is entirely human-centric. Estimated noise limits and descriptions of noise impacts are provided for nearby homes, but the DPEIR fails entirely to describe the likely impacts that loud Project activities – and heavy construction equipment – will have on the species that currently inhabit the wetlands. Studies show that even minimal noise

LCWLT-13 cont.

and vibration disturbances can displace sensitive species, sometimes permanently. The Project anticipates loud, earthmoving and grading activities over a 20-plus year timeframe. Increased duration of noise and vibration increases the likelihood of significant impacts on biological resources, including burrowing animals. This does not appear to have been assessed in the DPEIR. The DPEIR must perform analysis of the Project's potential noise-related impacts on wildlife and habitat and recirculate that analysis.

For example, protected species typically have a prescribed noise limit, often 60 dBA. State endangered Belding's savannah sparrow (*Passerculus sandwichensis ssp. beldingi*) was found on the wetland area. A thorough environmental review of impacts to this species, such as that prepared for a CDFW Streambed Alteration Agreement, Incidental take permit, or USFWS Biological Opinion, would include information about the species noise tolerance. One project included the following analysis:

> SANDAG and RECON (1988) estimated that noise levels above 60 dBA Leq from March 15 to September 15 may impact vireo reproductive success. While vireos often continue to occupy areas subject to noise levels above 60 dBA, one study documented significantly reduced reproductive success due to noise impacts (Service 1995). Studies also observed movement away from construction activities and delayed pairing and initial nest establishment suggesting that excessive noise from construction activities may have resulted in the avoidance of suitable habitat and may have interfered with mating behavior (BonTerra 2000a, b, c, and d).[4]

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[4] BonTerra Consulting.
2000a. Breeding season 2000 weekly monitoring report of least Bell's vireo and coastal California gnatcatcher for the Crown Valley Parkway Bridge project, Orange County, California. 2 pp. (week of April 24 to April 28, 2000). Unpublished report prepared for the U.S. Fish and Wildlife Service.

BonTerra Consulting.
2000b. Breeding season 2000 weekly monitoring report of least Bell's vireo and coastal California gnatcatcher for the Crown Valley Parkway Bridge project, Orange County, California. 3 pp. (week of May 1 to May 5, 2000). Unpublished report prepared for the U.S. Fish and Wildlife Service.

BonTerra Consulting.
2000c. Breeding season 2000 weekly monitoring report of least Bell's vireo and coastal California gnatcatcher for the Crown Valley Parkway Bridge project,

The DPEIR does not disclose any noise limits for specific species or provide any information about whether the Project may exceed those noise limits. This must be corrected, and the DPEIR must be recirculated. This analysis must consider the impacts of impulsive, or short-term noise. Day-night averages such as CNEL may obscure the impacts of shorter-term, but much louder, noise.

LCWLT-13 End

The DPEIR also fails to include baseline information for ambient noise in the wetlands. The current iteration of the DPEIR only provides this information along roads, which obscures the Project's potential impacts to wildlife residing in the interior of the Project site.

Even if the Authority ultimately determines that the Project's noise-related impacts to biological resources are reasonable, all reasonably foreseeable impacts to sensitive species and existing habitat must be disclosed and analyzed in the DPEIR.

IV. Recirculation of the DPEIR Will Be Required.

CEQA requires recirculation of a draft EIR whenever "significant new information is added to the EIR after public notice is given of the availability of the draft EIR." (CEQA Guidelines s. 15088.5.) "Significant new information" requiring recirculation includes a disclosure showing that:

LCWLT-14

Orange County, California. 2pp. (week of May 29 to June 2, 2000). Unpublished report prepared for the U.S. Fish and Wildlife Service.

BonTerra Consulting.
2000d. Breeding season 2000 weekly monitoring report of least Bell's vireo and coastal California gnatcatcher for the Crown Valley Parkway Bridge project, Orange County, California. 2pp. (week of August 7 to August 11, 2000). Unpublished report prepared for the U.S. Fish and Wildlife Service.

United States Fish and Wildlife Service (Service).
1995. Biological Opinion (1-6-95-F-02). Programmatic activities and conservation plans in riparian and estuarine/beach ecosystems on Marine Corps Base, Camp Pendleton. Carlsbad Fish and Wildlife Office, Carlsbad, California. 61 pp.

San Diego Association of Governments (SANDAG) and Regional Environmental Consultants (RECON). 1990. Draft comprehensive species management plan for the least Bell's vireo. 37 pp

(1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.

(2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.

LCWLT-14
End

(3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the significant environmental impacts of the project, but the project's proponents decline to adopt it.

(4) The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded. (*Mountain Lion Coalition v. Fish & Game Com*.(1989) 214 Cal.App.3d 1043).

Given the inadequacies in the biological resources analysis, once these deficiencies are corrected, and defined mitigation is developed, the DPEIR must be recirculated for all four reasons provided in CEQA.

LCWLT-15

ATTACHMENT 3

CALIFORNIA COASTAL COMMISSION
South Coast Area Office
200 Oceangate, Suite 1000
Long Beach, CA 90802-4302
(562) 590-5071

Th13a

Filed:	9/16/2011
49th Day:	11/4/2011
180th Day:	3/14/2012
Staff:	Charles Posner - LB
Staff Report:	2/23/2012
Hearing Date:	March 8, 2012
Commission Action:	

STAFF REPORT: MATERIAL AMENDMENT

APPLICATION NUMBER: A-5-LOB-10-015-A1

APPLICANT: Loynes, LLC **AGENT:** Schmitz & Associates, Inc.

PROJECT LOCATION: 6400 E. Loynes Drive (SEADIP Subarea 23), City of Long Beach.

DESCRIPTION OF PROJECT ORIGINALLY APPROVED ON NOVEMBER 19, 2010:

Import of 1,000 cubic yards of soil to re-establish and maintain cap over an existing landfill on a vacant 9.38-acre site (in response to Coastal Commission Emergency Permit 5-09-068-G). Special Condition One of the permit requires the applicant to construct an impermeable cap on the dump to prevent water from infiltrating the landfill and to re-create the site's pre-disturbance topography and seasonal pools that existed on the site prior to grading. The disturbed area shall be re-vegetated with Southern California native plants appropriate to the site's hydrology and historical ecology (alkali meadows and transitional grassland/coastal scrub).

DESCRIPTION OF PERMIT AMENDMENT REQUEST:

A revised site restoration and re-vegetation plan required by Special Condition One of the underlying permit. The revised plan does not include a new dump cap or seasonal pools.

SUMMARY OF STAFF RECOMMENDATION

On November 19, 2010, the Commission approved Coastal Development Permit A-5-LOB-10-015 with conditions that require the applicant to re-create the site's pre-disturbance topography and to create seasonal pools that allegedly had existed on the site prior to the unpermitted grading that occurred in March 2009. To prevent water from infiltrating the abandoned landfill that exists beneath the site, a new engineered impermeable dump cap is required to be constructed over the abandoned landfill. [Note: The Commission modified Special Condition One at the November 2010 hearing, changing staff's habitat restoration recommendation to one that required the applicant to install the impermeable dump cap and to contour the site to encourage the restoration of seasonal pools in certain portions of the disturbed site. This change to Special Condition One required the Commission to adopt revised findings. The Commission approved the revised findings on May 12, 2011.]

The applicant has requested this permit amendment to delete the requirement for the installation of an impermeable cap over the dump as part of the re-vegetation plan because the installation of such a cap would cause lateral gas migration and necessitate the construction of methane gas collection system with extensive re-grading of the property and the installation of numerous gas extraction wells, pipelines and a gas-burning plant (Exhibit #6). Therefore, the underlying permit must be amended to either: a) revise the re-vegetation plan to reflect the

deletion of the impermeable dump cap and pools, or b) revise the project to include the construction of the methane gas collection system that would be required by the California Regional Water Quality Control Board and County if an impermeable cap is constructed over the abandoned landfill.

Staff is recommending that the Commission **APPROVE** the permit amendment request for a revised re-vegetation plan with the deletion of the impermeable dump cap and seasonal pools because it is the alternative with the least significant adverse effects on the environment. Approval of the permit amendment with conditions will require the applicant to re-vegetate the disturbed area on the landfill with Southern California native plants appropriate to the site's condition as an abandoned landfill. The previously imposed provisions for monitoring and future maintenance of the site are unchanged by the amendment. **See Page Three for the motion to adopt the staff recommendation.**

SUBSTANTIVE FILE DOCUMENTS:

1. City of Long Beach Local Coastal Program (LCP), 7/22/1980.
2. California Integrated Waste Management Board, Inspection Report, File No. 19-AK-5003, 3/26/2009.
3. California Integrated Waste Management Board, Inspection Reports dated: 7/23/2010, 4/6/2010, 1/5/2010, 10/21/2009, 10/7/2009, 7/21/2009, 5/1/2009, 4/29/2009, 4/15/2009, 3/26/2009, 1/6/2009 & 10/9/2008.
4. South Coast Air Quality Management District, Notice to Comply No. D-18289, 4/3/2009.
5. Coastal Commission Emergency Permit 5-09-068-G, 4/7/2009 (Exhibit #3).
6. Biological Resources Evaluation and Jurisdictional Waters Delineation for APN 7237017006, by Ty M. Garrison, SWCA Environmental Consultants, 5/28/2009.
7. Peer Review of the Biological Resources Evaluation and Jurisdictional Waters Delineation for APN 7237017006, by PCR Services Corporation (PCR), 9/9/2009.
8. Comments on Illegal Development and Retroactive Permit to Remediate at 6400 Loynes Drive, Long Beach, by Travis Longcore, Ph.D. and Catherine Rich, J.D., M.A., Land Protection Partners, 10/8/2009 (Exhibit #12).
9. City of Long Beach Local Coastal Development Permit No. 0904-15, 12/3/2009.
10. Coastal Commission Substantial Issue Staff Report (Appeal A-5-LOB-10-015), 2/24/2010.
11. Habitat Revegetation and Monitoring Plan, Loynes Drive Project, Long Beach, by LSA Associates, Inc., September 2010.
12. Habitat Revegetation and Monitoring Plan, Loynes Drive Project, Long Beach, by LSA Associates, Inc., Revised September 2011 (Exhibit #8).
13. Biological Review for Coastal Development Permit Appeal A-5-LOB-10-015 – 6400 E. Loynes Drive, Long Beach, by LSA Associates, Inc., 11/15/2010.
14. Supplement to Biological Review for Coastal Development Permit Appeal A-5-LOB-10-015 – 6400 E. Loynes Drive, Long Beach, by LSA Associates, Inc., 11/16/2010.
15. Memo to Coastal Commission regarding Hitchcock Property, 6400 Loynes Drive, Long Beach, by Travis Longcore, Ph.D., Land Protection Partners, 11/17/2010 (Exhibit #14).
16. Delineation of Wetlands and Waters subject to Corps of Engineers Jurisdiction Under Section 404 of the Clean water Act and/or Section 10 of the Rivers and Harbors Act, Bixby Ranch, Los Cerritos Wetlands, Long Beach, California, by LSA Associates, Inc., 1/17/1997.
17. Biological Setting of the Bixby Ranch Company Oil Field Property in the Los Cerritos Wetland, Long Beach, California, by LSA Associates, Inc., Revised 7/8/1998.

STAFF RECOMMENDATION:

The staff recommends that the Commission adopt the following resolution to **APPROVE** the permit amendment request with special conditions:

MOTION: *"I move that the Commission approve with special conditions the proposed amendment to Coastal Development Permit A-5-LOB-10-015 per the staff recommendation."*

Staff recommends a **YES** vote. Passage of this motion will result in approval of the amendment and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

I. Resolution to Approve a Permit Amendment

The Commission hereby approves the coastal development permit amendment on the ground that the development as amended, will be in conformity with the policies of Chapter 3 of the Coastal Act and will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3. Approval of the permit amendment complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the amended development on the environment, or 2) there are no feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the amended development on the environment.

II. Standard Conditions

1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. Interpretation. Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

4. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

5. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

III. Special Conditions of Permit A-5-LOB-10-015 as Amended

Staff Note: The Special Conditions below are the conditions of the underlying permit as modified and approved by the Commission on November 19, 2010, and adopted in revised findings by the Commission on May 12, 2011. The changes recommended by staff pursuant to this permit amendment are identified by strike-out for ~~deleted words~~ and **bold underlined text** for added text.

1. Site Restoration, Re-vegetation and Monitoring Plan

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for review and written approval of the Executive Director, a revised re-vegetation and monitoring plan for the portions of the project site that were disturbed by prior grading on March 19 and 20, 2009 (as shown on Exhibit #4 of the Staff Report dated November 3, 2010 **and Exhibit #3 of the Staff Report dated February 23, 2012**), and including the area covered with the fill imported pursuant to Emergency Permit 5-09-068-G. The revised re-vegetation and monitoring plan shall be prepared by a qualified Resource Specialist in consultation with the California Department of Fish and Game, the County of Los Angeles Department of Public Health (Environmental Health Solid Waste Management Program), and the South Coast Air Quality Management District (AQMD).

The revised re-vegetation and monitoring plan shall include all of the provisions contained in the plan entitled, Habitat Revegetation and Monitoring Plan, Loynes Drive Project, Long Beach, by LSA Associates, Inc., September **2011** ~~2010~~ and shall also include the following provisions:

A. Native Plant List. All plants shall be Southern California native plants appropriate to the site's hydrology and historical ecology (~~alkali meadows and~~ transitional grassland/coastal scrub ~~– salt marsh to uplands~~). Appropriate native plants include, but are not limited to: **coastal sage bush, buckwheat, coast goldenbush, shining pepper grass, salt grass, bunch grass and annuals (e.g., lupine and yellowray goldfields).** ~~*Sesuvium verrucosum, Isocoma menziesii* ssp. *Vernonioides, Lasthenia glabrata* ssp. *Coulteri, Ambrosia acanthicarpa, Centromadia parryi* ssp. *Australis, Heliotropium Curassavicum, Lepidium nitidum, Suaeda taxifolia, Cressa truxillensis. Croton californicus, Frankenia salina, Malvella leprosa, and Distichlis spicata [Longcore LPP Memo, Table 1, 17 November 2010].~~ All seeds and cuttings employed shall be from local sources in the Los Angeles and Orange County coastal areas. Prior to the first planting cycle, the permittee shall provide the Executive Director with the quantities and sources of all plants to be used in the project.

B. Native Plant Coverage. The re-vegetation plan shall indicate the location, number and distribution of native plants to be installed. At the end of five years, a minimum of eighty percent (80%) of the disturbed area shall be covered with native plants. No more than five percent (5%) of the disturbed area shall be covered with non-native plants at any time.

C. ~~Dump Cap/Topography/~~Additional Fill. ~~An impermeable cap, sufficient to re-create seasonal pools, shall be provided (with additional soil and/or a liner) on the dump. The impermeable dump cap shall be designed in compliance with the specifications and requirements of the California Integrated Waste Management~~

~~Board, the Los Angeles Department of Public Health (Environmental Health Solid Waste Management Program), the Regional Water Quality Control Board (Los Angeles RWQCB), and the South Coast Air Quality Management District (AQMD). The topography of the site shall be restored to its pre-disturbance conditions with depressions between bumps for seasonal pools. Creation of the seasonal pools and installation of the plants shall not adversely affect the impermeable dump cap or result in the exposure of trash or other materials from the underlying landfill.~~ Additional soil shall be imported to create a minimum six-inch thick layer of soil for the new plants. **Installation of the plants shall not result in the exposure of trash or other materials from the underlying landfill.**

D. The storage or stockpiling of soil, silt, and other organic or earthen materials shall not occur where such materials could pass into coastal waters.

E. Timing of Re-vegetation. Re-vegetation shall commence as soon as possible following removal of non-native plants and preparation of the soil. Installation of the native plants shall commence at the project site no later than ninety (90) days from the date of Commission approval of **Permit Amendment A-5-LOB-10-015-A1** ~~this permit~~, or within such additional time as the Executive Director may grant for good cause. The initial planting shall be completed no later than six weeks from the commencement of planting, in compliance with the re-vegetation and monitoring plan approved by the Executive Director.

F. Removal of Non-native Plants. Prior to the installation of the native plants, the non-native weeds and grasses shall be removed from the area to be re-vegetated. Areas where Southern Tarplant exists shall not be disturbed. Prior to the removal of non-native vegetation, a qualified Resource Specialist shall survey the project site and identify with flags all areas of existing native vegetation**, including Southern Tarplant**. The permittee shall ensure that the areas of existing native vegetation are protected from disturbance during the implementation of the approved project.

G. No grading or scraping is permitted. No heavy machinery may be used. Smaller mechanized vehicles (e.g. Bobcats) may be used to transport heavy loads between paved roads and work areas. No dead plants shall be left on site and no persistent chemicals shall be employed.

H. No bird nests shall be disturbed at any time. Removal of non-native weeds, grasses and trees shall be done in compliance with the requirements of Special Condition Two of this permit.

I. Irrigation. A temporary irrigation system may be installed in order to provide enough water to keep the native plants healthy. No runoff shall leave the project site. The irrigation system shall be removed from the project site at the completion of the required monitoring and/or certification by the applicant's Resource Specialist that the required re-vegetation plan has become successful.

J. Invasive Plants. No plant species listed as problematic and/or invasive by the California Native Plant Society, the California Exotic Pest Plant Council, or as may be identified from time to time by the State of California shall be employed on the site. No plant species listed as a 'noxious weed' by the State of California or the U.S. Federal Government shall be utilized within the property.

K. Erosion Control. Prior to removing the non-native plants and preparation of the soil, the permittee shall employ Best Management Practices (BMPs) to ensure that erosion does not occur.

L. Maintenance. Native vegetation shall be maintained in good growing condition throughout the life of the project, and whenever necessary, shall be replaced with new plant materials to ensure continued compliance with the re-vegetation plan.

M. Disposal of Plant Matter. All cut plant material shall be disposed of at an appropriate off-site location within ten days of cutting. A separate coastal development permit will be required prior to the placement of any cut plant material in the coastal zone unless the Executive Director determines that no permit is required pursuant to the requirements of the Coastal Act and the California Code of Regulations.

N. Monitoring. The permittee shall provide the funding necessary to compensate a third party monitor (approved by the Executive Director) for the completion of the monitoring reports required by this condition. For at least five years following the initial planting, the permittee shall actively monitor the site, remove non-native plants and replant vegetation that has failed. The third party monitor approved by the Executive Director shall monitor and inspect the site no less than once each thirty days during the first year that follows the initial planting. Thereafter, the third party monitor shall monitor the site at least once every ninety days. Each year, for a minimum of five years from the date of permit issuance, the third party monitor shall submit, for the review and approval of the Executive Director, an annual re-vegetation monitoring report prepared by a qualified Resource Specialist which certifies the re-vegetation is in conformance with the approved re-vegetation plan. The annual monitoring report shall include photographic documentation of plant species and plant coverage. At the end of five years, a minimum of eighty percent (80%) of the disturbed area shall be covered with native plants. No more than five percent (5%) of the disturbed area shall be covered with non-native plants at any time. If the annual re-vegetation monitoring report indicates the re-vegetation is not in conformance with or has failed to meet the performance standards specified in the re-vegetation plan approved pursuant to this permit, the permittee shall submit a revised or supplemental re-vegetation plan for the review and approval of the Executive Director. The revised re-vegetation plan must be prepared by a qualified Resource Specialist and shall specify measures to remediate those portions of the original plan that have failed or are not in conformance with the original approved plan. The permittee shall implement the supplemental re-vegetation plan approved by the Executive Director and/or seek an amendment to this permit if required by the Executive Director.

O. Review and Approval by Landfill Regulators. Prior to any re-vegetation or disturbance of the site, the permittee shall file an 1150.1 (Excavation of Landfill Plan) with the South Coast Air Quality Management District. ~~The final plan for the impermeable dump cap shall be reviewed and approved by the County of Los Angeles Department of Public Health (Environmental Health Solid Waste Management Program) and the California Integrated Waste Management Board.~~

The permittee shall implement the re-vegetation plan in accordance with the final plans approved by the Executive Director. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is required pursuant to the requirements of the Coastal Act and the California Code of Regulations.

2. Ongoing Maintenance: Weed Abatement and Tree Trimming

Coastal Development Permit A-5-LOB-10-015 approves weed abatement, tree trimming, non-native tree removal, and ongoing maintenance of the property (6400 E. Loynes Drive) consistent with the terms of this permit. This permit does not authorize the construction of any trails or roads, or the erection of any fence, gate or wall. All weed abatement, tree trimming, ongoing maintenance, and all work carried out pursuant to any City or County issued abatement order, shall comply with the terms of this permit in order to ensure the protection of wildlife habitat and the long-term protection of breeding, roosting, and nesting habitat of state and federally listed bird species, California bird species of special concern, and bird species that play an especially valuable role in the ecosystem.

No bird nests shall be disturbed. Prior to tree trimming and weed abatement, a qualified biologist or ornithologist shall survey the project site to detect bird nests and submit a survey report to the permittee and the Executive Director of the Coastal Commission. The survey report shall include identification of all known nests. The permittee shall maintain a file of survey reports that includes a record of nests that is to be used for future vegetation removal decisions.

All weed abatement, tree trimming, non-native tree removal, and ongoing maintenance of open space areas shall be supervised by a qualified biologist or Wetland Ecologist and shall be undertaken in compliance with all applicable codes or regulations of the California Department of Fish and Game, the U.S. Fish and Wildlife Service and the U.S. Migratory Bird Treaty Act, and shall be conducted in conformance with the following terms of this special condition.

A. Tree Trimming and Non-native Tree Removal

1. Unless otherwise specified by the terms of this permit, tree trimming and non-native tree removal shall take place only outside of bird breeding and nesting season, which is January 1 through September 30.

2. The trimming or removal of any tree that has been used for breeding and nesting within the past five years is prohibited, unless the permittee obtains a coastal development permit or emergency permit authorizing such trimming and removal. Prior to tree trimming or removal of any tree, a qualified biologist or ornithologist shall survey the trees to be trimmed or removed to detect nests and submit a survey report to the permittee and the Executive Director of the Coastal Commission. The survey report shall include identification of all trees with nests. The permittee shall maintain a file of survey reports that includes a record of nesting trees to be used for future tree trimming and removal decisions.

3. No bird nests shall be disturbed. Trimming may not proceed if a nest is found and evidence of courtship or nesting behavior is observed at the site. In the event that any birds continue to occupy trees during the non-nesting season, trimming shall not take place until a qualified biologist or ornithologist has assessed the site, determined that courtship behavior has ceased, and given approval to proceed within 300 feet of any occupied tree (500 feet for raptors).

4. No California native trees shall be removed. All existing native vegetation shall be protected.

5. Tree trimming and non-native tree removal shall be done using only hand operated equipment only (e.g., machetes, weed whackers and chain saws). No herbicides shall be used.

B. Weed Abatement

1. Unless otherwise specified by the terms of this permit, weed abatement activities shall take place outside of the marsh bird nesting season (February 1 through August 31). Specifically required restoration work approved by the Executive Director is not subject to this limitation.

2. Prior to weed abatement and removal of any plant material, a qualified biologist or ornithologist shall survey the project site to detect nests and submit a survey report to the permittee and the Executive Director of the Coastal Commission. The survey report shall include identification of all known nests. The permittee shall maintain a file of survey reports that includes a record of nests that is to be used for future vegetation removal decisions.

3. No bird nests shall be disturbed. Weed abatement and removal of any plant material may not proceed within 300 feet (500 feet for raptors) of a nest where evidence of courtship or nesting behavior is observed. In the event that any birds continue to occupy nests during the non-nesting season, trimming shall not take place until a qualified biologist or ornithologist has assessed the site, determined that courtship behavior has ceased, and given approval to proceed within 300 feet (500 feet for raptors) of any nest.

4. All existing native vegetation shall be protected.

5. Weed abatement and removal of plant materials shall be done using only hand operated equipment only (e.g., machetes, weed whackers and chain saws). No herbicides shall be used unless it is specifically authorized by the Executive Director.

C. Disposal of plant matter. All cut plant materials shall be disposed of at an appropriate off-site location within ten days of cutting. A separate coastal development permit will be required prior to the placement of any cut plant material in the coastal zone unless the Executive Director determines that no permit is required pursuant to the requirements of the Coastal Act and the California Code of Regulations.

All weed abatement, tree trimming and non-native tree removal shall be conducted in strict compliance with this policy. Any proposed change or deviation from the approved development as conditioned shall be submitted for review by the Executive Director to determine whether an amendment to this coastal development permit is required pursuant to the requirements of the Coastal Act and the California Code of Regulations.

3. Resource Agencies

The permittee shall comply with all requirements, requests and mitigation measures from the California Department of Fish and Game, Regional Water Quality Control Board, U.S. Army Corps of Engineers, ~~and~~ the U.S. Fish and Wildlife Service, **and any other regulatory agency with jurisdiction over the approved development,** with respect to preservation and protection of water quality and marine environment. Any change in the approved project that may be required by the above-stated agencies shall be submitted to the Executive Director in order to determine if the proposed change shall require a permit amendment pursuant to the requirements of the Coastal Act and the California Code of Regulations.

4. Condition Compliance

Within sixty (60) days of Commission action on this coastal development permit **amendment** application, or within such additional time as the Executive Director may grant for good cause, the applicant shall satisfy all requirements specified in the conditions hereto that the applicant is required to satisfy prior to issuance of this permit. Failure to comply with this requirement may result in the institution of enforcement action under the provisions of Chapter 9 of the Coastal Act.

5. Timing of Re-vegetation

Implementation of the approved re-vegetation plan required by Special Condition One (i.e., ~~installation of an impermeable dump cap~~, removal of non-native plants, preparation of the soil, and installation of the native plants) shall commence as soon as possible following the issuance of the coastal development permit. Installation of the native plants shall commence at the project site no later than ninety (90) days from the date of Commission approval of **Permit Amendment A-5-LOB-10-015-A1** ~~this permit~~, or within such additional time as the Executive Director may grant for good cause. Failure to comply with this requirement may result in the institution of enforcement action under the provisions of Chapter 9 of the Coastal Act.

6. Future Development Restriction

This permit is only for the development described in **amended** Coastal Development Permit A-5-LOB-10-015. Except as provided in Public Resources Code section 30610 and applicable regulations, any future development as defined in PRC section 30106, including, but not limited to, a change in the density or intensity of use land, shall require an amendment to Coastal Development Permit A-5-LOB-10-015 from the California Coastal Commission or shall require an additional coastal development permit from the California Coastal Commission or from the applicable certified local government.

IV. Findings and Declarations for the Permit Amendment

The Commission hereby finds and declares:

A. Description of the Permit Amendment

On November 19, 2010, the Commission approved Coastal Development Permit A-5-LOB-10-015 with conditions that require the applicant to re-create the site's pre-disturbance topography and to create seasonal pools that allegedly had existed on the site prior to the unpermitted grading that occurred in March 2009. In order to prevent water from the seasonal pools from infiltrating the abandoned landfill that exists beneath the site, the Commission required a new engineered impermeable dump cap to be constructed over the abandoned landfill. The permit also requires the applicant to remove weeds and re-vegetate the disturbed area with native plants (Exhibit #3).

The applicant is requesting to amend the permit prior to implementing a proposed revised habitat re-vegetation and monitoring plan (Exhibit #8). The applicant is requesting that the Commission delete the requirement (Special Condition 1.C) for the installation of an impermeable cap and seasonal pools over the landfill as part of the required re-vegetation plan. The applicant asserts that the plan for the installation of an impermeable dump cap, which has been developed and submitted for review as required by the underlying permit, would result in significant adverse environmental effects that have not been reviewed or approved by the Commission. In addition, the applicant asserts that the large and visually impactful infrastructure would require regular maintenance that would result in frequent disturbance of the property.

The applicant lists the following reasons to justify the removal of the Commission's requirement to install an impermeable dump cap and seasonal pools:

- The installation of an impermeable dump cap would cause lateral methane gas migration to the perimeter of the dump, closer to the adjacent residences and the Los Cerritos Channel (Exhibit #5).

- The installation of an impermeable dump cap would trigger new rules of the landfill regulating agencies (County of Los Angeles Health Dept. and the California Regional Water Quality Control Board) that would require the applicant to construct an expensive and unsightly methane gas collection system, consisting of approximately twenty gas extraction wells, thousands of feet of above-ground pipelines, and a gas-burning plant (Exhibit #6).

- The installation of an impermeable dump cap and a methane gas collection system would require extensive re-grading and additional disturbance of the property, including the removal of the native vegetation that has re-established on the site (e.g., Southern Tarplant).

- The installation of an impermeable dump cap and a methane gas collection system, because of the noise and the amount of land that would be covered by wells and pipelines, would have a significant adverse effect on the habitat value of the site.

- The installation of an impermeable dump cap and a methane gas collection system would not be conducive to the Commission's intent of establishing vegetation typically associated with vernal pools on the site because the underlying substrate would be completely artificial and lacking the soil structure and hydrology upon which that plant community is dependant (Exhibit #7).

- The maintenance associated with an impermeable dump cap would likely result in the future removal of vegetation from the site and the disturbance of the soils.

Commission water quality staff has confirmed the current status of the landfill and the necessity of a methane gas collection system (in the event that an impermeable dump cap is installed) with the regulating agencies (Pete Oda, Environmental Health Specialist at County of Los Angeles Health Dept., and Wen Yang, Senior Engineering Geologist at the California Regional Water Quality Control Board). Methane gas has been documented emanating from the site (the reason for which the Commission issued Emergency Permit 5-09-068-G on April 7, 2009). Any water that percolates into the landfill can cause an increase in methane gas releases. Therefore, the regulating agencies do not allow any water to pool on the abandoned landfill (unless there is an impermeable barrier that prevents percolation). The abandoned landfill, with its permeable soil cap which lets methane gas escape vertically, is currently in compliance with the rules and standards of the landfill regulating agencies. The installation of an impermeable dump cap would be a "post-closure land use" on the landfill, as indicated in the letter from the Los Angeles County Department of Public Health Solid Waste Program, dated June 17, 2011, which regulates landfills in the County (Exhibit #4). Installation of an impermeable dump cap would also trigger the requirement build a methane gas collection system to comply with Los Angeles Regional Water Quality Control Board requirements, as indicated in its letter to the applicant dated June 28, 2011, to ensure that the methane does not travel laterally into the groundwater and flow into adjacent coastal waters and/or travel into adjacent residential areas which would create a health and safety hazard (Exhibit #5).

The applicant's proposed re-vegetation plan for the site, without an impermeable dump cap and seasonal pools, includes a revised plant list (Exhibit #8, ps. 10-12). In any case, the plant list is required to be all Southern California native plants. A dry land dump cap that remains permeable, however, must be vegetated primarily with low water-use plants such as coastal sage, buckwheat, bunch grass and annuals (e.g., lupine), instead of plant communities that rely on wetter environments with seasonal pools.

B. Project History

The project site is Subarea 23 of SEADIP (Southeast Area Development and Improvement Plan), a specific plan that covers the southeast portion of the City of Long Beach. The vacant 9.38-acre bay-fronting site, situated between Loynes Drive and the north bank of Los Cerritos Channel (Alamitos Bay), is part of an old landfill operation (refuse dump) that filled coastal marshland in the 1940s and '50s (Exhibit #2). The top layer of the landfill was disturbed by unpermitted grading that occurred on March 19 and 20, 2009. That unpermitted grading altered the topography and removed vegetation from most of the site. The area disturbed by the unpermitted grading is shown on Exhibit #3 (Source: Google Earth/USDA, May 25, 2009). Apparently, the grading also exposed part of the old dump.

On April 7, 2009, Commission staff issued an Emergency Permit 5-09-068-G to allow the applicant to take immediate action to mitigate elevated methane levels (up to 7700 ppm) detected at the site by the South Coast Air Quality Management District (Exhibit #3). Although the project site is located within the primary permitting jurisdiction of the City of Long Beach pursuant to its certified LCP, the emergency permit was granted by the Executive Director of the Commission because the certified LCP does not contain any provisions for issuing emergency permits. The emergency work authorized the applicant to:

> Import 1,000 cubic yards of clean fill dirt to create a minimum six-inch thick dirt cap over an area no larger than 50,000 square feet to cover exposed trash in order to prevent methane release, per orders to comply issued by California Integrated Waste Management Board (Inspection Report, File No. 19-AK-5003 dated 3/26/2009) and South Coast Air Quality Management District (Case No. D-18289, 3/26/2009).

Following the issuance of the emergency permit, the applicant constructed a six-inch thick cap over a 50,000 square foot portion of the dump using approximately one thousand cubic yards of imported fill dirt. A condition of Emergency Permit 5-09-068-G required the applicant to apply to the City of Long Beach for the follow-up permit.

On April 28, 2009, the applicant filed an application for a local coastal development permit with the City of Long Beach Department of Development Services. The City's Notice of Public Hearing for Local Coastal Development Permit No. 0904-15 identified the site as being in the appealable area of the coastal zone (the site comprises part of the north bank of Los Cerritos Channel, Alamitos Bay). The local coastal development permit that is the subject of this appeal also serves as the follow-up permit for Coastal Commission Emergency Permit 5-09-068-G.

On October 12, 2009, the City of Long Beach Zoning Administrator held a public hearing and approved Local Coastal Development Permit No. 0904-15 to allow the import of one thousand cubic yards of soil to re-establish and maintain the cap over the existing landfill (in response to Coastal Commission Emergency Permit 5-09-068-G), and to allow weed abatement to comply with a Fire Department order. The decision of the Zoning Administrator was appealed to the City Planning Commission by several persons because the local coastal development permit did not include a condition requiring any restoration or re-vegetation of the project site.

On December 3, 2009, the Planning Commission held a public hearing and approved Local Coastal Development Permit No. 0904-15 with conditions (Exhibit #3). The appeals were denied, but the Planning Commission added Special Condition Ten, which states:

> 10. The applicant shall comply with a remediation plan to be prepared by staff and submitted to the Planning Commission for consideration within 90 days.

The Planning Commission's decision was not appealable to the Long Beach City Council. On January 25, 2010, the Commission's South Coast District office in Long Beach received the first of seven valid appeals of the local coastal development permit. The appeals of the local coastal development permit call for restoration of the graded area of the site.

On March 10, 2010, the Commission determined that a substantial issue exists with respect to the grounds of the appeals because: a) the certified LCP designates the site for restoration as a brackish pond, b) the certified LCP requires that open space and natural habitat areas be

preserved and that the waters of Alamitos Bay be protected from runoff, and c) the absence of a detailed and enforceable habitat protection and restoration plan could adversely affect wildlife, wetlands, and the quality of adjacent tidal waters. A remediation plan prepared by City staff was never submitted to the Planning Commission (or Coastal Commission) for consideration.

On September 22, 2010, the applicant submitted a proposed re-vegetation and monitoring plan for the site entitled Habitat Revegetation and Monitoring Plan, Loynes Drive Project, Long Beach, by LSA Associates, Inc., September 2010.

On November 19, 2010, after a public hearing, the Commission approved with conditions Coastal Development Permit Application A-5-LOB-10-015. Special Condition One requires the applicant to submit a revised re-vegetation and monitoring plan that would result in the re-creation of site's pre-disturbance topography and seasonal pools that allegedly existed on the site prior to grading. The permit also requires the applicant to construct an impermeable cap on the dump (to prevent water from infiltrating the abandoned landfill) and to re-vegetate the disturbed area with Southern California native plants appropriate to the site's hydrology and historical ecology. On May 12, 2011, the Commission adopted the revised findings in support of the Commission's November 19, 2010 approval with conditions of Permit A-5-LOB-10-015.

On September 16, 2011, the applicant submitted Permit Amendment Request A-5-LOB-10-015-A1 and a proposed revised re-vegetation and monitoring plan for the site entitled Habitat Revegetation and Monitoring Plan, Loynes Drive Project, Long Beach, by LSA Associates, Inc., September 2011 (Exhibit #8). The applicant requests the removal of the requirement to construct seasonal pools and an impermeable cap on the dump.

C. Local Coastal Program

This coastal development permit, which is proposed to be amended, came to the Commission as an appeal. A de novo public hearing on the merits of an application uses the certified LCP as the standard of review. In addition, for projects located between the first public road and the sea, as in this case, findings must be made that an approved application is consistent with the public access and recreation policies of the Coastal Act.

The proposed project is located within the City of Long Beach. The City of Long Beach Local Coastal Program was certified by the Commission on July 22, 1980. On March 10, 2010, the Commission determined that the appeals raised a substantial issue regarding consistency of the development with the City of Long Beach certified LCP. The Commission approved the underlying de novo permit (A-5-LOB-10-015) on November 19, 2010.

Land Use Designation

The certified LCP designates the project site (Subarea 23) as a site for a brackish pond in the future. The site does not currently contain a brackish pond or any standing water. The certified City of Long Beach LCP designates the bay-fronting site as a restoration site; specifically as the site for a future 8.3-acre brackish pond. The project site falls within Subarea 23 of SEADIP (PD-1 - Southeast Area Development and Improvement Plan), a specific plan that covers the southeast portion of the City of Long Beach. The standards for SEADIP Subarea 23 (a component of the certified LCP) are set forth as follows:

SEADIP Subarea 23

a. The two wetland concepts generally outlined shall include a 8.3 acre brackish pond on Area 23 provided that the Executive Director of the California Coastal Commission determines (i) in addition to the setback for buffer, the elevation and setbacks between development and wetland edge shall be sufficient to ensure stability during liquefaction events caused by the maximum credible earthquake; (ii) that the location and operation of the proposed wetland are acceptable to the Regional Water Quality Control Board, the State Department of Health and to the Local Mosquito Abatement District.
b. If approval from these agencies results in reductions to the net size of the proposed wetland, restoration at this site shall only occur if the remaining area is sufficient to create a wetland at least the same size as the existing brackish pond at the Marketplace.

The LCP policy for SEADIP Subarea 23 refers to the brackish pond at the Marketplace because the restoration of SEADIP Subarea 23 is linked to the development plan for SEADIP Subarea 25. The brackish pond at the Marketplace is in SEADIP Subarea 25, which is an uncertified portion of the Los Cerritos Wetlands area located south of Second Street. An uncertified section of SEADIP called for filling the pond at the Marketplace (and other wetlands) and the construction of a business park in SEADIP Subarea 25. SEADIP Subarea 23 is identified as the site for mitigating the filling of the pond and wetlands in SEADIP Subarea 25.

There has been no recent development in Subarea 25, and the pond in that subarea has not been filled. Any proposal to place fill in SEADIP Subarea 25 of the wetlands would require a coastal development permit from the Commission and would raise issues of consistency with Section 30233 of the Coastal Act.

The certified LCP sets forth the following general provisions that relate to open space areas like the project site.

LCP Open Space Policies

The certified LCP requires that open space and natural habitat areas shall be preserved and that the waters of Alamitos Bay be protected from polluted runoff. The following goals and policies, contained in the Open Space Element of the City's General Plan, are equally weighted policies of the Land Use Plan (LUP) portion of the City's certified LCP:

1. Goals: Open Space - Preservation of Natural Resources

b. To preserve and enhance the open space opportunities offered by the inland waterways of the city through improved access and beautification.
g. To preserve areas which serve as natural habitats for fish and wildlife species and which can be used for ecologic, scientific, and educational purposes.
h. To locate, define, and protect other beneficial natural habitats in and about the city.

5. Goals: Open Space – Shaping Urban Development

a. To maintain and enhance existing and potential open space areas which are important as links, nodes, and edges, or provide relief from urban built-form.

8. Policies: Open Space Node – Alamitos Bay & Recreation Park

Conserve and enhance Alamitos Bay – Recreation Park open space node by:

e. Improving the quality of the Bay waters by controlling all forms of possible pollution, both in Bay and in tributaries upstream;
h. Maintaining close surveillance over all proposed projects in the Bay area through the environmental review process;
i. Exerting design controls on proposed improvements in order to prevent degradation of the aesthetic environment;

These LCP open space and natural resource preservation policies apply to the proposed project. The current land use of the bay-fronting property is an old dump/open space, devoid of buildings, roads, or other structures on the subject site. The property owner has not granted the public permission to access the property. Because the proposed project involves disturbance of the surface and vegetation on the site by grading, removal of vegetation and depositing fill, which will also help manage methane releases from the site, it is important to invoke these LCP policies to ensure that this open space is enhanced to support wildlife in the Alamitos Bay habitat and to control all forms of possible pollution, including methane, to improve the quality of the bay waters.

D. Re-Vegetation and Monitoring Plan

The previously approved project involves three inter-related phases of development: 1) re-establishment of the dump's soil cap, necessitated by prior unpermitted grading of the site, 2) restoration and re-vegetation of the graded area and disturbed dump cap, and 3) weed abatement/maintenance. The current land use (old dump/open space) has not been changed. The proposed development is intended to improve the environmental condition of the property by improving the scenic qualities and habitat values of the site through the proposed weed abatement and re-vegetation with native plants.

The question now before the Commission, is how to best restore the habitat value of the project site: by constructing water pooling areas over an impermeable dump cap, which would trigger the need to construct a methane gas collection system; or, by re-vegetating the site with native low-water use plants, without installing an impermeable dump cap, a methane gas collection system, and the new contours necessary to create seasonal pools?

The certified LCP calls for the preservation and enhancement of open space areas that serve as natural habitat areas, especially areas near Alamitos Bay like the project site. The LCP also requires that proposed projects along the bay prevent degradation of the aesthetic environment. Although the applicant now has agreed to re-vegetate the disturbed portion of the site with native plants, new information has been presented which substantially changes the scope of the restoration plan that the Commission envisioned when it approved Coastal Development Permit A-5-LOB-10-015 on November 19, 2010. The new information is the requirement for the construction of a methane gas collection system that would be triggered with the installation of the Commission-mandated impermeable dump cap. The construction of an impermeable dump cap and the associated methane gas collection system would include re-grading of the site, drilling of approximately twenty gas extraction wells, installation of

thousands of feet of above-ground pipelines, and construction of a gas-burning plant. Thus, it would cause significant disturbance to the natural habitat of the restored site and would visually degrade the aesthetic environment along the bay with the construction of an obtrusive methane gas collection system (Exhibit #6, ps. 12-15).

An impermeable dump cap and a methane gas collection system are only necessary if the restoration plan includes re-grading of the site to contour the top of the landfill in a manner that creates low areas for water to pool. The applicant's proposed alternative to the seasonal water pool plan does not include re-grading the site or any new construction; it simply involves the removal of non-native plants, importing additional soil to a depth of at least six-inches for planting purposes, landscaping the site with native low-water use plants, and maintaining the abandoned landfill as open space. The applicant's proposed plan would eliminate the potential for periodically disturbing the site in the future in order to maintain the dump cap, pipelines and extraction wells, which could undo the benefit of landscaping the site with native plants (Exhibit #6, ps. 4-7).

The applicant's proposal for re-vegetation of the site is attached as Exhibit #8 (Habitat Revegetation and Monitoring Plan, Loynes Drive Project, Long Beach, by LSA Associates, Inc., September 2011). Staff is recommending the approval of the applicant's permit amendment request (a revised re-vegetation plan with the deletion of the impermeable dump cap and seasonal pools) because it is the alternative with the least significant adverse effects on the environment, both in the short-term and long-term. With the knowledge that the installation of an impermeable dump cap would trigger a requirement to construct a methane gas collection system, to mitigate methane gas that would laterally migrate into the waters of the bay and adjacent residential areas, which would substantially change the character and habitat value of the project site, the Commission recognizes that the construction of seasonal pools on the site conflicts with the Commission's original intent to create an alkali meadow habitat on top of the abandoned landfill.

Type of Habitat

The appropriate type of habitat restoration necessarily depends on what type of habitat the site will support, and what species of wildlife utilize the site. Another factor is whether the disturbed portion of the site had any wetlands on it before the grading commenced on March 19, 2009. If any wetlands were destroyed by the grading, then it would be appropriate to require the applicant to mitigate for the loss of wetlands.

At the Commission's November 19, 2010 public hearing, there was disagreement between the applicant and the appellants over the type of habitat that existed on the site prior to the March 2009 grading episode. The appellants provided substantial evidence (e.g., photographs and testimonials) that wildlife exists on the site. Wildlife observed on the site includes fence lizards, squirrels, rabbits, rodents, raptors, herons, egrets and other common birds. The appellants also provided substantial evidence (e.g., photographs and testimonials) that the disturbed portion of site was not flat before the unpermitted grading occurred. The photographic evidence shows that the area where the unpermitted grading occurred had contours and low spots where the appellants assert that seasonal pools had been observed. Photographs taken on March 19 and 20, 2009 show a bull dozer grading part of the site and changing the contours of the land.

The observations described in a report by Dr. Longcore [Comments on Illegal Development and Retroactive Permit to Remediate at 6400 Loynes Drive, Long Beach, by Travis Longcore, Ph.D. and Catherine Rich, J.D., M.A., Land Protection Partners, 10/8/2009] support the assertions that seasonal pools existed on the disturbed portion of the site prior to the unpermitted grading. The Longcore report states that there are seasonal wetlands (vernal pools) that form on lower elevations on the western side of the property, and that wetlands (areas covered periodically with shallow water) previously existed on the portion of the site where the unpermitted graded occurred in March 2009. Photographs taken prior to March 2009 show small pools of water in the area where the unpermitted grading occurred. The record also shows that hydric soils exist on the site (PCR Report dated 9/9/9), as well as a few native wetland plants.

The applicant, however, did not agree that water ever pooled on the part of the landfill that was disturbed by grading in March 2009, at least not in sufficient quantities to be defined as "seasonal pools". The applicant cited the County and State dump inspection reports and prior surveys of the area which never indicated that there was any standing water or pools on the abandoned landfill.

The applicant continues to dispute this conclusion, asserting that any puddles that were seen on the site would have quickly evaporated and could not be categorized as wetlands or seasonal pools if they were not seen or documented as a regular presence over several years. The applicant also asserts that the aerial photos that were used to support the appellants' contention of rolling topography and water pools on the site do not actually show the presence of any water on the site. The applicant has provided studies of the area which did not identify any wetlands on the disturbed portion of the property [Delineation of Wetlands and Waters subject to Corps of Engineers Jurisdiction Under Section 404 of the Clean water Act and/or Section 10 of the Rivers and Harbors Act, Bixby Ranch, Los Cerritos Wetlands, Long Beach, California (by LSA Associates, Inc., 1/17/1997) & Biological Setting of the Bixby Ranch Company Oil Field Property in the Los Cerritos Wetland, Long Beach, California (by LSA Associates, Inc., Revised 7/8/1998).]

It must be noted that the Commission did not find that the unpermitted grading that occurred in March 2009 affected any wetlands or environmentally sensitive habitat areas based on testimony and written evidence, including aerial photos, submitted at the hearing by the appellants. In weighing the testimony and written materials submitted, the Commission, on November 19, 2010, determined that the appellants had provided sufficient evidence that the site had contained varying topography with low spots that may have allowed water to pool on top of the dump after rains. The Commission required the applicant to restore the varying topography on the site with low spots for seasonal pools.

The following studies of the site have also been produced as a result of the investigations that followed the unpermitted grading of the site:

- Biological Resources Evaluation and Jurisdictional Waters Delineation for APN 7237017006, by Ty M. Garrison, SWCA Environmental Consultants, 5/28/2009.
- Peer Review of the Biological Resources Evaluation and Jurisdictional Waters Delineation for APN 7237017006, by PCR Services Corporation (PCR), 9/9/2009.

- Comments on Illegal Development and Retroactive Permit to Remediate at 6400 Loynes Drive, Long Beach, by Travis Longcore, Ph.D. and Catherine Rich, J.D., M.A., Land Protection Partners, 10/8/2009.
- Biological Review for Coastal Development Permit Appeal A-5-LOB-10-015 – 6400 E. Loynes Drive, Long Beach, by LSA Associates, Inc., 11/15/2010.
- Supplement to Biological Review for Coastal Development Permit Appeal A-5-LOB-10-015 – 6400 E. Loynes Drive, Long Beach, by LSA Associates, Inc., 11/16/2010.
- Memo to Coastal Commission regarding Hitchcock Property, 6400 Loynes Drive, Long Beach, by Travis Longcore, Ph.D., Land Protection Partners, 11/17/2010.

These studies were conducted after the initial grading of the site occurred in March 2009, and all the studies acknowledge that the site is generally dominated by exotic plant species. The report for the project site submitted by the Los Cerritos Wetlands Trust (by Travis Longcore, PhD) indicates that the site has significant biological value because of its characteristics and its proximity to the tidal channel and the adjacent salt marshes. The Los Cerritos Channel (Alamitos Bay) borders the southern side of the property and the Los Cerritos Wetlands tidal marsh (Steam Shovel Slough) is about three hundred feet south of the project site (Exhibit #2). While most of the project site is primarily upland (about 16 to 20 feet of fill covering former salt marsh), Dr. Longcore's report states that there are seasonal wetlands (vernal pools) that form on lower elevations on the western side of the property and that seasonal wetlands (vernal pools) also existed on the disturbed portion of the site prior to grading.

The applicant asserts that the land should be restored to the condition it was in before the grading occurred, but he contends that the site was basically flat and contained no wetlands. Ultimately, the Commission on November 19, 2010 determined that there was substantial evidence to support the appellants' claims that water did pool, at least periodically, on some portion of the project site. The Commission, however, did not find that there was sufficient evidence to conclude that any actual wetland habitat had been destroyed because the evidence was not conclusive as to how often or for what duration (or even the location) these seasonal pools may have existed prior to the unpermitted grading. Site visits by the Commission staff ecologist and the applicant's biologist in March and October 2010 found very few specimens of native plants growing among the weeds, notably flowering lupine plants (in March) and Southern Tarplant (in October).[1] Based on the site visits and the review of the available evidence, and considering the state of the property as an abandoned landfill, the Commission's staff ecologist could not define any wetlands on the disturbed portion of the site.

In recognition of the scope of habitat destruction that was documented during the unpermitted grading that occurred in March 2009, the Commission determined that the most appropriate type of site restoration for the site was a project implemented by the applicant that would restore the site's former topography with bumps and low spots sufficient to create a few seasonal pools. The Commission, recognizing that a proposal to allow pooling water on the abandoned landfill would be problematic if it resulted in increased methane gas production (from mixing of water and the materials in the landfill), imposed the requirement to install an impermeable dump cap over the landfill.[2]

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[1] Southern Tarplant (*Centromadia parryi ssp. Australis*), which is listed as a 1B.1 rare plant by the California Native Plant Society.

[2] Los Angeles Co. Dept. of Public Health (Thomas White, 5/12/10) confirmed that the mixture of water and decomposing materials in an old dump would likely result in increased levels of methane emissions.

The Commission, at the November 19, 2010 hearing on the matter, also directed the applicant to come back with a permit amendment if the impermeable dump cap could not be approved by the appropriate landfill regulating agencies. The conditions of the permit require that the impermeable dump cap shall be designed in compliance with the specifications and requirements of the California Integrated Waste Management Board, the Los Angeles County Department of Public Health (Environmental Health Solid Waste Management Program), the Regional Water Quality Control Board (Los Angeles RWQCB), and the South Coast Air Quality Management District (AQMD).

After the applicant consulted with the landfill regulating agencies (County of Los Angeles and California Regional Water Quality Control Board), it was learned that an engineered impermeable dump cap could be constructed over the landfill, but only in conjunction with a methane gas collection system (Exhibits #4-6). The construction of such a system would thoroughly change the character and scale of the previously approved development that was anticipated to be a habitat restoration project.

Therefore, the underlying permit must be amended to either: a) revise the re-vegetation plan to reflect the deletion of the impermeable dump cap and seasonal pools, or b) revise the project to include the construction of the methane gas collection system that would be required by the California Regional Water Quality Control Board and County if an impermeable cap is constructed over the abandoned landfill. Staff is recommending that the Commission approve the proposed amendment to the permit, which results in a revised re-vegetation plan with the deletion of the impermeable dump cap and seasonal pools because it is the alternative with the least significant adverse effects on the environment. Approval of the permit amendment with conditions will require the applicant to re-vegetate the disturbed area on the landfill with Southern California native plants appropriate to the site's condition as an abandoned landfill. The previously imposed provisions for monitoring and future maintenance of the site are unchanged by the amendment.

The restoration plan that does not include an impermeable dump cap is the alternative with the least significant adverse effects on the environment, and more consistent with the policies of the Long Beach certified LCP because it involves minimal disturbance of the site and the protection of the native plants that have already re-established themselves on the site (e.g., Southern Tarplant). Maintenance of the abandoned landfill (with native plant landscaping), as proposed by the applicant, does not cause the significant adverse environmental effects associated with the installation of an impermeable dump cap. The permit amendment, if approved as requested, would eliminate the following significant adverse environmental effects associated with the installation of an impermeable dump cap:

- Lateral methane gas migration to the perimeter of the dump, closer to the adjacent residences and the Los Cerritos Channel (Exhibit #5).

- The adverse impacts caused by extensive re-grading and additional disturbance of the property, including the removal of the native vegetation that has re-established on the site (e.g., Southern Tarplant).

- The adverse impacts to the aesthetic environment along the bay caused by construction of a methane gas collection system, consisting of approximately twenty

gas extraction wells, thousands of feet of above-ground pipelines, and a gas-burning plant (Exhibit #6).

- The loss of habitat area and lowering of habitat value caused by land used for gas extraction wells and pipelines, and noise caused by blowers in the gas-burning plant.

- The adverse impacts caused by additional disturbance of the site in the future for ongoing maintenance of the dump cap and methane collection system (i.e., removal of established native vegetation).

In addition, the applicant's biologist asserts that the installation of an impermeable dump cap and a methane gas collection system would not be conducive to the Commission's intent of establishing vegetation typically associated with vernal pools on the site because the underlying substrate would be completely artificial and lacking the soil structure and hydrology upon which that plant community is dependant (Exhibit #7).

In order to avoid the significant adverse effects associated with the installation of a methane gas collection system described above, the implementation of a habitat protection and restoration plan, subject to the requirements of a revised Special Condition One, would bring the proposed development into consistency with the requirements of the certified LCP to preserve and enhance open space areas as natural habitats and to prevent the degradation of the aesthetic environment along the bay. Revised Special Condition One requires the planting of Southern California native plants appropriate to the site's hydrology and historical ecology (transitional grassland/coastal scrub). Alkali meadows are not an appropriate type of vegetation community on this abandoned landfill because the soil structure and hydrology necessary for the plants' survival cannot be constructed without an impermeable barrier that would cause significant adverse environmental impacts.

Appropriate native plants for the site include, but are not limited to, coastal sage bush, buckwheat, coast goldenbush, shining pepper grass, salt grass, bunch grass and annuals (e.g., lupine and yellowray goldfields). These plants need little or no irrigation to thrive in the upland area adjacent to Alamitos Bay. It is important to limit irrigation of the site to prevent polluted runoff from entering the waters of Alamitos Bay, and to prevent water from infiltrating into the underlying landfill (and increase methane pollution). The re-vegetation of the disturbed area with native plants will help protect the adjacent bay waters from polluted runoff by reducing erosion of the dump cap caused by wind and precipitation. The re-vegetation of the disturbed area will also improve aesthetic environment along the bay. The permit, as amended, also includes mitigation and habitat enhancement measures that will help protect the adjacent tidal areas from polluted runoff and sediment that may erode from the subject site subsequent to weed abatement.

The restoration of the project site as a brackish pond, as called for by the SEADIP plan, is not appropriate at this time and does not appear to be a viable alternative. The LCP calls for the conversion of the site (old landfill into a brackish pond at the time when another site in the SEADIP area (Subarea 25) is developed. At this time there is no proposal to develop Subarea 25. Therefore, now is not the time contemplated by the LCP for the conversion of the project site to a brackish pond. There is no proposal to convert the old dump site to a brackish pond~~,~~ and it would involve substantial environmental risk to create a pond on top of the old dump. Of course the LCP does not allow for any other use of the site, so it continues to remain open

space. The proposed project does not propose to change the use of the site, but to improve the environmental condition and aesthetics of the property by creating native habitat and controlling runoff and erosion.

Consistent with the certified LCP, the restoration plan required by Special Condition One is necessary to control pollution, runoff and erosion on the bay-fronting site. The implementation of a detailed habitat protection and restoration plan that protects wildlife and the adjacent tidal waters and wetlands would bring the proposed development into consistency with the requirements of the certified LCP to preserve and enhance open space areas as natural habitats.

Restoration and Re-vegetation Plan

In conclusion, to mitigate the adverse impacts of the proposed development, the disturbed portion of the site must be re-vegetated in order to enhance its value as wildlife habitat, reduce the potential for erosion, and beautify the site as required by the open space policies of the certified LCP. Revised Special Condition One requires the applicant to submit a revised re-vegetation plan for the portions of the project site disturbed by prior grading and by re-establishment of the dump cap. The applicant's proposed plan would re-vegetate 5.93-acre portion of the site that was disturbed by the unpermitted grading in March 2009 (Exhibit #8, p.5). The applicant's plan is consistent with the areal photograph dated on May 25, 2009 which shows the disturbed area that must be re-vegetated (Exhibit #4: Google Earth/USDA).

The revised re-vegetation plan must be developed in consultation with the California Department of Fish and Game, the County of Los Angeles Department of Public Health (Environmental Health Solid Waste Management Program), the Regional Water Quality Control Board (Los Angeles RWQCB), and the South Coast Air Quality Management District (AQMD). The revised re-vegetation plan must be developed and submitted for the approval of the Executive Director within sixty days (or within such additional time as the Executive Director may grant for good cause) of Commission action on this permit amendment. Only as conditioned to develop and implement a restoration and re-vegetation plan does the proposed development conform with the open space and habitat protection policies of the certified LCP.

The re-vegetation plan shall include only Southern California native plants appropriate to the site's hydrology and historical ecology natural habitat type, which is transitional scrub grassland). Appropriate native plants include, but are not limited to: coastal sage bush, buckwheat, coast goldenbush, shining pepper grass, salt grass, bunch grass and annuals (e.g., lupine and yellowray goldfields). All seeds and cuttings employed are required to be from local sources in the Los Angeles and Orange County coastal areas.

The disturbed open space, once restored and re-vegetated with native plants, will better support the wildlife observed on the site and in the adjacent wetlands, and will mitigate the adverse impacts to the habitat that result from the approved development, thereby complying with the relevant LCP policies. As conditioned, the permit includes specific provisions necessary to protect habitat and native vegetation on the site, and to protect the adjacent tidal areas from polluted runoff and sediment that may erode from the site subsequent to the vegetation removal. For example, revised Special Condition One specifies that native plants already growing on the site shall be protected and that no bird nests shall be disturbed at any time. A temporary irrigation system may be employed, but the applicant is required to install

erosion control during the restoration project (e.g., temporary sediment basins, silt traps, drains and swales, sand bag barriers, and silt fencing). Additionally, the permittee is required to provide the funding necessary to compensate a third party monitor (approved by the Executive Director) for the completion of the monitoring reports required by this condition. The site shall be actively monitored for at least five years. At the end of five years, a minimum of eighty percent (80%) of the disturbed area shall be covered with native plants. No more than five percent (5%) of the disturbed area shall be covered with non-native plants at any time.

This amended permit does not authorize the construction of any trails or roads, or the erection of any fence, gate or wall. Special Condition Six clarifies that future development as defined in PRC Section 30106, including, but not limited to, a change in the density or intensity of use land, shall require another amendment to Coastal Development Permit A-5-LOB-10-015 from the California Coastal Commission or shall require an additional coastal development permit from the California Coastal Commission or from the applicable certified local government (City of Long Beach).

The resource agencies may require further mitigation measures to minimize or avoid impacts to marine resources. Therefore, Special Condition Three requires the permittee to comply with all permit requirements and mitigation measures of the other regulatory agencies with jurisdiction over the approved development with respect to preservation and protection of water quality and marine environment. Prior to any re-vegetation or disturbance of the site, the permittee shall also file an 1150.1 (Excavation of Landfill Plan) with the South Coast Air Quality Management District. Any change in the approved project which may be required by the above-stated agencies shall be submitted to the Executive Director in order to determine if the proposed changes shall require a permit amendment pursuant to the requirements of the Coastal Act and the California Code of Regulations. Only as conditioned to mitigate and avoid impacts to marine resources does the proposed development conform with the open space and habitat protection policies of the certified LCP.

E. Recreation and Public Access

Because of the project's location between the first road (Loynes Drive) and the sea (Alamitos Bay), the proposed project must conform to the following public access and recreation policies of the Coastal Act.

Section 30210 of the Coastal Act states:

> In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.

Section 30211 of the Coastal Act states:

> Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.

Section 30212 of the Coastal Act states (in part):

> (a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where: (1) It is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, (2) Adequate access exists nearby, or, (3) Agriculture would be adversely affected. Dedicated accessway shall not be required to be opened to public use until a public agency or private association agrees to accept responsibility for maintenance and liability of the accessway.

Section 30213 of the Coastal Act states:

> Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred.

Section 30220 of the Coastal Act states:

> Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.

Section 30221 of the Coastal Act states:

> Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.

Section 30222 of the Coastal Act states:

> The use of private lands suitable for visitor-serving commercial recreational facilities designed to enhance public opportunities for coastal recreation shall have priority over private residential, general industrial, or general commercial development, but not over agriculture or coastal-dependent industry.

Section 30223 of the Coastal Act states:

> Upland areas necessary to support coastal recreational uses shall be reserved for such uses, where feasible.

Section 30224 of the Coastal Act states:

> Increased recreational boating use of coastal waters shall be encouraged, in accordance with this division, by developing dry storage areas, increasing public launching facilities, providing additional berthing space in existing harbors, limiting non-water-dependent land uses that congest access corridors and preclude boating support facilities, providing harbors of refuge, and by providing for new boating facilities in natural harbors, new protected water areas, and in areas dredged from dry land.

Most of the project site is fenced and provides no public access or recreation at this time. A service road/walkway that is used for walking by the public runs along the north bank of the Los Cerritos Channel (Alamitos Bay) along the water on the southern side of the property. This permit does not authorize the construction of any trails or roads, or the erection of any fence, gate or wall. Therefore, the proposed development will not affect the public's ability to gain access to, and/or to make use of, the coast and nearby recreational facilities. Therefore, the proposed development conforms with the public access and recreation policies of the Coastal Act.

F. California Environmental Quality Act (CEQA)

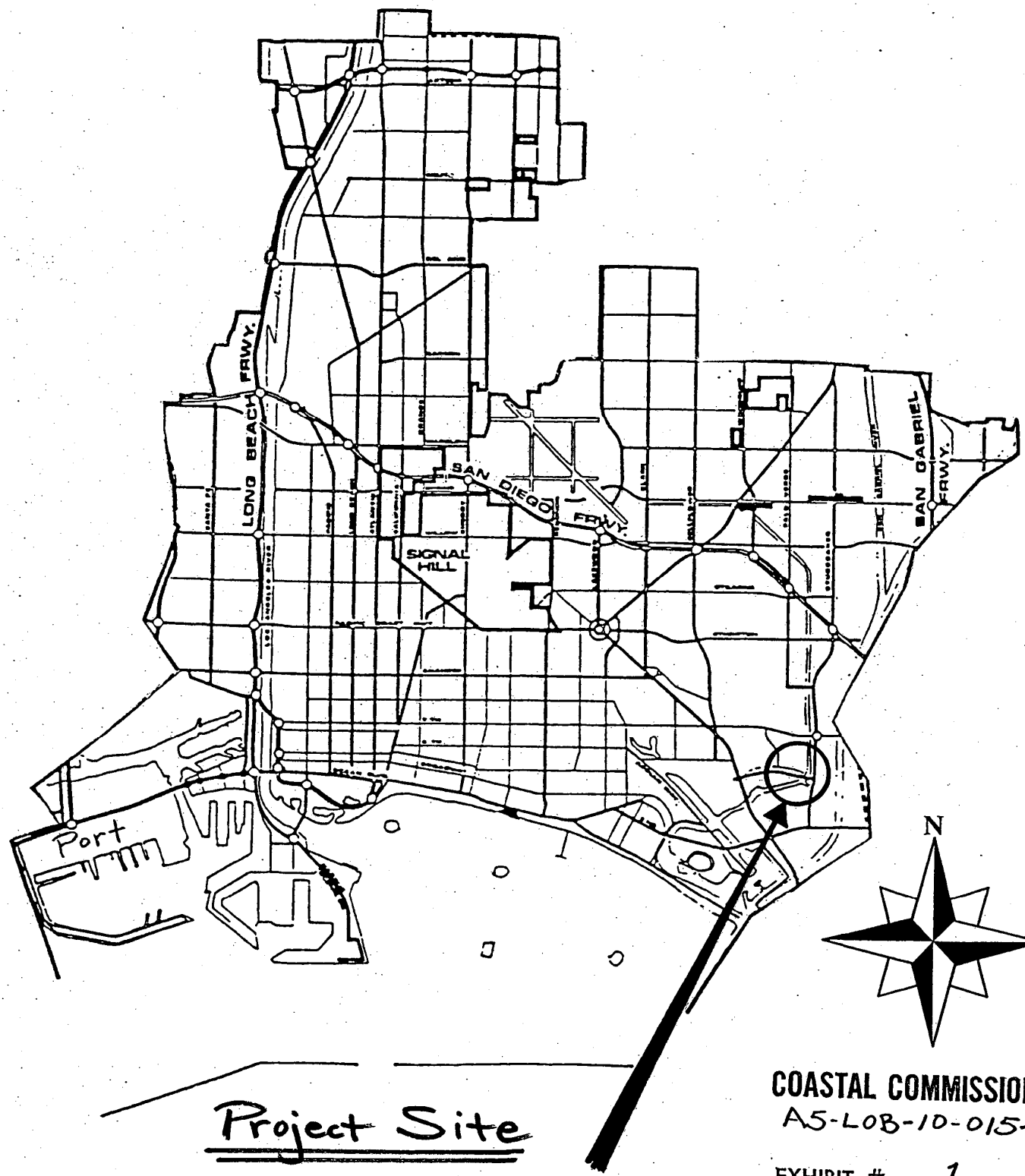
Section 13096 of the California Code of Regulations requires Commission approval of a coastal development permit application to be supported by a finding showing the application, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

The City of Long Beach is the lead agency for the purposes of CEQA review and has determined that the proposed project is categorically exempt from the California Environmental Quality Act pursuant to CEQA Guidelines Section 15308 (Class 8 – Actions by Regulatory Agencies for Protection of the Environment. On September 21, 2009, the City of Long Beach issued CEQA Categorical Exemption CE-09-029.

As explained in the findings above, the proposed project and permit amendment has been conditioned in order to be found consistent with the certified LCP and the public access and recreation policies of the Coastal Act. As conditioned, the approved project and permit amendment is the environmentally preferable alternative. Mitigation measures, in the form of special conditions, provide requirements for restoration and re-vegetation of the previously graded area of the site with native plants appropriate to the location; timing of the re-vegetation; monitoring and future maintenance of the site; and protection of water quality and marine resources.

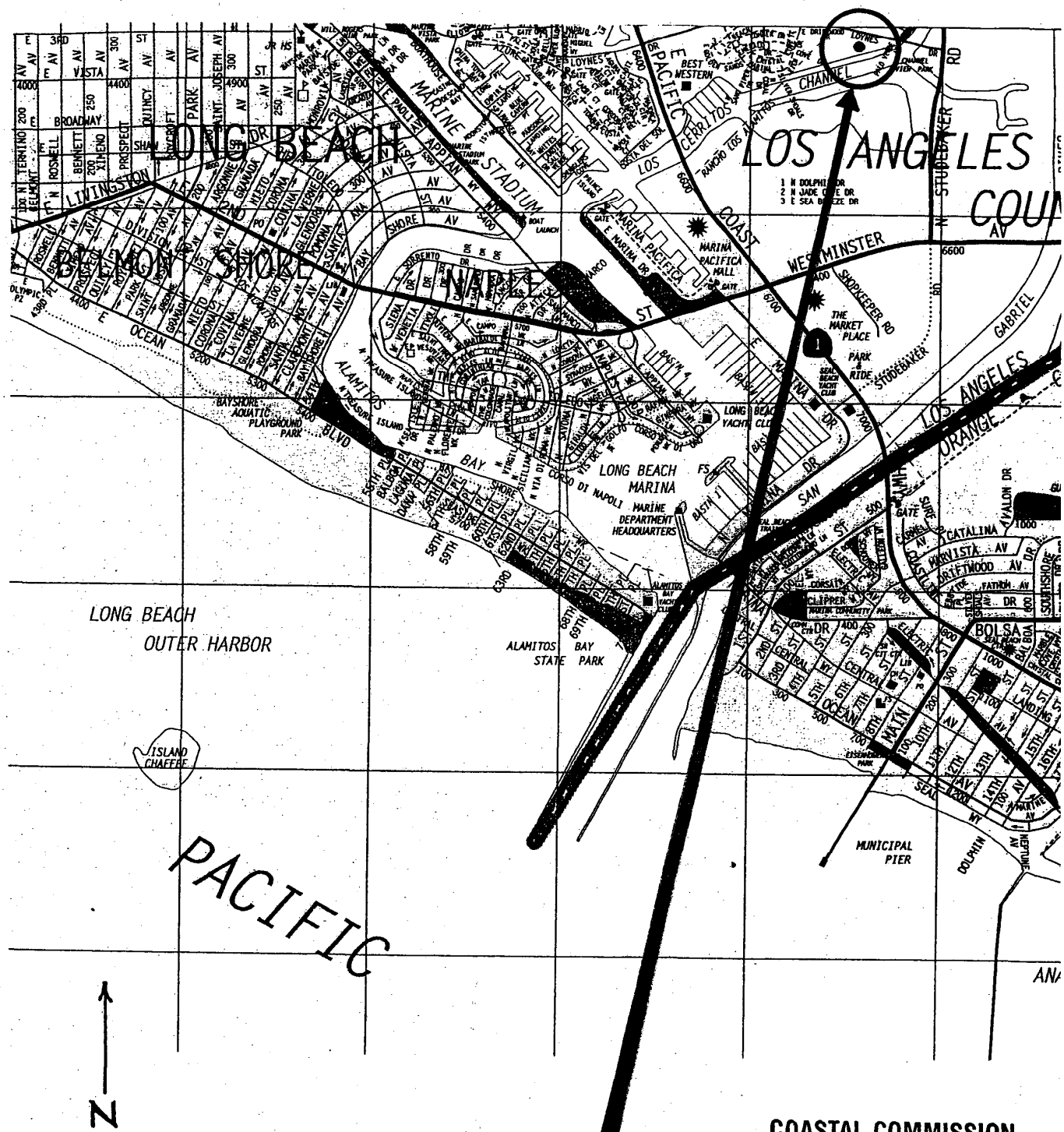
As conditioned, there are no feasible alternatives or additional feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment. Therefore, the Commission finds that the proposed project, as conditioned to mitigate the identified impacts, is the least environmentally damaging feasible alternative and complies with the applicable requirements of the Coastal Act and CEQA.

City of Long Beach



COASTAL COMMISSION
A5-LOB-10-015-A1

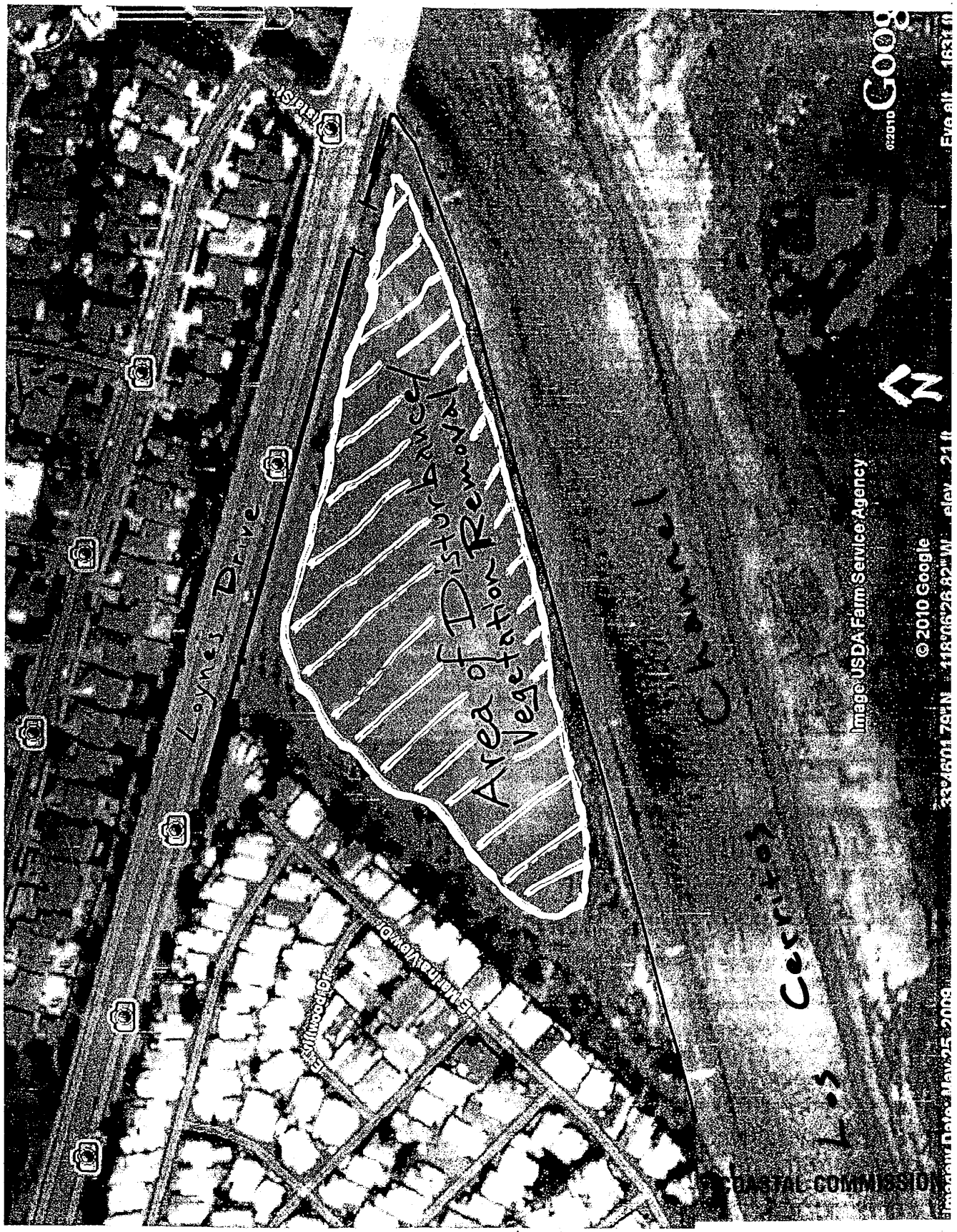
EXHIBIT # 1



Project Site

6400 E. Loynes Drive

COASTAL COMMISSION
A5-LOB-10-015-A1
EXHIBIT # 2
PAGE 1 OF 1



Area of Disturbance

A-5-LOB-10-015-A1

EXHIBIT # 3

PAGE 1 OF 1

Comment Letter LCWLT

COUNTY OF LOS ANGELES
Public Health
Environmental Health

JONATHAN E. FIELDING, M.D., M.P.H.
Director and Health Officer

JONATHAN E. FREEDMAN
Chief Deputy Director

ANGELO J. BELLOMO, REHS
Director of Environmental Health

KENNETH MURRAY, REHS
Director of Environmental Protection Bureau

CINDY CHEN, REHS
Solid Waste Program Chief
5050 Commerce Drive
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BOARD OF SUPERVISORS

Gloria Molina
First District

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Zev Yaroslavsky
Third District

Don Knabe
Fourth District

Michael D. Antonovich
Fifth District

June 17, 2011

Mr Paul Willman
Principal Solid Waste Planner
1360 Valley Vista Drive
Diamond Bar, CA 91765

RE: PROPOSED POST-CLOSURE LAND USE OF CITY DUMP & SALVAGE NO. 1 AND 3 (SWIS # 19-AK-5003)-6400 E. LOYNES DRIVE

The Los Angeles County Department of Public Health Solid Waste Program, acting as the Local Enforcement Agency has reviewed the Staff Report: Revised Findings from the California Coastal Commission. This proposed project is considered a change in post-closure land use which will trigger applicable regulatory requirements pursuant to California Code of Regulations (CCR), Title 27 Section 21190 "Post-closure Land Use". The proposed project mentions the installation of an impermeable cap to accommodate seasonal pools. Methane gas still is being generated at this closed landfill as indicated on the 03/26/09, "Closed Disposal Site Inspection Report". With that said, the installation of an impermeable cap will increase the potential of the gas migrating laterally towards the mobile home park and the homes across Loynes Drive.

If you have any questions, please contact me at (626) 430-5541.

Sincerely,

Pete Oda
Environmental Health Specialist IV

COASTAL COMMISSION
A-5-LOB-10-015-A1

EXHIBIT # 4

PAGE 1 OF 1

Comment Letter LCWLT

California Regional Water Quality Control Board
Los Angeles Region

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: http://www.waterboards.ca.gov/losangeles

Linda S. Adams
Cal/EPA Secretary

Arnold Schwarzenegger
Governor

June 28, 2011

Mr. Paul Williams, Principal Solid Waste Planner
Bryan A. Stirrat & Associates
1360 Valley Vista Drive
Diamond Bar, CA 91765

FURTHER COMMENTS ON PROPOSED POST-CLOSURE LAND USE OF CITY DUMP & SALVAGE NO. 3, 6400 E. LOYNES DRIVE, LONG BEACH, CALIFORNIA (FILE NO. 56-110)

Dear Mr. Williams:

Reference is made to a letter from the Executive Officer of the Regional Water Quality Control Board (Regional Board) to Ms. Tamar C. Stein of Cox, Castle & Nicholson LLP, dated November 9, 2010, that provided opinions on the proposed land use of a closed landfill as a brackish pond at the subject location (copy attached). The letter states that any land use of a closed landfill that submerges municipal wastes under water would not be consistent with the policies and practices of the Regional Board, because pollutants may be leached out of the wastes and cause pollution to surface and ground waters.

In a letter dated May 10, 2011, to the Regional Board and the Los Angeles County Department of Health Services, you proposed a conceptual final cover system for the closed landfill that includes, among other things, a linear-low density polyethylene (LLDPE) flexible membrane and a geosynthetic clay liner (GCL). Seasonal pools formed by captured stormwater would be constructed on top of the final cover system. While the proposed final cover system appears to be adequate to prevent water in the seasonal pools from entering buried wastes in the closed landfill, we are still concerned with the following:

1. Because the closed landfill is still generating landfill gas, the installation of an impermeable final cover could potentially contribute to lateral landfill gas migration that may cause pollution of groundwater;

2. With the installation of an impermeable final cover, landfill gas may be forced to flow into the residential areas at the vicinity of the site and create a health and safety hazard; and

3. Your plan does not include a program to monitor and maintain the integrity of the proposed final cover system, which could be damaged after installation.

A-5-LOB-10-015-A1
EXHIBIT # 5
PAGE 1 OF 3

Comment Letter LCWLT

If you plan to proceed with the proposed plan, the above issues must be adequately addressed. Please call me at 213-620-2253 or send me an email at wyang@waterboards.ca.gov if you have any questions.

Sincerely,

Wen Yang, Senior Engineering Geologist
Land Disposal Unit

Enclosure: Letter from Regional Board Executive Officer dated November 9, 2010

Cc: Pete Oda, County of Los Angeles Department of Health Services, Baldwin Park

COASTAL COMMISSION

EXHIBIT # 5
PAGE 2 OF 3

Comment Letter LCWLT

California Regional Water Quality Control Board
Los Angeles Region

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: http://www.waterboards.ca.gov/losangeles

Linda S. Adams
Cal/EPA Secretary

Arnold Schwarzenegger
Governor

November 9, 2010

Ms. Tamar C. Stein
Cox, Castle & Nicholson LLP
2049 Century Park West, 28th Floor
Los Angeles, CA 90067-3284

OPINION ON PROPOSED POST-CLOSURE LAND USE OF CITY DUMP & SALVAGE NO. 3, 6400 E. LOYNES DRIVE, LONG BEACH CALIFORNIA (FILE NO. 56-110)

Dear Ms. Stein,

We are in receipt of your letter dated November 1, 2010 (copy attached), requesting an opinion letter from the Los Angeles Regional Water Quality Control Board (Regional Board) staff regarding whether the proposed use of a closed landfill at the subject location, referred to as the City Dump & Salvage No. 3 (Property), as a brackish pond would be consistent with the policies and practices of the Regional Board. Your letter indicates that the Property is approximately 9 acres, within the Coastal Zone, adjacent to the Los Cerritos Channel, and was used as a landfill until 1958.

Our records indicate that the Regional Board adopted Resolution No. 56-35 on October 18, 1956, prescribing requirements for City Dump & Salvage Company for the disposal of refuse east of the Pacific Coast Highway and north and west of the Los Cerritos Channel in Long Beach. Based on the location described in an aerial photo attached to your letter, the Property is part of the area that was permitted to accept household and commercial refuse as described in Resolution No. 56-35.

Municipal solid wastes contain various pollutants, such as metals, nutrients, volatile and semi-volatile organic compounds. When submerged to water, such pollutants may be leached out of the wastes and cause pollution to surface and ground waters. Any land use of a closed landfill that submerge municipal wastes under water would not be consistent with the policies and practices of the Regional Board, which is the state regulatory agency responsible for protecting water quality in Los Angeles and Ventura Counties, including the Property.

If you have any questions, please call Dr. Wen Yang, Chief of Land Disposal Unit, at 213-620-2253 or send an email to him at wyang@waterboards.ca.gov.

Sincerely,

Samuel Unger, P.E.
Executive Officer

Enclosure

COASTAL COMMISSION

EXHIBIT # 5
PAGE 3 OF 3

Comment Letter LCWLT

Submitted by Applicant 7Feb2012

EXECUTIVE SUMMARY OF THE PROJECT DESCRIPTION AND SUMMARY OF IMPACTS CITY DUMP & SALVAGE NO. 1 AND 3, 6400 E. LOYNES DRIVE, LONG BEACH

The conceptual final cover design that was developed in order to implement the seasonal pools requirement in the CCC's proposed Special Condition 1C for the City Dump & Salvage No. 1 and No. 3 site consists of an impermeable cap over the existing refuse. The seasonal pools are to be created on top of the cover section.

The County of Los Angeles Solid Waste Local Enforcement Agency (LEA) and the Los Angeles Regional Water Quality Control Board (LARWQCB) (local and state agencies which have jurisdiction over the site to enforce Federal and State regulations for solid waste sites) have voiced concerns via correspondence in regards to placing an impermeable cover on the site. They include the following:

- Impermeable cover could contribute to lateral landfill gas migration that may cause pollution of groundwater;
- With installation of impermeable cover landfill gas may be forced to flow into the residential areas adjacent to the site and create a health and safety hazard (due to landfill gas migration and ignition); and
- Need to include a program to monitor and maintain the integrity of the impermeable final cover system which could be damaged after installation.

In response to the above concerns, the addition of the impermeable final cover with seasonal pools would necessitate design/installation of a landfill gas collection and treatment system. Maintaining the site with a permeable soil cover would allow up to 20% of the methane to continue to be converted to harmless carbon dioxide. If the impermeable cover is placed, as required by Special Condition 1C, the methane cannot vent and no conversion to carbon dioxide can occur. Additionally, placement of an impermeable cover will force landfill gas to migrate laterally to homes and potentially the groundwater table and the nearby Los Cerritos Channel. This problem may be mitigated with installation of a comprehensive landfill gas collection and treatment system. This system would have to be operated for an indefinite amount of time until landfill gas generation levels are low enough to no longer present a threat to public health and safety.

The installation and maintenance/monitoring of the impermeable cover and landfill gas collection and treatment system will have several impacts to the surrounding neighbors and the environment. Additionally, existing and created biota and the created ponds will be impacted with construction and ultimate post-construction maintenance and monitoring. Impacts due to construction and post-construction maintenance/monitoring are summarized on Table 1.

Installation of the seasonal pools could also cause potential impacts to the groundwater and other issues. It is anticipated that the LARWQCB would require some type of moisture monitoring beneath the seasonal pools in order to ensure the effectiveness of the liner system in preventing water intrusion into the landfill from the pools. If moisture threshold levels are exceeded (indicating failure of the cover and infiltration into the waste below with associated potential impacts on the groundwater below the site), this would entail excavation and repair of the liner system above the suspected leak thus disturbing the pool and any established vegetative habitat in the area of the leaking pool.

The site in its current state is in compliance with the State requirements for closed landfills regulated by the LEA, LARWQCB and SCAQMD and would remain so with the addition of six inches of soil and non-irrigated native vegetation and habitat as initially recommended by CCC staff. None of the above environmental control and monitoring would be required because there would be no new post-closure activities that may jeopardize the integrity of the previously closed disposal site or pose a potential threat to public health and safety or the environment. The perimeter gas migration monitoring regularly performed by the LEA has noted no landfill gas migration exceedances and therefore, to date, no threats to public health and safety. Special Condition 1C requires placement of an impermeable cap which carries with it a large risk of landfill gas migration toward the adjacent residences as documented by the LEA and RWQCB letters mentioned above. The corrective action for this consists of construction and continual maintenance, monitoring and operation of a landfill gas collection and treatment system. This system does not guarantee that migration will not occur as it is based on periodically monitoring for exceedances and taking action to correct the exceedances. During the time between when an exeedance is detected and when it is corrected the residences would be at risk to landfill gas migration within their homes. This risk, as well as the impacts to the community from the construction, maintenance and operation of the landfill cover and gas collection systems described above, must be compared to the perceived benefit derived from the creation of ponds on top of the landfill.

COASTAL COMMISSION
A-5-LOB-10-015-A1

EXHIBIT # 6
PAGE 1 OF 15

PROJECT DESCRIPTION AND SUMMARY OF IMPACTS
CITY DUMP & SALVAGE NO. 1 AND 3, 6400 E. LOYNES DRIVE, LONG BEACH

The conceptual final cover design that was developed in order to implement the seasonal pools requirement in the CCC's proposed Special Condition 1C for the City Dump & Salvage No. 1 and No. 3 site consists of an impermeable cap over the existing refuse. The seasonal pools are to be created on top of the cover section (ranging in size from 1,700 to 3,200 square feet) as depicted on Exhibit 1 with the placement of additional soils to create the ridges and depressions. The conceptual final cover design (see Exhibit 2) includes from top to bottom:

- 12-inch minimum and 24-inch average (depth varies with seasonal pools and inter-pool ridges) vegetative soil layer;
- Geocomposite drainage layer (a thin plastic mesh that allows drainage and prevents build-up of water directly on top of the impermeable membrane liner);
- Linear-Low Density Polyethylene (LLDPE) flexible membrane liner (an impermeable plastic liner to prevent water from penetrating the refuse);
- Geosynthetic clay liner (bentonite, a clay-like material, encased in a fabric like material, used as a secondary measure to prevent water penetration into the refuse); and
- 24-inch minimum foundation soil layer (assumes 12-inch existing).

The County of Los Angeles Solid Waste Local Enforcement Agency (LEA), the primary agency which regulates the disposal site, has stated in their letter dated June 17, 2011 that "installation of an impermeable cap will increase the potential of the gas migrating laterally towards the mobile home park and homes across Loynes Drive." The implementation of Special Condition 1C would represent new post-closure activities that may jeopardize the integrity of the previously closed disposal site or pose a potential threat to public health and safety or the environment pursuant to 27 CCR 21100(b) (i.e, landfill gas migration and potential explosion, groundwater impacts). This project would therefore trigger 27 CCR, Section 21190 which requires that end uses of disposal sites be designed to:

- Protect public health and safety and prevent damage to structures, roads, utilities and gas monitoring and control systems;
- Prevent public contact with waste, landfill gas and leachate; and
- Prevent landfill gas explosions (due to landfill gas migration and ignition).

The Los Angeles Regional Water Quality Control Board (LARWQCB), the agency which regulates the protection of water quality as it relates to disposal sites, stated the following concerns in their June 28, 2011 correspondence:

- Impermeable cover could contribute to lateral landfill gas migration that may cause pollution of groundwater;
- With installation of impermeable cover landfill gas may be forced to flow into the residential areas at the vicinity of the site and create a health and safety hazard (due to landfill gas migration and ignition); and
- Need to include a program to monitor and maintain the integrity of the impermeable final cover system which could be damaged after installation.

The following discusses project construction and post-closure maintenance and monitoring required for the final cover and landfill gas collection and treatment system design items. Also included is a qualitative assessment of the potential impacts these activities may have on the surrounding community and the environment.

CONSTRUCTION REQUIREMENTS

Impermeable Cover Construction

The impermeable cover system construction will require approximately 75 working days or 15 weeks to complete. Work would not be performed during rain events.

COASTAL COMMISSION

EXHIBIT # 6
PAGE 2 OF 15

- Clearing and Grubbing - Prior to final grading (preparation and leveling of the land to design specifications) and placement of the final cover, all existing vegetative materials must be removed from the surface without disturbing the underlying refuse. A scraper and dozer will be utilized to perform this work. Nuisances such as dust and noise will be generated as well as tailpipe pollutant emissions from the construction equipment.
- Foundation Layer/Vegetative Layer Placement - Foundation layer and vegetative soils will be placed at the site. This will require hauling of additional soil to the site to cover the impermeable cap area with an average of three feet of soil. Approximately 1,218 truckloads will be required to haul 19,500 cubic yards of soil, assuming 16 cubic yards per load. This equals 2,436 one-way truck trips and using a typical 2.0 multiplier for the end dumps results in 4,874 passenger car equivalents with associated neighborhood impacts on traffic circulation and road integrity. Use of a scraper, dozer and compactor will be required to place and compact the soils. In addition to traffic circulation impacts, nuisances such as tailpipe pollutant emissions, dust and noise will be generated from both construction and traffic.
- Barrier Layer – The geocomposite drainage layer, LLDPE liner, and geosynthetic clay liner will be delivered to the site on flatbed diesel trucks in rolls (approximately 22 feet long by 2 feet in diameter) and then placed using especially designed diesel forklifts. Diesel powered generators will be used to power the liner placement tools (grinders, heat welders, etc.). Nuisances such as truck traffic, dust, noise and pollutant emissions from the generators will be produced.

Landfill Gas Collection and Treatment System Construction

Maintaining the site with the existing permeable soil cover would allow up to 20% of the methane generated by the landfill to continue to be converted to harmless carbon dioxide. If the impermeable cover is placed, as required by Special Condition 1C, the methane cannot vent and no conversion to carbon dioxide can occur. Additionally, placement of an impermeable cover will force landfill gas to migrate vertically to adjacent homes and potentially the groundwater table and the nearby Los Cerritos Channel. This problem may be mitigated with installation of a landfill gas collection and treatment system consisting of landfill gas collection wells, lateral landfill gas collection lines, blowers which draw the landfill gas out of the landfill through the wells and collection lines, landfill gas condensate collection tanks, and a landfill gas flare (unit which incinerates the landfill gas) as detailed below (see Exhibit 3 which depicts the conceptual landfill gas collection plan):

- Drill vertical gas extraction wells with diesel drill rig to depth to be determined (see Photo 1). Noise, dust and pollutant emissions from diesel engines would generate impacts. Spoils (soil and refuse generated from drilling) would generate foul odors from exposed decomposing refuse, fugitive landfill gas emissions from the open hole and additional truck trips to haul spoils to a permitted disposal facility which can accept drilling spoils.
- Install collection piping from wells to main collection header (approximately 2,080 linear feet) and then approximately 136 linear feet of piping to the blowers and flare with landfill gas condensate (extremely odorous liquids from the landfill gas containing volatile organic compounds and other pollutants) collection (see Photos 2, 3, and 4 which depicts a representation of what may be required to be installed at the site). Diesel generators will be required to weld piping along with attendant noise impacts and pollutant emissions. The above ground piping option will be visually impactful as it will not blend into the vegetation. However, the below ground piping option would be extremely difficult to maintain due to inaccessibility. Excavation of the soils and disturbance of the vegetation would be required every time a repair is needed.
- Continuous treatment (incineration) of landfill gas via flare (minimum 20 feet high, 4-foot diameter). Blowers to create a vacuum to draw the landfill gas from the refuse to the flare requires construction of a concrete foundation (approximately 40 feet x 60 feet) with a 6 to 8 foot high fence or wall for security. Installation is via a crane. See Photo 5.

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EXHIBIT # 6
PAGE 3 OF 15

- Minimum of 6 months to permit system through the SCAQMD to build and ultimately operate the system. The minimum cost is $3 million to permit and build the system. Operating and maintenance costs could be as much as 6.4 million dollars over 20 years.
- Due to the age of the landfill, landfill gas quality (percent methane) and quantity (volume generated usually measured in standard cubic feet per second) may be relatively low yet still represent a flammable and explosive hazard. Because of the low quality and quantity of methane, the landfill gas may not be sufficient to maintain the flame within the flare. Additional fuel (e.g. propane or natural gas) would likely be required in order to augment low methane levels in the landfill gas and operate the flare.
- Landfill gas collection and treatment system would have to be operated until landfill gas generation levels are low enough to no longer present a threat to public health and safety; hence, long term operational impacts will include:
    - Visual (one stack at a height of a minimum 20 feet)
    - Noise (blowers for gas extraction will be adjacent to homes [closest home is approximately 175 feet from potential station locates – see Exhibit 3] which creates 80 dB but can be reduced to 65 dB with sound enclosure)
    - Requires regular maintenance as discussed under Post-Closure Maintenance/Monitoring Requirements below. This would disturb neighboring homes with noise and equipment emissions and may disturb protected habitat (plants and animals) should the surface soils need to be disturbed or pools drained.

A suitable alternative to the traditional landfill and treatment collection system with a flare may be a Granulated Activated Carbon (GAC) system. A GAC system is utilized when landfill gas levels may be too low to sustain a flame to operate a flare. A GAC system consists of GAC canisters and potassium permanganate ($KMNO_4$) vessels fed by gas blowers and a minimum 14-foot tall by 6-inch diameter exhaust vent stack. The gas is drawn by the blower under vacuum from the gas collection system through a filter which removes particulates and liquid (landfill gas condensate) from the landfill gas. Gas is then forced under pressure through the GAC vessel which removes most of the volatile organic compounds (VOC's) in the landfill gas and then through the $KMNO_4$ vessel which removes most of the other landfill gas constituents. The GAC system will require the same piping system and blowers as the flare treatment system. Construction of a concrete foundation (approximately 20 feet x 40 feet) for the equipment with a 6 to 8 foot high security fence or wall will be required. This alternative system does not incinerate or otherwise destroy the methane (a potent greenhouse gas) which is allowed to vent into the atmosphere and contribute to greenhouse effect issues. This system will cost the same as the collection and treatment system with a flare at $3 million to permit and build. Operating and maintenance costs could be as much as 6.6 million dollars over 20 years.

POST-CLOSURE MAINTENANCE/MONITORING REQUIREMENTS

Post-closure maintenance and monitoring is required to be performed under State regulations which are enforced by the LARWQCB (groundwater protection), LEA (landfill gas control and cover integrity), and South Coast Air Quality Management District (SCAQMD) (air quality/landfill gas control). The owner of the property would be responsible to ensure that all maintenance and monitoring is performed in accordance with the State regulations and that landfill gas migration and emission limits are met in order to ensure protection of Public Health and Safety and the Environment.

- Final Cover Maintenance - The primary purpose of the final cover maintenance procedures is to maintain the integrity of the completed final cover over the long-term and provide maintenance, scheduling and documentation so that materials and maintenance practices are consistent with the final cover design specifications for public safety and effectiveness of the cover. Quarterly visual inspections of the final cover will include identification of erosion and settlement problems by grid walking the site to visually observe the following typical maintenance issues:

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EXHIBIT # 6
PAGE 4 OF 15

- Evidence of erosion
- Visible depressions
- Ponded water (other than the seasonal pools)
- Odor
- Exposed refuse
- Cracks
- Settlement and subsidence
- Liquid seepage through the cover

All final cover repair and/or reconstruction activities are to be conducted in a manner directed at maintaining the integrity of the as-built final cover system. Potential causes of damage to the cover could be from earthquake, storm water erosion, differential settlement and vandalism. Repair of cover materials should be performed consistent with the layers and procedures utilized during the original final cover construction.

Impacts to the community from final cover maintenance are similar to those discussed above for Impermeable Cover Construction (i.e. traffic, dust, noise, pollutant emissions), but less severe due to a smaller, confined repair area (i.e., damaged cover area). Impacts to established vegetative habitat will also occur caused by construction equipment traveling to the affected area and excavation of vegetation and soils to repair any damaged area.

- Landfill Gas Collection and Treatment System Maintenance - The general maintenance of the landfill gas collection and treatment system involves weekly inspections of all wells, pipelines, mainline valves, and mainline sample points. One of the principal problems is vertical well breakage or shearing of the well casing caused by settlement or subsidence of the landfill. Another problem encountered in vertical well systems is the settlement of the landfill around the well casing. If a problem is discovered with a gas well, the following maintenance procedures will be performed:

  - The damaged well will be turned off to avoid excess dilution of the gas with outside air.
  - Necessary replacement parts (i.e., valves, hoses, pipe fittings) will be installed as required.
  - The well will then be reconnected to the system and returned to service.

  Redrilling, adding or replacing a gas well will be required should a well break or otherwise become non-functional or an additional gas extraction well be needed. The procedures are as follows:

  - The vegetative soil cover material will be excavated and the synthetic barrier layer cut in the area for drilling. Once the well has been installed, a synthetic boot will be slipped over the well head and then welded to the surrounding synthetic barrier layer. The vegetative soil material will then be back filled and compacted to 90% relative density.
  - The maintenance crew will construct the proper bentonite seal and install the valve vault.
  - The crew will also connect the well to the gas collection system.

  Weekly inspection of the landfill gas collection and treatment system will impact the ability to establish vegetation as regular pedestrian access to the wells is necessary. Maintenance of the landfill gas collection and treatment system will impact established vegetation due to cover removal/excavation to repair/replace a well. Impacts to established vegetative habitat will also occur due to construction equipment traveling to and from the affected area. In addition, impacts from dust, noise and tail pipe pollutant emissions will result through the use of construction equipment. There is also a potential for odors should the buried refuse be exposed as part of well repair/replacement.

- Landfill Gas Collection and Treatment System Monitoring – The SCAQMD, which enforces air quality regulations and permits landfill gas collection and treatment systems, administers Rule 1150.1 which requires evaluation of the destruction efficiency (effectiveness of the treatment

COASTAL COMMISSION

EXHIBIT # 6
PAGE 5 OF 15

system to destroy/combust methane and other constituents of landfill gas) of equipment used to dispose of landfill gas on an annual basis. The evaluation of the efficiency will be based on flare exhaust source tests. Source tests are to be conducted in accordance with the requirements in the SCAQMD Permit to Operate which will be issued upon completion of construction of the landfill gas collection and treatment system. In addition to flare source testing, monitoring of interior and perimeter gas wells is to be performed and includes monthly measurements at each well head.

Monitoring of the landfill gas collection and treatment system will impact the ability to establish vegetation as regular pedestrian access to the wells is necessary. In addition, any corrective measures to the well field that are needed in response to flare exhaust source test or wellhead monitoring exceedances will cause additional impacts to the vegetation should any excavation of soils be necessary. In this case, impacts from dust, noise and tail pipe pollutant emissions will also result through the use of construction equipment.

- Perimeter Landfill Gas Monitoring System - Results of the perimeter gas migration monitoring program are also an indicator as to whether the landfill gas collection and treatment system is operating effectively. As required by 27 CCR, Section 20934(a), the results of regular (i.e., monthly or quarterly) landfill gas migration monitoring of the gas probes will be submitted to the LEA within 90 days of sampling unless the compliance levels of methane are exceeded in which case agency notification procedures must be followed. When gas migration monitoring indicates concentrations of methane in excess of the State regulated compliance level (greater than 5 percent methane by volume), the following steps should be taken by the owner:

  1. Take immediate steps necessary to protect public health and safety, and the environment from potential explosion due to landfill gas ignition.
  2. Confirm exceedances by re-monitoring the probe within 72 hours. If exceedances are confirmed, the LEA is notified within five days with proven measures that will be implemented for mitigation, see below. A written report is required to be submitted within ten days of compliance limit exceedance.
  3. If exceedance is confirmed through additional monitoring, increase monitoring frequency to a minimum of weekly or more frequently if appropriate. One or more of the following general techniques and procedures to control methane gas may be initiated:
     - Maintain and optimize landfill gas collection using the existing gas collection system.
     - Improve gas collection by improving landfill surface cover through remedial grading, which may disturb established vegetative habitat, to decrease air infiltration and the potential for subsurface combustion. Subsurface combustion can cause settlement due to the consumption of the refuse and ultimately damage the cover, vegetative habitat and the seasonal pools. The heat from subsurface combustion can melt the plastic liner portion of the final cover and allow water from the pools into the refuse and potentially the groundwater.
     - Install additional landfill gas extraction system components such as horizontal and/or vertical wells.
     - Install air injection systems using additional horizontal and vertical wells. Caution should be practiced to avoid air intrusion into the fill, which could cause subsurface combustion which may cause hot spots on the landfill surface. The heat from the hot spots can melt the plastic liner portion of the final cover and may impact established vegetative habitat and/or the pools.
     - Install barrier systems such as slurry walls or cement grout columns to block gas migration.
     - Other new technology alternatives that may be available at the time this procedure is implemented.

COASTAL COMMISSION

EXHIBIT # 6
PAGE 6 OF 15

- All mitigation measures, other than simple adjustments of the landfill gas collection and treatment system, will be presented to the regulatory agencies (i.e., LEA and SCAQMD) prior to implementation (installation of air injection systems, slurry walls, etc.) for approval.

Any mitigation measures needed in response to perimeter methane gas level exceedances that require construction of additional facilities will cause impacts from dust, noise and tail pipe pollutant emissions through the use of construction equipment.

SEASONAL POOLS

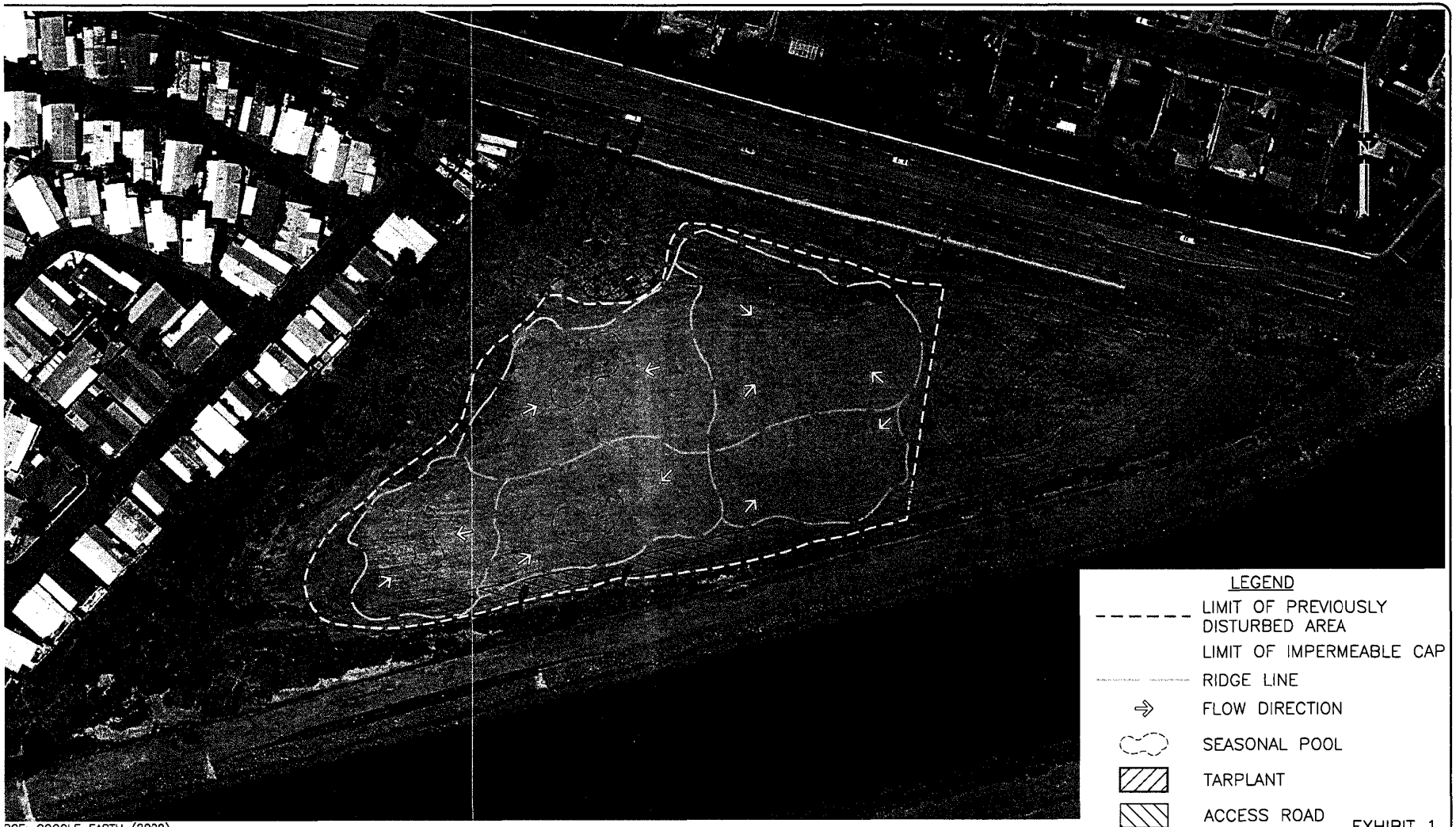
- Sub-Pool Monitoring and Corrective Action - It is anticipated that the LARWQCB would require some type of moisture monitoring beneath the seasonal pools in order to ensure the effectiveness of the liner system in preventing water intrusion into the landfill from the pools. These monitors would be checked by the owner on a quarterly basis. If moisture threshold levels are exceeded (indicating failure of the cover), the situation would be evaluated and appropriate corrective action measures taken. Most likely this would entail excavation and repair of the liner system above the moisture monitor in question thus disturbing the pool and any established vegetative habitat in the area of the leaking pool.
- Vector Control - Due the presence of standing water within the seasonal pools inspections by the owner for vectors, particularly mosquitoes (which may carry vector borne disease), would need to be routinely conducted as they could become a nuisance for nearby residents. Control measures should be instituted as necessary (e.g., If pooled water persists into the mosquito season). This would most likely involve spraying the surface of the pools with an appropriate insecticide. Insecticides may have an adverse affect on the biota inhabiting the seasonal pools and/or any established vegetative habitat.

CONCLUSION

The site in its current state is in compliance with the State requirements for closed landfills regulated by the LEA, LARWQCB and SCAQMD and would remain so with the addition of six inches of soil and non-irrigated native vegetation and habitat as initially recommended by CCC staff. None of the above environmental control and monitoring would be required because there would be no new post-closure activities that may jeopardize the integrity of the previously closed disposal site or pose a potential threat to public health and safety or the environment. The perimeter gas migration monitoring regularly performed by the LEA has noted no landfill gas migration exceedances and therefore, to date, no threats to public health and safety. Special Condition 1C requires placement of an impermeable cap which carries with it a large risk of landfill gas migration toward the adjacent residences as documented by the LEA and RWQCB letters mentioned above. The corrective action for this consists of construction and continual maintenance, monitoring and operation of a landfill gas collection and treatment system. This system does not guarantee that migration will not occur as it is based on periodically monitoring for exceedances and taking action to correct the exceedances. During the time between when an exeedance is detected and when it is corrected the residences would be at risk to landfill gas migration within their homes. This risk, as well as the impacts to the community from the construction, maintenance and operation of the landfill cover and gas collection systems described above, must be compared to the perceived benefit derived from the creation of ponds on top of the landfill.

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EXHIBIT # 6
PAGE 7 OF 15



RCE: GOOGLE EARTH (2009)

EXHIBIT 1

(909) 860-7777
AN A. STIRRAT & ASSOCIATES
AND ENVIRONMENTAL ENGINEERS
VALLEY VISTA DRIVE DIAMOND BAR, CA 91765

CITY DUMP & SALVAGE NO. 1 AND NO. 3 (SWIS # 19-AK-5003)

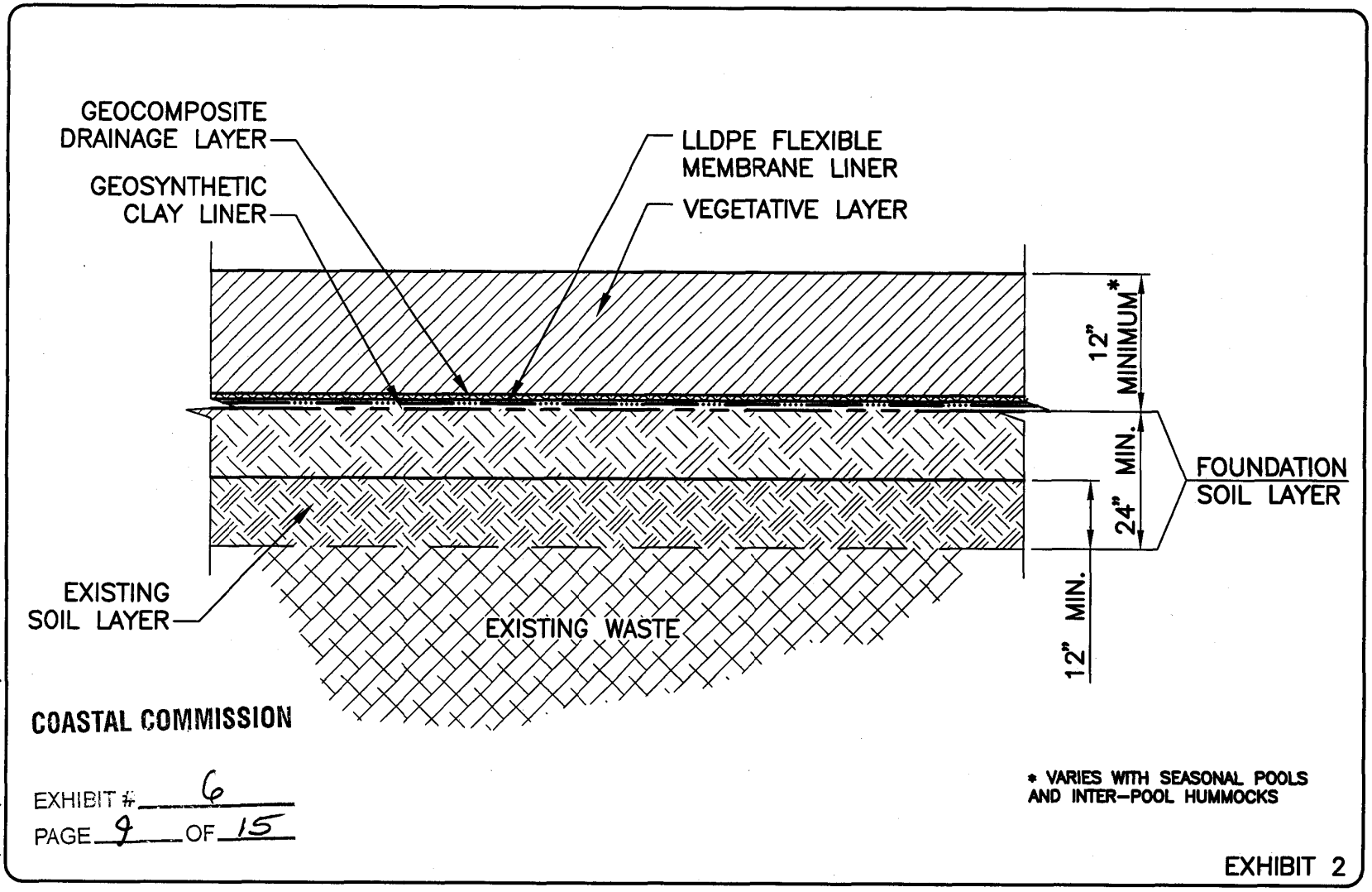
CONCEPTUAL SITE PLAN WITH SEASONAL POOLS

JOB NO. 2011.0021
DATE 01-2012
DRAWN BY J.M.L.
FILE NAME: 30-040FIG

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EXHIBIT # 6
PAGE 8 OF 15

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EXHIBIT # 6

PAGE 9 OF 15

* VARIES WITH SEASONAL POOLS AND INTER-POOL HUMMOCKS

EXHIBIT 2

G:\DWG\HITCHCOCK PROPERTY\FIGURES\PROJECT DESCRIPTION\30-0408FIG

BAS (909) 860-7777

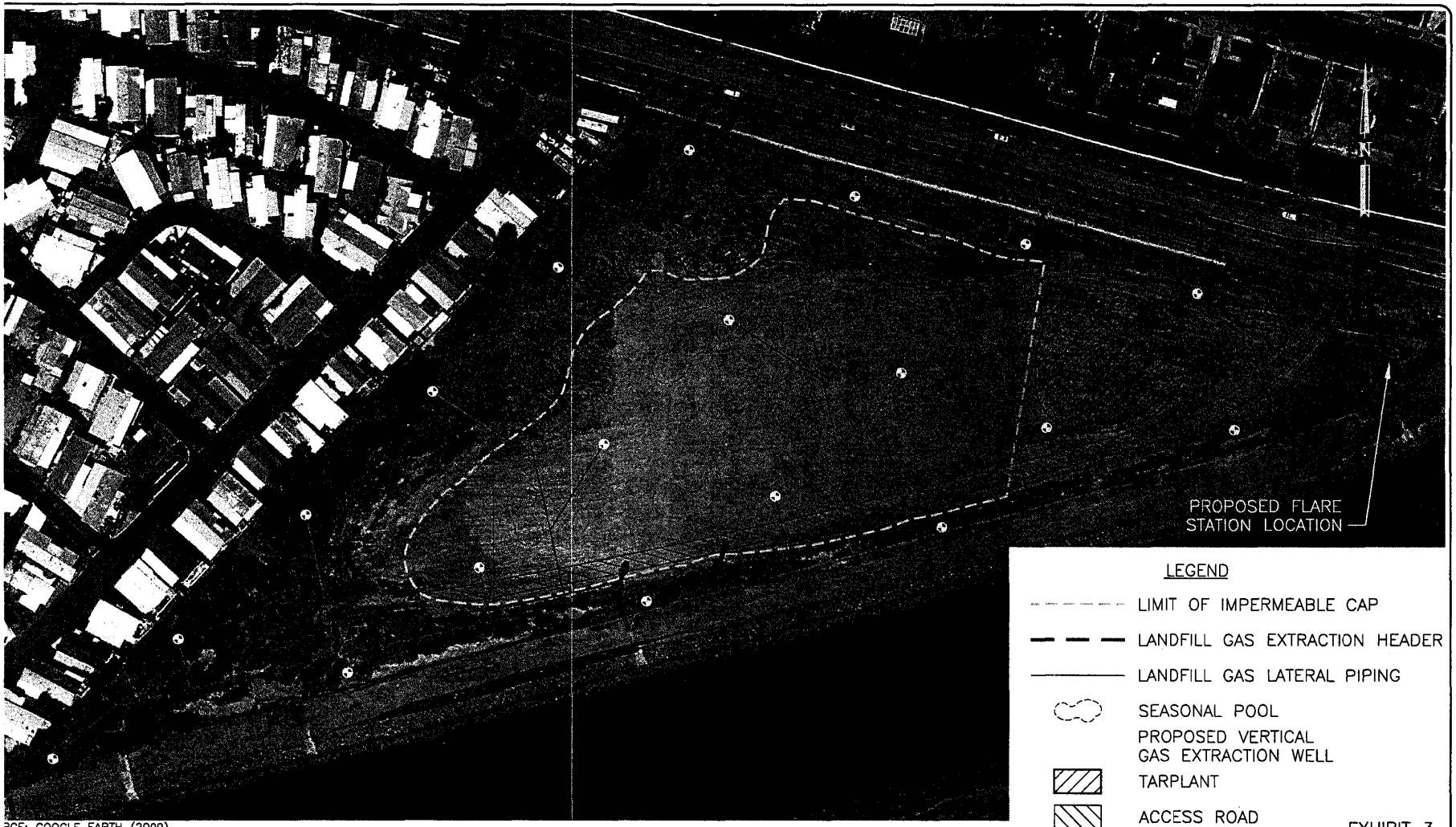
BRYAN A. STIRRAT & ASSOCIATES
CIVIL AND ENVIRONMENTAL ENGINEERS
1360 VALLEY VISTA DRIVE DIAMOND BAR, CA 91765

CITY DUMP & SALVAGE NO. 1 AND NO. 3 (SWIS # 19-AK-5003)

PROPOSED FINAL COVER SECTION WITH SYNTHETIC IMPERMEABLE LINER

JOB NO.	2011.0021
DATE	01-2012
DRAWN BY	J.M.L.
FILE NAME:	30-0408FIG

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RCE: GOOGLE EARTH (2009)

EXHIBIT 3

(909) 860-7777
AN A. STIRRAT & ASSOCIATES
. AND ENVIRONMENTAL ENGINEERS
VALLEY VISTA DRIVE DIAMOND BAR, CA 91765

CITY DUMP & SALVAGE NO. 1 AND NO. 3 (SWIS # 19-AK-5003)

CONCEPTUAL LFG COLLECTION PLAN

JOB NO.	2011.0021
DATE	01-2012
DRAWN BY	J.M.L.
FILE NAME:	30-0405FIG

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PAGE 10 OF 15

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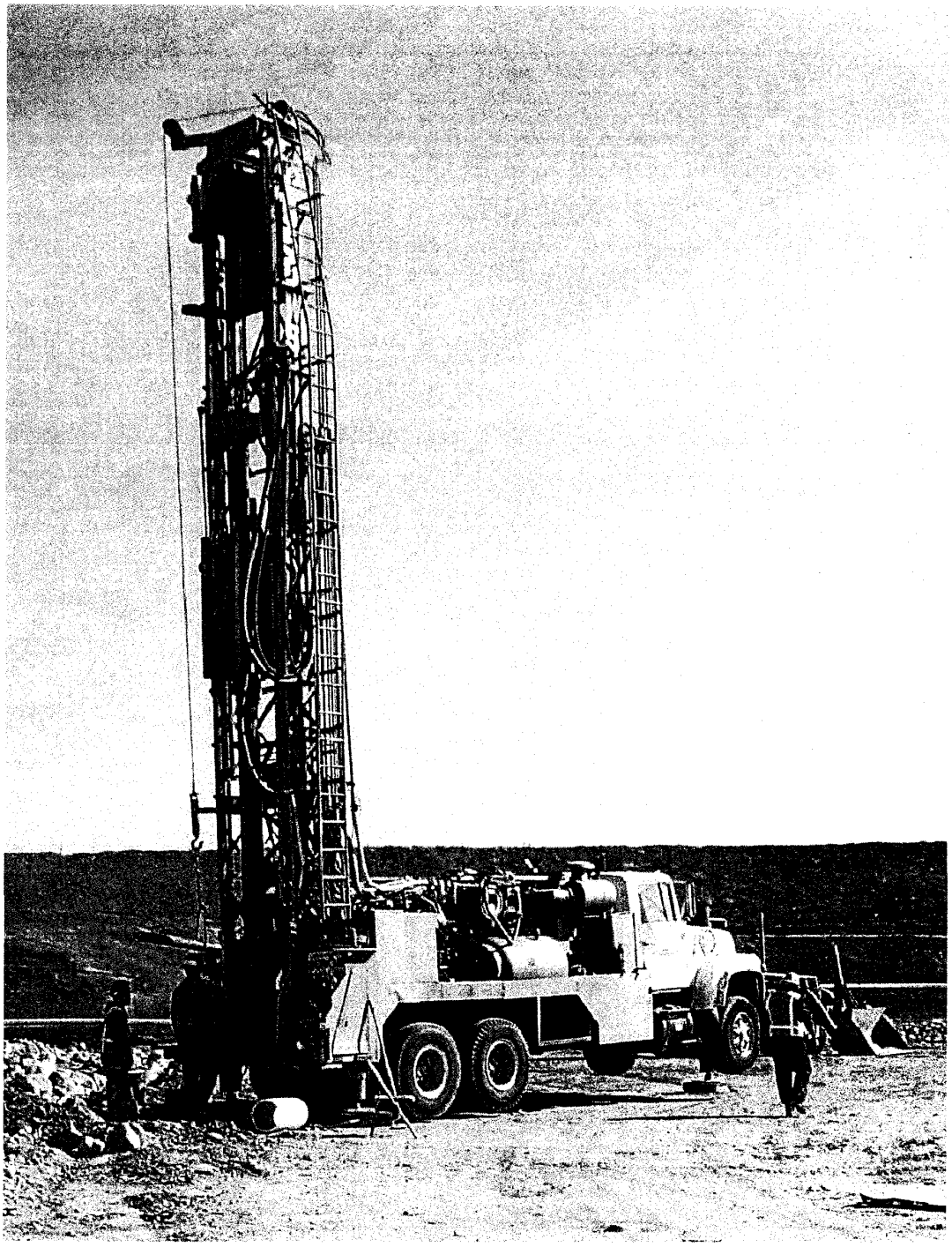


PHOTO 1

G:\DWG\HITCHCOCK PROPERTY\FIGURES\PROJECT DESCRIPTION\30-0409FIG

BAS
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CITY DUMP & SALVAGE NO. 1 AND NO. 3
(SWIS # 19-AK-5003)

LFG EXTRACTION WELL DRILLING

JOB NO.	2011.0021
DATE	01-2012
DRAWN BY	J.M.L.
FILE NAME	30-0409FIG

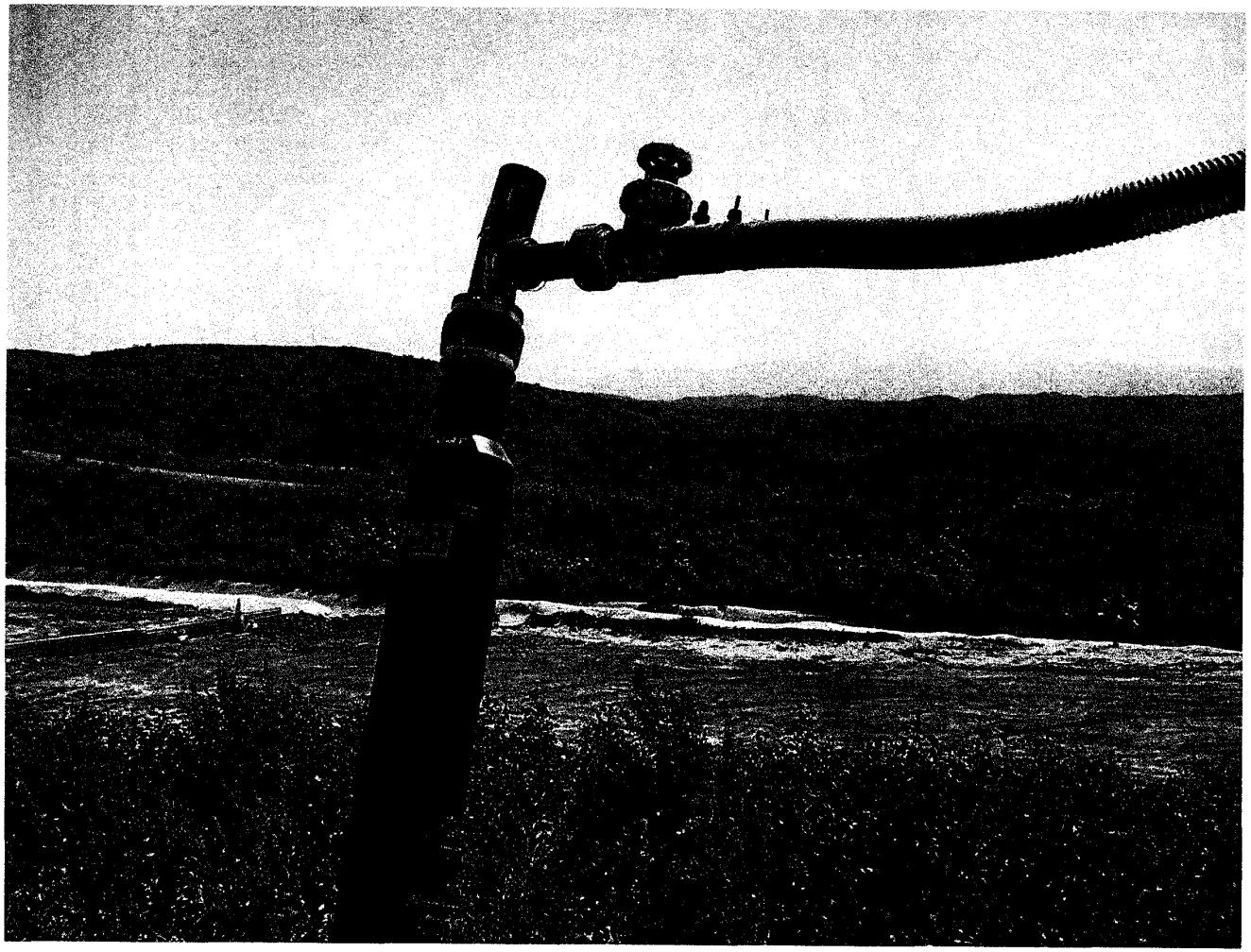


PHOTO 2

G:\DWG\HITCHCOCK PROPERTY\FIGURES\PROJECT DESCRIPTION\30-0410FIG

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BRYAN A. STIRRAT & ASSOCIATES
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1360 VALLEY VISTA DRIVE DIAMOND BAR, CA 91765

CITY DUMP & SALVAGE NO. 1 AND NO. 3 (SWIS # 19-AK-5003)

LFG COLLECTION WELL

JOB NO.	2011.0021
DATE	01-2012
DRAWN BY	J.M.L.
FILE NAME:	30-0410FIG

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EXHIBIT # 6
PAGE 12 OF 15

Comment Letter LCWLT

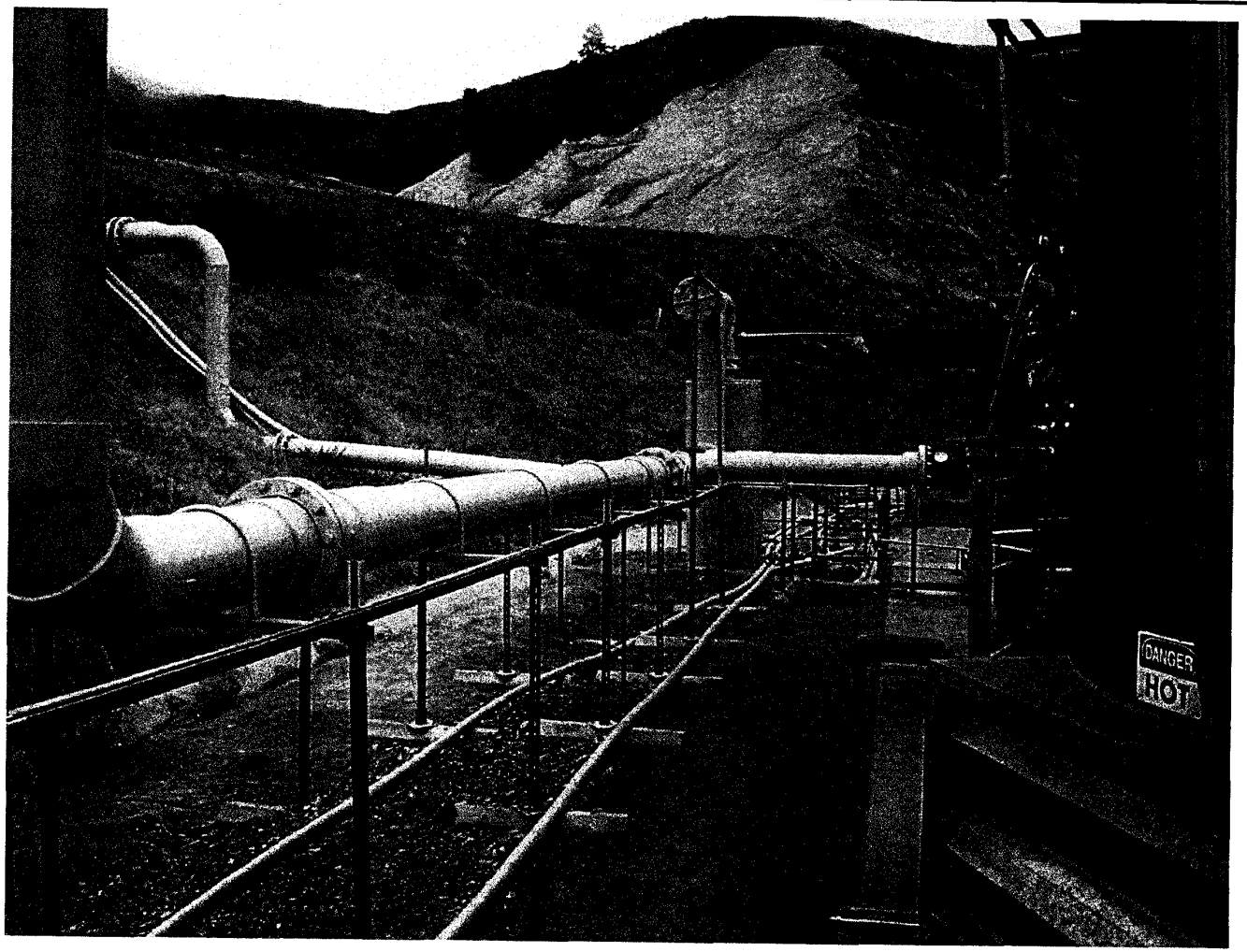


PHOTO 3

G:\DWG\HITCHCOCK PROPERTY\FIGURES\PROJECT DESCRIPTION\30-0411FIG

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CITY DUMP & SALVAGE NO. 1 AND NO. 3 (SWIS # 19-AK-5003)

LFG COLLECTION PIPING

JOB NO.	2011.0021
DATE	01-2012
DRAWN BY	J.M.L.
FILE NAME:	30-0411FIG

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EXHIBIT # 6
PAGE 13 OF 15

Comment Letter LCWLT

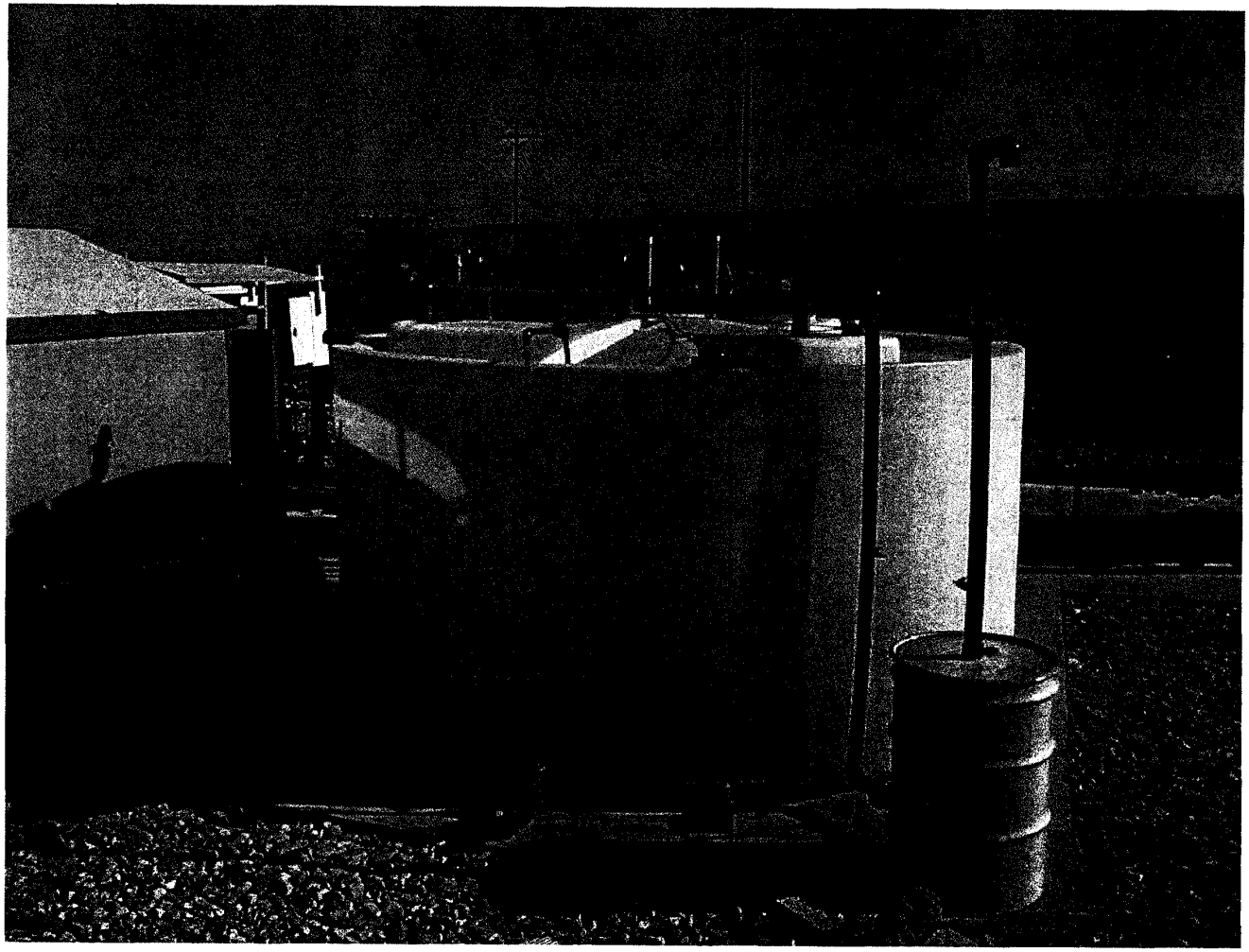


PHOTO 4

G:\DWG\HITCHCOCK PROPERTY\FIGURES\PROJECT DESCRIPTION\30-0412FIG

BAS
(909) 860-7777
BRYAN A. STIRRAT & ASSOCIATES
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CITY DUMP & SALVAGE NO. 1 AND NO. 3 (SWIS # 19-AK-5003)

LFG CONDENSATE TANK

JOB NO.	2011.0021
DATE	8-7-2012
DRAWN BY	J.M.L.
FILE NAME:	30-0412FIG

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EXHIBIT # 6
PAGE 14 OF 15

Comment Letter LCWLT

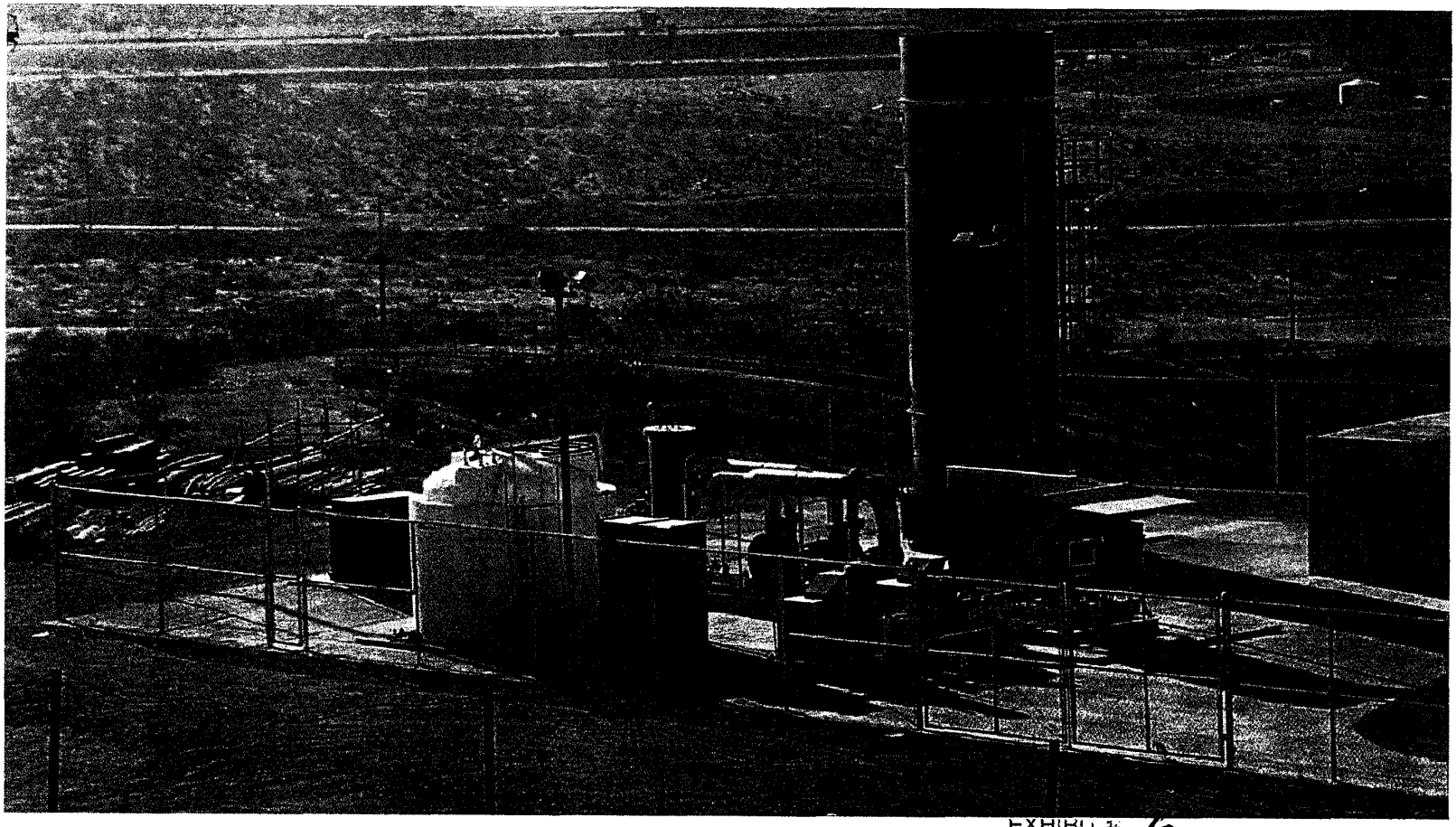


EXHIBIT # 6

PAGE 15 OF 15

PHOTO 5

G:\DWG\HITCHCOCK PROPERTY\FIGURES\PROJECT DESCRIPTION\30-0413FIG

BAS

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CIVIL AND ENVIRONMENTAL ENGINEERS
1360 VALLEY VISTA DRIVE DIAMOND BAR, CA 91765

CITY DUMP & SALVAGE NO. 1 AND NO. 3 (SWIS # 19-AK-5003)

LFG FLARE CONTROL SYSTEM

JOB NO.	2011.0021
DATE	01-2012
DRAWN BY	J.M.L.
FILE NAME:	30-0413FIG

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LSA

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CARLSBAD
FORT COLLINS
FRESNO
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROCKLIN
SAN LUIS OBISPO
SOUTH SAN FRANCISC

February 6, 2012

Ms. Tamar C. Stein
Cox Castle and Nicholson, LLP
2049 Century Park East, Suite 2800
Los Angeles, CA 90067

Subject: Review of Potential Effects of Seasonal Pond/Cover System on Biological Resources, 6400 E. Loynes Drive, Long Beach, CA

Dear Ms. Stein:

Per your request, LSA Associates, Inc. (LSA) is providing this assessment of the potential effects of the conceptual plan for seasonal pools and the associated cover system that has been developed by Bryan A. Stirrat Associates (BAS) for the subject parcel.

LSA worked with Paul Willman of BAS to develop the parameters for the pools themselves (e.g., size, quantity, depth, watershed area). With the conceptual design developed by BAS, the pools could likely be successfully established, and have the general appearance of natural vernal pools. However, based on the landfill cover and closure requirements as described in the conceptual plan, the underlying substrate would be completely artificial; thus, the pools would not provide all of the functions of natural vernal pools. In particular, biogeochemical function, which is highly dependent on soil structure, hydrology, and vegetation would be considerably less than in a natural system. Similarly, maintenance of a plant community that is characteristic of natural vernal pools is also highly dependent on soil structure. When this is considered along with the highly disturbed nature of the surrounding area, the chances of maintaining a characteristic vernal pool community are very low. Of course, faunal communities are in turn dependent on vegetation to some extent, and this too would likely be depauperate.

Beyond the pools themselves, it appears that implementation of the conceptual plan would require removal of all of the existing vegetation within the area of the membranes and other liners, approximately 3.5 acres, whereas the restoration plans prepared by LSA called for the retention and protection of existing native vegetation during the restoration process. While much of the vegetation on the site is nonnative, there is native vegetation present, including scattered occurrences of dozens of southern tarplant (*Centromadia parryi* ssp. *australis*), which is considered endangered by the California Native Plant Society.

In addition to the immediate removal of all vegetation within the limits of the impermeable cap, implementation of the conceptual plan would apparently require an extensive array of gas extraction wells, headers, piping, and a flare/treatment facility. Installation of this system would also require extensive disturbance of the existing vegetation. Moreover, it would permanently preclude the development of native vegetation where the aboveground facilities occur (estimated 18,000 square feet), and the ongoing inspection and maintenance of the equipment would continually disturb both the native vegetation and any wildlife that may use it. LSA has first-hand experience with similar

COASTAL COMMISSION
A-5-LOB-10-015-A1
EXHIBIT # 7
PAGE 1 OF 2

circumstances and has worked on several large closed landfills where native habitat has been restored for the benefit of special-status species. On several occasions, LSA has encountered situations where emergency maintenance requirements conflicted with nesting birds. In these instances, LSA has been able to judiciously avoid impacts to nesting birds or implement stop-gap measures until birds have completed nesting. However, as noted, these were large landfill areas that were not adjacent to existing residences. In the case of the smaller Loynes Drive parcel, given the proximity of existing residences and the relative density of gas control equipment, the potential for irreconcilable conflict between public safety and resource protection would appear to be much higher.

In conclusion, LSA believes that the most recent Habitat Restoration and Enhancement Plan (prepared by LSA) would be more effective and valuable from a resource management perspective than anything that could be accomplished in conjunction with the conceptual final cover design.

Sincerely,

LSA ASSOCIATES, INC.

Art Homrighausen
Principal

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EXHIBIT # 7
PAGE 2 OF 2

Comment Letter LCWLT

HABITAT REVEGETATION AND MONITORING PLAN

LOYNES DRIVE PROJECT

LONG BEACH, CALIFORNIA

Submitted to:

Cox, Castle, & Nicholson, LLP
2049 Century Park East, 28th Floor
Los Angeles, California 90067

Prepared by:

LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, California 92614
(949) 553-0666

LSA Project No. CCN1001

LSA

September 2011

COASTAL COMMISSION
A-5-LOB-10-015-A1
EXHIBIT # 8
PAGE 1 OF 21

Comment Letter LCWLT

TABLE OF CONTENTS

INTRODUCTION 1
SUPERVISION/RESPONSIBILITIES 1
SCOPE OF WORK 4
INSPECTIONS 4
PROJECT SCHEDULE 5
SITE PREPARATION 6
REVEGETATION INSTALLATION 7
INSTALLATION METHODS 10
REVEGETATION MAINTENANCE 12
REMEDIAL MEASURES 16
PERFORMANCE STANDARDS 16
MONITORING 16
DOCUMENTATION 17
LONG-TERM MAINTENANCE 17

FIGURES

Figure 1: Project Location 2
Figure 2: Site Plan 3

TABLES

Table A: Revegetation Seed List 8
Table B: Container Plant List 10

COASTAL COMMISSION

EXHIBIT # 8
PAGE 2 OF 21

Comment Letter LCWLT

INTRODUCTION

This Habitat Revegetation and Monitoring Plan (HRMP) for the Loynes Drive Project has been prepared to support the project's California Coastal Commission (CCC) Coastal Development Permit (CDP) amendment application package.

The project site is located at 6400 E. Loynes Drive, fronting the Los Cerritos Channel in the City of Long Beach (City), California, as shown on the United States Geological Survey (USGS) *Los Alamitos, California* 7.5-minute quadrangle (Figure 1). The site is within the Coastal Zone.

The property is part of an old landfill that was closed prior to 1961 and covered with soil. In March 2009, the landowner cleared a portion of the property without CCC authorization. In April 2009, the CCC issued an emergency permit so the landowner could mitigate for elevated methane levels resulting from the unauthorized clearing. Per the emergency permit, the landowner placed a 6-inch-thick soil cap over approximately 50,000 square feet (sf) (1.15 acres [ac]) of the property. The City subsequently issued an after-the-fact CDP. The CDP was appealed to the CCC, which resulted in a substantial issue finding. The CCC staff issued a report on May 26, 2010, for a de novo CDP action. This HRMP also complies with the Special Conditions set forth within the CCC Staff Report: Revised Findings; however, it has been modified to reflect the results of consultation with the landfill closure agencies. The staff report recommended the preparation of an HRMP to be included as a condition of the CCC CDP. This HRMP has been prepared to provide direction for the remediation of the portion of the property (5.93 ac) impacted by the unauthorized clearing activities and subsequent soil placement. The 5.93 ac revegetation area is shown on Figure 2.

The current vegetation community within the proposed 5.93 ac project site is ruderal grassland. The term "ruderal" refers to weedy and/or early successional species, often nonnative grasses, that readily colonize disturbed ground. Dominant species on site include small-flowered iceplant (*Mesembryanthemum nodiflorum*), five-hook bassia (*Bassia hyssopifolia*), shortpod mustard (*Hirschfeldia incana*), garland chrysanthemum (*Chrysanthemum coronarium*), ripgut brome (*Bromus diandrus*), red brome (*Bromus madritensis*), wild oats (*Avena* sp.), and rabbitfoot grass (*Polypogon monspeliensis*).

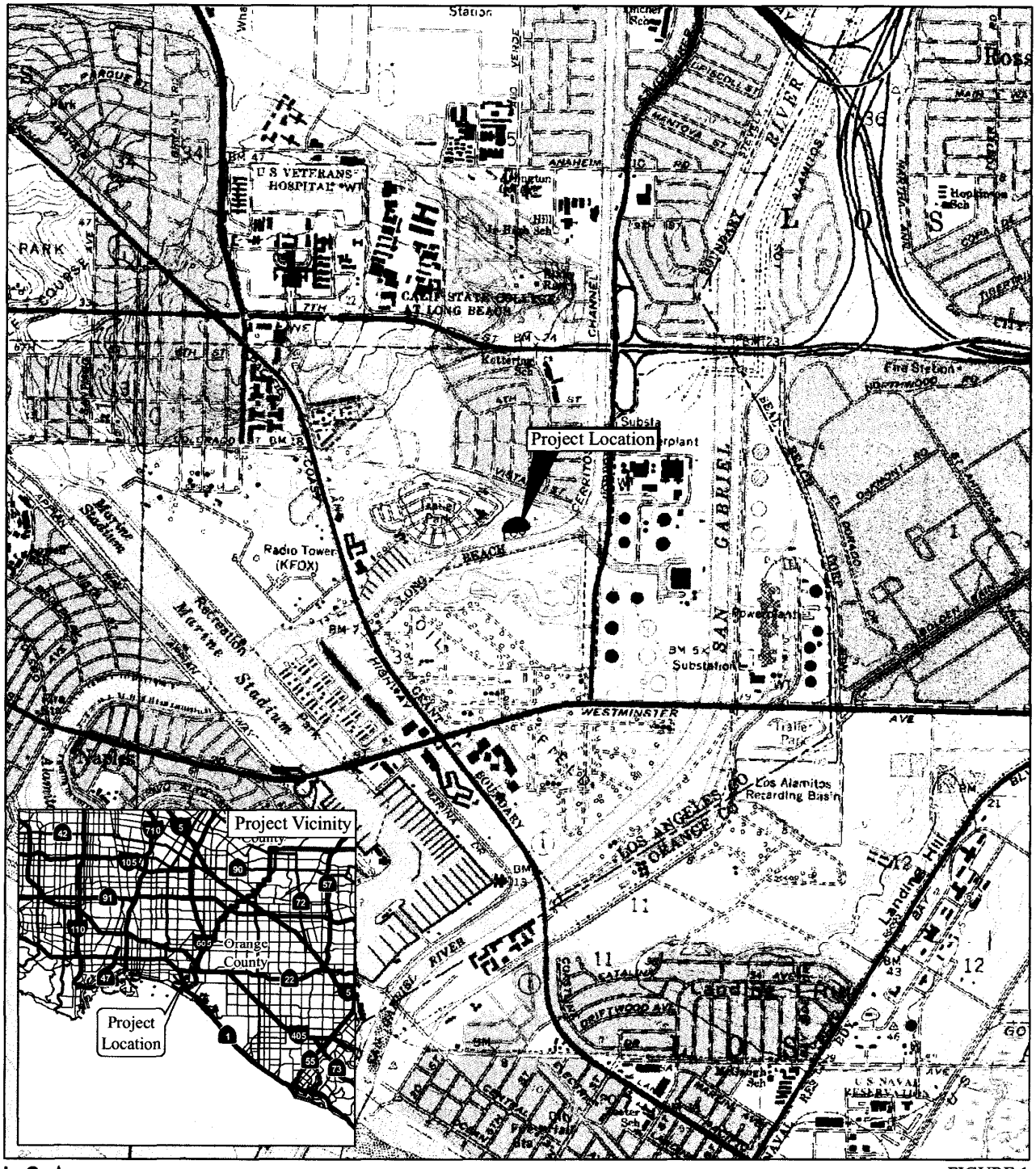
SUPERVISION/RESPONSIBILITIES

Restoration Ecologist

The Restoration Ecologist is the landowner's representative in the field and will be responsible for monitoring the revegetation area according to the guidelines set forth in these specifications. The qualified Restoration Ecologist shall be familiar with all aspects of native revegetation. The Restoration Ecologist must be approved by the CCC Executive Director. These duties will include overseeing all aspects of the work performed by the Restoration Contractor. In addition, the Restoration Ecologist will have the responsibility of documenting and reporting the progress of the native plant community to the landowner and the CCC, as well as making recommendations to achieve the goals stated above. If necessary, the Restoration Ecologist may also prescribe remedial measures.

COASTAL COMMISSION

EXHIBIT # 8
PAGE 3 OF 21



LSA

LEGEND

Project Location

FIGURE 1

EXHIBIT # 8

PAGE 4 OF 21

0 1000 2000

FEET

SOURCE: USGS 7.5' QUAD - LOS ALAMITOS (81)

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Loynes Drive Revegetation

Project Location Map



LSA

LEGEND

- Revegetation Area (5.93 ac)
- Southern Tarplant Individuals
- Aggregation of High Density Southern Tarplant (0.44 ac)

0 75 150
FEET

SOURCE: Bing Maps (2009)

I:\ccn1001\GIS\RevegSitePlan.mxd (9/12/2011)

FIGURE 2

Loynes Drive Revegetation
Site Plan

COASTAL COMMISSION

EXHIBIT # 8
PAGE 5 OF 21

Comment Letter LCWLT

Comment Letter LCWLT

Restoration Contractor

Qualifications and Responsibilities of the Restoration Contractor. The Restoration Contractor responsible for the native revegetation shall have successfully completed (with agency acceptance) a minimum of three revegetation projects (installation and maintenance) involving establishment of native vegetation that are comparable to this project in terms of size and species composition. The Restoration Contractor shall provide at least one English-speaking person who is experienced with all aspects of native revegetation and is thoroughly familiar with all aspects of the project, including the equipment and materials being utilized or installed and the best methods for their installation and application. This person (job foreman) shall be present at all times during the execution of this work and shall direct and supervise all work performed as specified herein. The job foreman shall be on site no less than 90 percent of the time that crews are working. All prospective Restoration Contractors shall provide the resumes of the foreman and crew leader, who must meet the experience criteria listed above and whose replacements are subject to approval. Contractors who do not meet these qualifications will be disqualified from the bidding process. The Restoration Contractor will ensure that sufficient firefighting equipment (e.g., extinguishers, shovels) is available on site to help minimize the chance of human-caused wildfires.

SCOPE OF WORK

The Restoration Contractor shall furnish all labor and materials (including water) to execute this work as indicated below and as necessary to complete the contract. This includes, but is not limited to, the following:

- Performing a grow/kill regimen of the revegetated area and associated buffer prior to installation of plants and seed
- Installation and maintenance throughout the duration of the revegetation contract of any erosion control measures that may be installed within the revegetation area
- Installation, maintenance throughout the duration of the revegetation contract, and removal of the temporary irrigation system
- Hydroseeding of 326.69 pounds (lbs) of seed and 60 lbs/ac of mycorrhizal inoculum (329.40 lbs) within 5.49 ac of the revegetation area (seed and plants will not be installed within the high-density southern tarplant areas)
- Installation and guarantee of 75 percent survival of 4,116 container plants for 120 days following installation
- Maintenance of the revegetation site for 5 years following installation of the hydroseed or until the performance standards are achieved

INSPECTIONS

Preinstallation and postinstallation inspections by the Restoration Ecologist shall be requested by the Restoration Contractor to ensure that all work is completed in compliance with these specifications. Inspections shall be requested at least 48 hours prior to the time inspection is required. Inspection by the Restoration Ecologist shall be required for each phase of work listed below. In addition, the

COASTAL COMMISSION

Comment Letter LCWLT

Restoration Ecologist shall inspect the site more frequently, if necessary, to ensure that it is continuously in compliance with these specifications throughout the maintenance period.

Inspection shall be required for the following phases of work:

- During the grow/kill regimen
- During the rinsing of the hydroseed tank, prior to the preparation of seed slurry to be applied
- During the application of hydroseed
- During marking of container plant locations
- Upon delivery of the container plants
- Following container plant installation
- At the end of the 120-day establishment period
- Monthly following installation and through the 120-day establishment period and at least quarterly thereafter
- Following removal of the temporary irrigation system

PROJECT SCHEDULE

Work shall commence following notice to proceed and shall adhere to the following schedule.

- All erosion control measures and the temporary irrigation system shall be installed prior to initiation of the grow/kill regimen.
- The grow/kill regimen will begin before October of the year in which these actions take place and cease one month prior to the installation of the hydroseed.
- Hydroseeding will be performed in the fall following the completion of the grow/kill regimen and will be completed no later than December 31.
- The Restoration Contractor must guarantee 75 percent survival of the container plants during the 120-day establishment period following installation.
- Container plants will be installed in the spring following installation of the hydroseed.
- The Restoration Contractor shall maintain the revegetation area for 5 years or until the performance standards are met.
- The Restoration Ecologist shall prepare progress reports in the form of field memorandums for each inspection, and an annual report will be submitted by June 30 of each year until the performance standards are achieved.
- The irrigation system shall be removed once the performance standards have been achieved or at the discretion of the Restoration Ecologist.

COASTAL COMMISSION

Comment Letter LCWLT

SITE PREPARATION

Soil Import

If necessary, soil will be imported onto the site in order to create a topsoil layer or cap that is at least 6 inches thick across the site. The storage or stockpiling of soil, silt, and other organic or earthen materials shall not occur where such materials could pass into coastal waters. No grading or scraping of existing soil is permitted. No heavy machinery may be used. Smaller mechanized vehicles (e.g. Bobcats) may be used to transport heavy loads between paved roads and the work areas.

Grow/Kill Regimen

Grow/kill cycles shall be undertaken by the Restoration Contractor within the proposed revegetation area and within a 10-foot (ft) buffer zone surrounding the proposed revegetation area (Figure 2). Grow/kill cycles will not be performed within areas where southern tarplant (*Centromadia parryi* ssp. *australis*) or other native vegetation occurs. Prior to the commencement of the grow/kill regimen, the Restoration Ecologist will demarcate all areas of existing native vegetation. The Restoration Ecologist will determine the commencement and completion deadlines for grow/kill cycles throughout the year.

"Grow/kill" is a process of depleting the seed bank in the soil by promoting the growth of plants (through irrigation if rainfall is not sufficient) and then killing the seedlings with herbicide before they set seed. Unless there is adequate natural rainfall (as determined by the Restoration Ecologist), the Restoration Contractor shall begin a grow/kill cycle by irrigating the entire revegetation site, either by using a water truck or by using the temporary irrigation system. Excess irrigation runoff shall not be allowed, and the Restoration Contractor shall be responsible for the source and expense of the water needed for this task. The site shall be irrigated with sufficient water to initiate and promote vegetative growth. Once the vegetative growth reaches a height of approximately 3 inches, all vegetation on the revegetation site shall be herbicide treated in accordance with the "Herbicide Treatment Guidelines" below. Any plants that germinate within the revegetation areas during this phase shall be removed before they produce flowers, set seed, or reach a height of 6 inches, whichever occurs first. Following each grow/kill cycle, all of the thatch will be removed and legally disposed of off site. Grow/kill cycles will be conducted continuously throughout the summer and fall prior to installation of the hydroseed.

The Restoration Ecologist will visit the areas periodically to determine when grow/kill events should occur and will notify the Restoration Contractor when irrigation or herbicide treatment are necessary. Timing is crucial in the implementation of grow/kill cycles; thus, upon receiving notification, the Restoration Contractor will have 5 working days to complete the specified task. Though the Restoration Ecologist will be making recommendations regarding timing of herbicide application and irrigation, throughout this period it will be the responsibility of the Restoration Contractor to monitor the progress of the weeds on site and to remove or spray weeds before they set seed.

Erosion Control

In the case of heavy rainfall conditions, nonvegetative erosion control measures (e.g., sandbags, rice straw wattles) may need to be installed within the revegetation area. Only sandbags and straw

COASTAL COMMISSION

Comment Letter LCWLT

wattles are to be used within the revegetation area. Erosion control measures shall be installed prior to the initiation of the grow/kill regimen.

The Restoration Contractor shall be responsible for all erosion control for the entire term of the contract. Erosion control shall include, but is not limited to: (1) continuation of nonvegetative erosion control, as necessary; and (2) repair of damaged plants, rutting, and washouts. The Restoration Contractor is responsible for the success of the restored plant community; therefore, it is to the Restoration Contractor's advantage to use as many erosion control measures as necessary to prevent erosion damage. All rice straw wattles will be installed along slope contours in accordance with the manufacturer's specifications. All rice straw wattles shall be manufactured from straw that is wrapped in biodegradable, natural fiber netting a minimum of 8 inches in diameter and can be purchased from California Straw Works ([916] 453-1456) or an approved equivalent.

Irrigation

To facilitate the grow/kill regimen, prevent loss of the plantings during periods of dry conditions, and help establish the newly installed native vegetation, a temporary irrigation system subject to approval by the Restoration Ecologist shall be installed by the Restoration Contractor. Established native vegetation does not require irrigation under normal conditions, so supplemental irrigation will be applied sparingly and used primarily to establish the native plant community. The Restoration Contractor shall be responsible for the inspection, maintenance, and removal of the irrigation system. All water used for irrigation shall be free of impurities, excess chlorine, and salts. Irrigation shall be applied in a manner that does not allow runoff to leave the project site.

REVEGETATION INSTALLATION

The Restoration Contractor shall supply all materials necessary to complete the following work in accordance with these specifications. All materials are subject to approval by the Restoration Ecologist. Revegetation shall take place as soon as possible following the site preparation activities described above. Revegetation shall commence within 90 days from the CCC's approval of the CDP, or within such additional time as the Executive Director may grant for good cause. It is likely that a delay in installation will be requested in order to perform the aforementioned grow/kill regimen and assure that all native species are installed at the optimal time (i.e., fall/winter). All planting and seeding shall be completed no later than 6 weeks from the commencement of planting.

Endo (Arbuscular) Mycorrhizal Inoculum

In order to promote the establishment and growth of the installed native vegetation, mycorrhizal inoculation of the soil will be conducted concomitantly with hydroseeding. Endo (arbuscular) mycorrhizal inoculum shall be provided by the Restoration Contractor at a rate of 60 lbs/ac. The inoculum shall contain a minimum of 60,000 propagules per pound and shall consist of spores, mycelium, and mycorrhizal root fragments in a solid carrier suitable for hydroseeding. The carrier shall be the material in which the inoculum was originally produced and may include organic materials, vermiculite, perlite, calcined clay, and other approved materials consistent with mechanical application and good plant growth. This inoculum shall carry a supplier's guarantee of the number of

COASTAL COMMISSION

Comment Letter LCWLT

propagules per unit of weight or volume of bulk material. If the supplier claims more than one species, the label shall include a guarantee for each species of mycorrhizal fungus claimed. Using mycorrhizae inoculum that contains high concentrations of humus and humic acids reduces the potency of the inoculum (SERCAL, Mycorrhizae Workshop 2002). The Restoration Contractor shall supply a product that contains only mycorrhizae, roots, and growing medium such as is found in products sold by S&S Seeds ([805] 684-0436), Reforestation Technologies International ([800] 784-4769), or Bionet, LLC ([877] 777-8327). All alternative sources shall be approved by the Restoration Ecologist.

Seed

A total of 5.49 ac of the revegetation area will be hydroseeded. Seed will not be installed within the 10 ft buffer zone or within the high-density southern tarplant areas. The species to be included for the revegetation area (Table A) were selected based on the native species found within the coastal region of southern Los Angeles and northern Orange Counties. With the exception of species that are only obtainable through commercial sources, all seed shall be collected from areas within a 20-mile (mi) radius of the project site and from a similar microclimatic regime, if available. All seed substitution decisions or alternative genetic sources shall be approved by the Restoration Ecologist. Prior to sowing, a list of all species to be installed (including quantities and genetic sources) will be provided to the CCC Executive Director. Upon receipt, the seed must be stored in a manner that ensures its viability until it is sown. All seed must be sown within 48 hours of being delivered.

Table A: Revegetation Seed List

Scientific Name	Common Name	Lbs/Acre	Lbs Required (5.49 acre)
Ambrosia acanthicarpa	Sand bur	1.50	8.24
Amsinckia menziesii	Common fiddleneck	1.25	6.86
Bromus carinatus	California brome grass	5.75	31.57
Camissonia bistorta	California suncup	0.25	1.37
Camissonia cheiranthifolia	Beach evening primrose	0.25	1.37
Croton californicus	California croton	4.50	24.71
Croton setigerus	Doveweed	3.00	16.47
Deinandra fasciculata	Fascicled tarplant	1.50	8.24
Distichlis spicata	Salt grass	1.00	5.49
Eriophyllum confertiflorum	Long-stemmed golden yarrow	0.25	1.37
Eschscholzia californica	California poppy	0.50	2.75
Gnaphalium bicolor	Bicolored cudweed	0.25	1.37
Gnaphalium californicum	California everlasting	0.25	1.37
Heliotropium curassavicum	Alkali heliotrope	2.25	12.35
Hordeum brachyantherum	Meadow barley	6.00	32.94
Lasthenia californica	Coastal goldfields	0.25	1.37
Lepidium nitidum	Shining peppergrass	0.25	1.37
Leymus condensatus	Giant wild-rye	0.75	4.12
Leymus triticoides	Beardless wild-rye	0.75	4.12

COASTAL COMMISSION

Comment Letter LCWLT

Table A: Revegetation Seed List

Scientific Name	Common Name	Lbs/Acre	Lbs Required (5.49 acre)
Lotus purshianus	Spanish lotus	3.00	16.47
Lotus salsuginosus	Alkali lotus	1.50	8.24
Lupinus bicolor	Miniature lupine	1.50	8.24
Lupinus succulentus	Arroyo lupine	4.00	21.96
Malacothrix saxatilis	Cliff malacothrix	1.00	5.49
Melica imperfecta	Small-flowered melic grass	1.75	9.61
Nassella lepida	Foothill needlegrass	2.00	10.98
Nassella pulchra	Purple needlegrass	5.00	27.45
Phacelia distans	Common phacelia	0.75	4.12
Plantago erecta	California plantain	2.00	10.98
Poa secunda	Perennial bluegrass	0.75	4.12
Sisyrinchium bellum	California blue-eyed grass	1.50	8.24
Solanum douglasii	Douglas' nightshade	2.25	12.35
Trifolium willdenovii	Valley clover	1.50	8.24
Verbena lasiostachys	Western verbena	0.50	2.75
Total		**59.50**	**326.69**

lbs/acre = pounds per acre

Color-Coded Wire Pin Flags

Color-coded wire pin flags shall be provided by the Restoration Contractor for marking container plant locations. Each species shall have a different color (or combination of colors). All pin flags must be new. The locations of areas where container plants will be installed must be marked with wire pin flags prior to planting. Special attention must be paid when placing the flags, taking into consideration the microclimatic requirements of each species. The layout must be approved by the Restoration Ecologist. All of the pin flags shall be separated by species prior to coordination with the Restoration Ecologist in the field.

Container Plants

Container plants in the form of plugs shall be installed within 5.49 ac of the revegetation area in the spring following installation of the hydroseed. Container plants will be installed after the seed has germinated and established itself. Container plants will be installed within areas that are devoid of native perennial species. Container plants will not be installed within the 10 ft buffer zone. All container plants that have mycorrhizal associations shall be inoculated with mycorrhizal fungi at the nursery. The genetic source of all container plants will be within 20 mi of the project site, if possible, and of similar microclimatic regime. All plant substitution decisions or alternative genetic sources shall be approved by the Restoration Ecologist. Prior to planting, a list of all species to be installed (including quantities and genetic sources) will be provided to the CCC Executive Director. A representative sample of all container plants must be inspected and approved by the Restoration Ecologist at the time of delivery. All plants shall be healthy, be in good condition, and have a good

COASTAL COMMISSION

Comment Letter LCWLT

root-to-shoot ratio (approximately 2:1). The roots shall be young roots that fill the container and must not be wrapped around the sides of the container. Any plants that, in the opinion of the Restoration Ecologist, are incapable of surviving for 120 days following proper installation techniques will be returned to the nursery to either be replaced or regrown for installation during the following growing season. Upon receipt, the container plants shall be stored in such a way that the natural elements (e.g., dryness, heat, excessive wind) will not hinder their growth or kill the plants prior to installation. Delivery of the container plants for the revegetation area may be requested at least 2 weeks prior to the scheduled planting time. All container plants shall be installed within 3 days following acceptable delivery. All container plants shall be maintained at a 75 percent survival rate throughout the first 120 days following installation. The list of container plants and densities to be installed within the revegetation area is presented in Table B. In order to maintain the integrity of the landfill's soil cap, deep-rooted species (e.g., native perennial shrubs and trees) will not be installed within the project area.

Other Materials

All other materials not specifically described herein, but required to complete this project, shall be furnished by the Restoration Contractor and are subject to the approval of the Restoration Ecologist.

Table B: Container Plant List

Scientific Name	Common Name	Container Size	Spacing (ft on center)	Plants/ac	Plants Required (5.49 ac)
Bromus carinatus	California brome grass	Plugs	2	125	686
Distichlis spicata	Salt grass	Plugs	2	125	686
Leymus condensatus	Giant wild-rye	Plugs	5	125	686
Melica imperfecta	Small-flowered melic grass	Plugs	2	125	686
Nassella lepida	Foothill needlegrass	Plugs	2	125	686
Nassella pulchra	Purple needlegrass	Plugs	2	125	686
Total				**750**	**4,116**

ac = acre
ft = feet

INSTALLATION METHODS

Hydroseeding Technique

The revegetation area shall be seeded using a two-stage hydroseed application method. The application procedure is as follows.

First Application

- 150 lbs/ac of 100 percent long-strand wood fiber (no tackifier)
- Specified seed

COASTAL COMMISSION

Comment Letter LCWLT

- 60 lbs/ac of vesicular-arbuscular mycorrhizal inoculum
- Specified fertilizer

Second Application

- 2,000 lbs/ac of 100 percent long-strand wood fiber (no tackifier)
- 150 lbs/ac Ecology Control "M" binder

All hydroseed mixing shall be performed in a clean tank. The tank must be rinsed a minimum of three times in the presence of the Restoration Ecologist. It is the Restoration Contractor's responsibility to locate a source of clean water and a washout area where rinsing can legally be carried out. The hydroseeder must be equipped with a built-in continuous agitation and recirculation system of sufficient operating capacity to produce homogeneous slurry and a discharge system that will apply slurry to the designated areas at a continuous and uniform rate.

The slurry preparation shall take place at the project site and shall be started by adding water to the tank while the engine is running at half-throttle. Good recirculation shall be established when the water level has reached the height of the agitator shaft; at this time, the seed and fertilizer shall be added. The long-strand wood fiber shall be added when the tank is at least 30 percent filled with water. The Restoration Contractor shall commence spraying once the tank is full and homogeneous slurry has been created.

The Restoration Contractor shall spray designated areas with the slurry in a sweeping motion and in an arched stream until a uniform coat is achieved with no slumping or shadowing as the material is spread at the required rate. The hydroseed slurry should float down from the arched stream as opposed to being shot directly at the ground.

The tanks must be emptied completely during each stage of hydroseeding. Any slurry mixture that has not been applied by the Restoration Contractor within 1 hour after mixing shall be rejected and replaced at the Restoration Contractor's expense. In addition, all cost incurred for repair or replacement of bare, sparse, or damaged areas shall be the sole responsibility of the Restoration Contractor. Following application, all activity on the mulch layer must be kept to a minimum until the seed has germinated and established itself.

Planting Technique

Planting locations for container plants within the revegetation area shall be marked under the direction and supervision of the Restoration Ecologist. Plantings shall be spaced in natural-looking patterns to replicate the character of the nearby native plant communities with consideration of the microclimate requirements of each species.

COASTAL COMMISSION

Comment Letter LCWLT

In the spring following installation of the hydroseed, the Restoration Ecologist shall use pin flags provided by the Restoration Contractor to mark the planting locations of the container plants. The plantings shall be spaced in natural-looking patterns to replicate the character of adjacent natural communities, with consideration of the microclimate requirements for each species.

All container plants shall be installed in accordance with the following specifications:

- Plants will be placed into a hole that is capable of accepting the diameter and height of the container.
- Any roots wrapped around the sides of the containers shall be pulled loose from the root balls. The sides of the root balls shall be scarified to promote new root development.
- Plants shall be planted with the roots untangled and laid out in the planting holes to promote good root growth and prevent the plants from becoming rootbound.
- Roots shall be adequately protected at all times from sun and/or drying winds.
- The top of the rootball will be set slightly above finish grade, and the planting hole will be backfilled with native soil.
- The revegetation area shall be irrigated at the time of planting, with sufficient water to reach the lower roots of the installed container plants. Special care must be taken to prevent the soil from washing away from the roots and the root crown from being buried with soil.
- All empty plant containers shall be removed from the revegetation site and not left on site overnight.

REVEGETATION MAINTENANCE

Maintenance of the revegetation area must be undertaken in accordance with the following specifications until the performance standards are achieved. Normal maintenance will include weeding, herbivore control, and watering as necessary within the revegetation area and weeding within the 10 ft buffer zone.

Following installation of the hydroseed and through the first 120 days after installation of the container plants, the revegetation area and buffer zone must be maintained regularly to ensure successful establishment. At the end of the 120-day establishment period, a thorough inspection of the revegetation area shall be conducted by the Restoration Ecologist, and a list of those container plants that are dead within the revegetation area shall be submitted to the Restoration Contractor. Dead or missing container plants in excess of 10 percent will be replaced. The species and planting locations shall be determined by the Restoration Ecologist.

Nonnative Weed Control

In order to help establish the developing community, nonnative weeds shall be removed from the revegetation area and buffer zone to reduce the amount of competition for natural resources, including water, nutrients, and sunlight. The amount of weeding required will be determined by the amount of weed seed in the soil, weather conditions, and the diligence and persistence in removing the weeds

COASTAL COMMISSION

Comment Letter LCWLT

before they produce more seed, thereby reducing the weed seed bank. The following weeding guidelines shall be adhered to continuously:

- The percentage of cover by nonnative weeds within the revegetation area and buffer zone must be kept below 5 percent at all times.
- No more than 10 percent of the buffer zone may be covered at any time by weeds that have reached the seed dispersal stage.

Methods of Removal. During the 5-year maintenance period, with the exception of those weed species that cannot be eradicated through manual removal (e.g., garland chrysanthemum and small-flowered iceplant), weeds present shall be removed manually. Herbicide is only permitted with the written authorization of the Restoration Ecologist (see "Herbicide Treatment Guidelines"). No weed whipping or string-line trimmers shall be permitted without the written authorization of the Restoration Ecologist. Special care must be taken to prevent damage to native plants. Native plants intentionally or unintentionally damaged shall be replaced as needed in the form of container plants during the next growing season in order to attain the performance standards. All nonnative vegetative debris accumulated as a result of weed removal activities shall be legally disposed of off site within 10 days of cutting.

Herbicide Treatment Guidelines. Herbicide will be used during the grow/kill regimen and may be used with written authorization from the Restoration Ecologist during the 5-year maintenance period. In order to apply an unrestricted herbicide (Rodeo), the Restoration Contractor must have a Pest Control Business License, which requires that at least one individual employed by the Restoration Contractor be in possession of a Qualified Applicator's License (QAL). If a qualified applicator is not present during treatment, all applicators must have undergone documented herbicide application training. All licenses must be issued by the State of California, registered in Los Angeles County, and of current status.

Only Rodeo, a United States Environmental Protection Agency-approved, glyphosate-based systemic herbicide, may be used. No preemergent herbicides may be used. No persistent herbicides may be used. The following herbicide concentrations shall be used according to the type of application required:

- Foliar spray application: minimum of 3 percent solution
- Foliar wick application: 33 percent solution
- Stump treatment: 100 percent solution

A brightly colored dye shall be used in all applications. The material shall be a nontoxic, water-soluble, liquid material such as "Blazon" by Milliken Chemicals or its equivalent. "Turfmark" is not an acceptable alternative. The dye shall be mixed with the herbicide at no more than one-half the rate specified on the label (one-quarter the rate will usually suffice).

Spraying shall be conducted only when weather conditions are conducive to effective uptake of the herbicide by the targeted species (i.e., sunny, dry, and when plants are actively growing) and when

COASTAL COMMISSION

Comment Letter LCWLT

wind conditions are such that herbicide drift is nonexistent (5 miles per hour or less). During herbicide application, protection or avoidance of nontargeted species (i.e., native vegetation) is required. Any nontargeted species lost within the revegetation area due to intentional or unintentional application of herbicide shall be replaced by the Restoration Contractor during the following planting season at the direction of the Restoration Ecologist.

Weed species known to occur on site include, but are not limited to, the following:

- Soft chess (*Bromus hordeaceus*)
- Garden beet (*Beta vulgaris*)
- Five-hook bassia
- Foxtail barley (*Hordeum murinum*)
- Wild oat
- Common ripgut grass
- Red brome
- Bittercress (*Cardamine* sp.)
- Garland chrysanthemum
- Small-flowered iceplant
- Lesser wart-cress (*Coronopus didymus*)
- Bermuda grass (*Cynodon dactylon*)
- Weedy cudweed (*Gnaphalium luteo-album*)
- Prickly lettuce (*Lactuca serriola*)
- Rye grass (*Lolium* sp.)
- High mallow (*Malva sylvestris*)
- Bur-clover (*Medicago polymorpha*)
- White sweet-clover (*Melilotus albus*)
- European sickle-grass (*Parapholis incurva*)
- Littleseed canary grass (*Phalaris minor*)
- Bristly ox-tongue (*Picris echioides*)
- Smilo grass (*Piptatherum miliaceum*)
- Common knotweed (*Polygonum aviculare*)
- Rabbitfoot grass
- Wild radish (*Raphanus sativus*)
- Curly dock (*Rumex crispus*)
- Milk thistle (*Silybum marianum*)

COASTAL COMMISSION

EXHIBIT # 8
PAGE 16 OF 21

Comment Letter LCWLT

- Sand-spurry (*Spergularia* sp.)
- Tocalote (*Centaurea melitensis*)
- Shortpod mustard
- Yellow sweet clover (*Melilotus indicus*)
- Sow-thistle (*Sonchus* sp.)

Erosion Control

The Restoration Contractor shall be responsible for all erosion control maintenance required for the revegetation area for the entire term of the contract. Erosion control shall include, but not be limited to: (1) continuation of nonvegetative erosion control, as necessary; and (2) repair of damaged plants, rutting, and washouts.

Pest Control

Insect and herbivore damage control shall be the responsibility of the Restoration Contractor, using only those methods approved by the Restoration Ecologist. The Restoration Contractor shall implement control measures, which may require fencing or caging all container plants at the earliest sign of damage. In addition, the Restoration Contractor shall treat any insect infestation as necessary to protect the health and establishment of the plant community, per the recommendation of the Restoration Ecologist.

Irrigation

The Restoration Contractor shall be responsible for inspection and maintenance of the irrigation system throughout the revegetation area. The Restoration Contractor shall be responsible for removal of the irrigation system prior to the completion of the project.

Litter Removal/Site Maintenance

All trash and other debris shall be removed from the revegetation area prior to and during revegetation activities. All planted and seeded areas shall be kept neat, clean, and free of all nonvegetative debris and trash (including vegetative debris accumulated during weeding activities, which shall be removed as specified).

Pruning and Leaf Litter Removal

No pruning or leaf litter removal shall take place within the revegetation area. Therefore, all leaf litter and native thatch shall be left in place and not cleared away from the plantings.

COASTAL COMMISSION

Comment Letter LCWLT

Fertilizer

The Restoration Contractor shall not use a chemical fertilizer within the revegetation area during the maintenance period unless directed to do so by the Restoration Ecologist.

REMEDIAL MEASURES

The purpose of the remedial measures is to remedy unsuccessful revegetation efforts, as indicated by excessive nonnative species or erosion or the excessive mortality of installed plants and/or seed. Remedial measures, as identified in the monitoring reports or field memorandums, include weed eradication, replacement of dead or diseased container plantings, and/or reseeding in areas as necessary to meet the performance standards. Such actions will be taken immediately upon the identification of problems and will be implemented as often as necessary to meet the performance standards. The removal of dead and/or diseased container plants will be left to the discretion of the Restoration Ecologist. The genetic source of all remedial seed and plants shall be the same as that described in the Restoration Installation section above.

PERFORMANCE STANDARDS

The goal of this project is to establish healthy and functional native habitat of the identified revegetation area. The revegetation will be considered successful when all of the following criteria are met:

- There is at least 80 percent relative cover by native plant species in the 5.93 ac revegetation area.
- Evidence that the site is sustainable, which includes signs of regeneration (progeny and new growth), healthy plants, a low mortality rate, and resistance to weeds (less than 5 percent cover by nonnative species and minimal weed maintenance during the previous spring season).

The site will not be eligible for CCC approval until it has gone without irrigation for a period of 3 years. It is the goal of the project to meet the performance standards within 5 years following installation of the hydroseed.

MONITORING

In order to ensure that the site is in compliance with these specifications, the site will be evaluated regularly.

The postinstallation monitoring program will be as follows:

- Monitoring for survival, appearance, function, wildlife usage, and general compliance will be completed monthly for the first year following installation of the hydroseed and at least quarterly thereafter until the performance standards are met.
- A survey will be conducted in the spring of each year. Qualitative data will be collected on native and nonnative vegetation cover, species composition, survival, appearance, and function of the plant community. In addition to qualitative data, quantitative data on native and nonnative

COASTAL COMMISSION

Comment Letter LCWLT

vegetation cover and species composition will be collected by performing at least 10, 1-square-meter quadrats. All wildlife species present on site shall be recorded.

- As part of the site inspections and annual surveys, the Restoration Ecologist will prepare field memorandums. The field memorandums will record general ecological observations and make maintenance recommendations, and copies will be sent to the landowner and the Restoration Contractor.
- If any special-status species are observed on or in proximity to the project site during project surveys, the Restoration Ecologist will submit California Natural Diversity Database (CNDDB) forms and maps to the CNDDB of the sightings and will provide the regional California Department of Fish and Game (CDFG) office with copies of the CNDDB forms and survey maps.

The individual who monitors the site shall be an experienced Restoration Ecologist qualified to assess the performance of the revegetation effort and to recommend corrective measures as needed.

DOCUMENTATION

Approximately 120 days following installation of the container plants, the Restoration Ecologist will prepare an as-built report that describes the installation and how the project was consistent with this HRMP. The as-built report will also document the situations where it was necessary to diverge from this HRMP. By June 30 of each following year until the performance standards are achieved, a formal report will be prepared and submitted by the Restoration Ecologist to the landowner and the CCC.

The report will include the following:

- A summary of the establishment period monthly site inspections and quarterly site inspections for the first year and a summary of the quarterly site inspections for each year thereafter
- A description of the existing condition of the revegetation area, including descriptions of vegetation composition, weed species, and any erosion problems
- A description of the maintenance activities (including revegetation and weed removal) and when they were conducted
- A summary of the qualitative and quantitative data collected
- Any observations of wildlife at the site, including sensitive and/or listed species or their sign within the revegetation area
- A discussion of any problems encountered during revegetation
- Photo documentation at specified locations
- Remedial measures (e.g., weed control, trash removal) that were implemented to correct problems or deficiencies, if any

LONG-TERM MAINTENANCE

The purpose of the revegetation effort is to replace the ruderal grassland vegetation that was impacted/removed as a result of the unauthorized clearing with native vegetation in order to provide

COASTAL COMMISSION

Comment Letter LCWLT

foraging habitat for wildlife and reduce the likelihood of erosion of the newly replaced soil cap on the old landfill. The removal of nonnative vegetation pursuant to future weed abatement notices is an allowable activity; however, the weed removal activities should be monitored to ensure that only nonnative species are removed. The land is subject to alternative future uses with an appropriate CDP.

Weed abatement, tree trimming, nonnative tree removal, and ongoing maintenance of the property consistent with the CDP is allowed. All work carried out pursuant to any City- or County-issued abatement order shall comply with the terms of the CDP in order to ensure the protection of wildlife habitat and the long-term protection of breeding, roosting, and nesting habitat of State and federally listed bird species, California bird Species of Special Concern, and bird species that play an especially valuable role in the ecosystem.

No bird nests shall be disturbed. Prior to tree trimming and weed abatement, a qualified biologist or ornithologist shall survey the project site to detect bird nests and submit a survey report to the CDP permittee (Permittee) and the CCC Executive Director. The survey report shall include identification of all known nests. The Permittee shall maintain a file of survey reports that includes a record of nests that is to be used for future vegetation removal decisions.

All weed abatement, tree trimming, nonnative tree removal, and ongoing maintenance of open space areas shall be supervised by a qualified biologist and shall be undertaken in compliance with all applicable codes or regulations administered by the CDFG and, the United States Fish and Wildlife Service (USFWS), including the United States Migratory Bird Treaty Act, and shall be conducted in conformance with the following terms.

- Tree Trimming and Nonnative Tree Removal
    - Tree trimming and nonnative tree removal shall take place only outside of the bird breeding and nesting season, which is January 1 through September 30.
    - The trimming or removal of any tree that has been used for breeding and nesting within the past 5 years is prohibited, unless the Permittee obtains a CDP or emergency permit authorizing such trimming and removal. Prior to tree trimming or removal of any tree, a qualified biologist or ornithologist shall survey the trees to be trimmed or removed to detect nests and submit a survey report to the Permittee and the CCC Executive Director. The survey report shall include identification of all trees with nests. The Permittee shall maintain a file of survey reports that includes a record of nesting trees to be used for future tree trimming and removal decisions.
    - No bird nests shall be disturbed. Trimming may not proceed if a nest is found and evidence of courtship or nesting behavior is observed at the site. In the event that any birds continue to occupy trees during the nonnesting season, trimming shall not take place until a qualified biologist or ornithologist has assessed the site, determined that courtship behavior has ceased, and given approval to proceed within 300 ft of any occupied tree (500 ft for raptors).
    - No California native trees shall be removed. All existing native vegetation shall be protected.
    - Tree trimming and nonnative tree removal shall be undertaken using only hand-operated equipment (e.g., machetes, weed whackers, and chain saws). No herbicides shall be used.
- Weed Abatement

COASTAL COMMISSION

Comment Letter LCWLT

- Weed abatement activities shall take place outside of the marsh bird nesting season (February 1 through August 31). Specifically required restoration work approved by the CCC Executive Director is not subject to this limitation.
- Prior to weed abatement and removal of any plant material, a qualified biologist or ornithologist shall survey the project site to detect nests and submit a survey report to the Permittee and the CCC Executive Director. The survey report shall include identification of all known nests. The Permittee shall maintain a file of survey reports that includes a record of nests that is to be used for future vegetation removal decisions.
- No bird nests shall be disturbed. Weed abatement and removal of any plant material may not proceed within 300 ft (500 ft for raptors) of a nest where evidence of courtship or nesting behavior is observed. In the event that any birds continue to occupy nests during the nonnesting season, trimming shall not take place until a qualified biologist or ornithologist has assessed the site, determined that courtship behavior has ceased, and given approval to proceed within 300 ft (500 ft for raptors) of any nest.
- All existing native vegetation shall be protected.
- Weed abatement and removal of plant materials shall be undertaken using hand-operated equipment only (e.g., machetes, weed whackers, and chain saws). No herbicides shall be used unless they are specifically authorized by the CCC Executive Director.

- Disposal of plant matter
  - All cut plant materials shall be disposed of at an appropriate off-site location within 10 days of cutting. A separate CDP will be required prior to the placement of any cut plant material in the Coastal Zone unless the CCC Executive Director determines that no permit is required pursuant to the requirements of the Coastal Act and the California Code of Regulations.

All weed abatement, tree trimming and nonnative tree removal shall be conducted in strict compliance with these conditions. Any proposed change or deviation from these conditions shall be submitted for review by the CCC Executive Director to determine whether an amendment to the CDP is required pursuant to the requirements of the Coastal Act and the California Code of Regulations.

COASTAL COMMISSION

California Coastal Commission
CDP Application No. A-5-LOB-10-015-A1

Applicant: Loynes, LLC

Agent: Schmitz & Associates, Inc.

Project Site/Property Address: 6400 Loynes Dr., Long Beach, CA

Project Description: CDP-Amendment for proposed restoration to comply with CDP A-5-LOB-10-015 Special Conditions, excluding the wetlands feature and impermeable cap as conditioned per Special Condition One of the underlying CDP.

I, Commissioner Brian Brennan, had ex parte communication with Don Schmitz, agent for the above-referenced project on December 8, 2011. Mr. Schmitz reviewed with me the history of activities on and the conceptual plan for restoration and re-vegetation of the subject site. We specifically reviewed Special Condition One of the underlying CDP which called for an impermeable cap and wetlands features despite CCC Staff's original recommendation to the Commission; Mr. Schmitz advised me of the unfavorable disposition of Los Angeles County Department of Health and RWQCB with respect to these two requirements, particularly with respect to lateral gas migration concerns resulting from the cap. Mr. Schmitz also advised me of the large scope, scale and costs of attempting to mitigate such lateral migration, and to maintain such mitigation infrastructure. Accordingly, the applicant proceeded with this amendment application to go back to the initially proposed upland vegetation restoration as originally recommended by CCC Staff.



12/13/11

Commissioner Brennan Date

LCWLT-16

From:	Cynthia Kellman
To:	Sally Gee
Cc:	Michelle N. Black
Subject:	Draft Programmatic Environmental Impact Report and Selection of Alternatives for the Los Cerritos Wetlands Restoration Plan
Date:	Monday, July 6, 2020 1:14:05 PM
Attachments:	DEIR comment letter fnl.pdf

Dear Ms. Gee,

Attached please find a comment letter from Michelle Black regarding the above-captioned matter.

Please feel free to contact me with any questions or concerns.

Cynthia Kellman
CHATTEN-BROWN, CARSTENS & MINTEER LLP
2200 Pacific Coast Highway, Ste. 318
Hermosa Beach, CA 90254
Tel: 310-798-2400 x6
Fax: 310-798-2402
cpk@cbcearthlaw.com
www.cbcearthlaw.com

Los Cerritos Wetlands Land Trust, July 6, 2020

Comment Letter LCWLT

Response LCWLT-1

The commenter acknowledges receipt of the Draft PEIR and submitting comments on behalf of the Los Cerritos Wetlands Land Trust. This commenter provides a summary of their high-level project-related comments. The commenter suggests that the Draft PEIR contains many deficiencies that render it inadequate under CEQA. The commenter suggests discussion of an alternative that would restore tidal flow to the Central Area of the Project from areas located above 2nd Street. Specific comments regarding the Draft PEIR are provided and responded to below.

Response LCWLT-2

The commenter states that the Draft PEIR does not clarify which specific actions would be authorized by the LCWA's approval of the Project and certification of the EIR and requests that the Draft PEIR be revised to make any tiering clear and to clarify which Project activities may go forward without additional, detailed, project descriptions and future, adequate CEQA review. Additional discussion has been added to Chapter 2 Project Description, Section 2.1.2 to more clearly describe the CEQA process for individual restoration projects.

Response LCWLT-3

The commenter suggests expanding the discussion of the alternatives to include a tidal connection to Steamshovel Slough or Los Cerritos Channel below 2nd Street to the Long Beach Property site. This alternative would maintain the breach of the San Gabriel River levee to the Central LCWA and Central Bryant sites. The Central Area would be tidally influenced from both the San Gabriel River (east of the Interim Levee) and the Los Cerritos Channel (west of the Interim Levee). Under the proposed program, the Interim Levee splitting the Long Beach property site and the Central LCWA and Bryant sites would remain permanent. The commenter notes several advantages of this alternative. In Chapter 5 Alternatives, edits have been made to Section 5.2.2.3 and a new Section 5.4.2.5, has been added to incorporate additional discussion relating to the alternative to connect to Steamshovel Slough for the Long Beach City property site.

The commenter suggests that connecting the Long Beach City property site to Steamshovel Slough has several advantages. We have provided responses below under each numbered item:

1. Commenter suggests alternative would not disrupt the restoration plans for the other areas and the near-term Central Area restoration could proceed as planned.
    a. As noted by the comment, this alternative would not disrupt the restoration plans for the other areas. However, in the Central Area, the Interim Levee would need to become permanent and be raised to provide long-term flood protection like the Perimeter Levee, so it would be higher and have a larger footprint. This would result in a greater impact to existing wetlands and the aesthetic views of the area. Text has been added to Chapter 5 Alternatives, Section 5.2.2.3 to further expand on this alternative and the consequently higher Interim Levee.

2. Commenter suggests alternative would eliminate the need to breach the San Gabriel River levee to restore tidal flow to the Long Beach City property.

    a. This alternative would still breach the San Gabriel River levee to restore tidal flow to the Central LCWA and Central Bryant properties, so this alternative would not prevent the risk for increased flooding as suggested in the comment. However, we have provided an additional alternative in Chapter 5 Project Alternatives, Section 5.2.2.3 that does eliminate the need for the Interim Levee by have the connection under 2nd street provide the hydrology for the entire Central Area.

3. Commenter suggests alternative eliminates the need for 120-foot-wide, 15-foot-tall berms and allows for shorter and smaller berms.

    a. As noted under response 1a. above, the Interim Levee would need to be raised under this alternative and the Perimeter Levee along the Central Bryant property would remain, so this alternative would not eliminate the levees. Alternatively, we have provided an additional alternative in Chapter 5 Project Alternatives, Section 5.2.2.3, that does eliminate the need for the Interim Levee by have the connection under 2nd street provide the hydrology for the entire Central Area. In both alternatives, there would still be a need for a flood protection berm around at least the Long Beach City property, so the impact of this feature would not be eliminated, although it would be smaller than the Perimeter Levee in the proposed program.

4. Commenter suggests alternative would improve wetland connectivity by joining wetlands on both sides of 2nd Street.

    a. As noted by the comment, this alternative would increase wetland connectivity between the Long Beach City property and the Synergy sites; however, the alternative would decrease the habitat connectivity between the Long Beach City property and the Central Bryant property, Central LCWA property, and San Gabriel River. The alternative would also reduce, if not eliminate, the freshwater pulses of stormwater the Long Beach City property would receive from the San Gabriel River under the proposed program, which is considered a benefit to the system. Text has been added to Chapter 5 Alternatives, Sections 5.4.2.4 and 5.4.2.5 to clarify the potential benefit of increased wetland connectivity to Steamshovel Slough. This alternative would also reduce the creation of new habitat for special status species like the Pacific green sea turtle that live in the San Gabriel River.

5. Commenter suggests alternative would reduce the aesthetic impact by reducing the height of the berms.

    a. As noted by the comment, the alternative would reduce the height of the berms and, therefore, reduce the aesthetic impact of the proposed program. However, the Interim Levee would be raised, which would increase the aesthetic impact in that area. Text has been added to Chapter 5 Alternatives, Sections 5.4.2.4 and 5.4.2.5 to clarify the potential benefit of lowered levees to the views of the site.

6. Commenter suggests alternative would reduce the impacts associated with construction, air quality, and ground disturbance by reducing the fill volume needed in the flood control levees.

    a. While the impacts associated with moving fill for the levees would be reduced, the alternative would increase impacts associated with the construction to connect the sites under 2nd Street, as discussed in Section 5.4.2.4 and 5.4.2.5. Installing culverts or a bridge would create traffic impacts and would likely result in similar noise and air quality

impacts as would be caused by construction of the higher levees under the proposed program.

7. Commenter suggests alternative would reduce the berm heights, therefore, maximizing the area available for restoration.

    a. As noted by the comment, the alternative would reduce the height of the berms and, therefore, likely increase the area available for restoration compared to the proposed program. Chapter 5 Alternatives, Section 5.4.2.5 has been revised to acknowledge this. However, as noted under response 1a. above, the Interim Levee would need to be raised under this alternative, which would decrease some of the area available for restoration.

8. Commenter suggests alternative would enhance seeding and the spread of native species from Steamshovel Slough and reduces the likelihood that the river's contamination and trash could impact the Central Area.

    a. As noted by the comment, the alternative would enhance seeding and the spread of native species from Steamshovel Slough. In terms of water quality, the Los Cerritos Channel has multiple TMDLs (see Appendix J) including one for trash. The alternative would eliminate the flow from the River, but it would still bring potential contaminants to the site through the Los Cerritos Channel. Text has been added to Chapter 5 Alternatives, Section 5.4.2.4 to clarify the potential benefit of connecting to Steamshovel Slough and the change in impacts of connecting to the Los Cerritos Channel rather than the San Gabriel River.

The comment suggests avoiding immediate action on the Long Beach City property in order to ultimately restore tidal flows to the area via conduits running below 2nd Street. The proposed program is designed in phases to provide LCWA with flexibility as more information becomes available in the future. The design of the Central Area in the near-term in the proposed program would allow for a future connection under 2nd Street if LCWA determines that to be the preferred approach at a future date. If chosen as the preferred approach, LCWA would evaluate the environmental impacts of that alternative at that time when more information is available. Text has been added to Chapter 5 Alternatives, Section 5.4 Alternatives Considered and Withdrawn from Consideration, to clarify the potential for LCWA to move forward with alternatives considered and withdrawn from the PEIR.

The commenter also notes the alternative would provide more flexibility in the placement of the Beach Oil Mineral Partners' pipeline. Since the alternative would still require flood control berms around the Long Beach City property, it is not clear that this alternative would provide more flexibility for the pipeline compared to the proposed program, however, this could be explored as project design is advanced further. Any tidal connection created between the North Area and Central Area would likely need to be designed to go under the pipeline system being proposed by Beach Oil Mineral Partners.

The commenter notes that the PEIR rejects this alternative, but also points out that the PEIR explicitly states: "If the timing of that project [the Los Cerritos Wetlands Oil Consolidation and Restoration Project] were to change, this alternative could be considered feasible." This alternative was not rejected by the LCWA. As discussed in Section 5.4, this alternative was considered and withdrawn from consideration as part of the PEIR. Text has been added to clarify that several steps would need to occur before this alternative is viable. For this reason, it was not

chosen as the proposed program which was analyzed in this PEIR. However, as stated in Chapter 5 Alternatives, Section 5.4.2.4, Section 5.4.2.5; and added to Section 5.4, the design is flexible enough to incorporate this option if it is chosen as the preferred approach in the future.

The comment requests that the interplay between the City of Long Beach's Climate Action and Adaptation Plan and LCWA's Restoration Plan be explored relating to sea-level rise. The City of Long Beach is a member of the LCWA joint powers authority and is therefore engaged in both planning efforts to make sure there will be no inconsistencies.

The comment also notes that there is no analysis of the impacts that would result from constructing a connection under 2nd Street. The *CEQA Guidelines* directs that the range of alternatives be guided by a "rule of reason," such that only those alternatives necessary to permit a reasoned choice are addressed. In selecting project alternatives for analysis, potential alternatives must be feasible. Additional language has been added to Section 5.4 acknowledging that alternatives withdrawn from consideration in the Program EIR, particularly the tidal connection from the Central Area to Steamshovel Slough alternative, could become feasible in the future as all of the program uncertainties are resolved. As uncertainties are resolved, LCWA may choose to move forward with alternatives described in Section 5.4. At that time, LCWA would determine whether additional environmental documentation must be prepared. See Chapter 2, Project Description, Section 2.2 for a revised description of the CEQA process associated with restoration projects.

The commenter suggests considering raising 2nd Street as the flood control levee to also reduce the risk of flooding with sea-level rise. Text has been added to include this idea in the description of the alternative under Chapter 5 Alternatives, Section 5.2.2.3.

Response LCWLT-4

The commenter states that circulation of a Draft PEIR prior to completion of a wetlands delineation is premature. Please see Chapter 3 Biological Resources, Section 3.3.2.1 for a description of the jurisdictional delineations that have been prepared and **Table 3.3-10**, *Potential Jurisdictional Waters within the Program Area*, of the Draft PEIR which provides a summary of potential federal jurisdictional waters which include those regulated by the USACE and RWQCB as well as potential state jurisdictional waters which include those regulated by CDFW and CCC. It should also be noted that access to all the properties within the program area is not currently available for surveys because of existing land ownership. Additionally, because the restoration plan will be implemented over a 20-30-year period, perhaps even longer, delineations conducted in 2019 or 2020 would be clearly out-of-date by the time certain phases of the restoration plan are designed, let alone be implemented. As required in accordance with Mitigation Measure BIO10 in Chapter 3.4 Biological Resources, Section 3.4.5 Project Impacts and Mitigation Measures of the Draft PEIR, a jurisdictional delineation report shall be prepared that describes the jurisdictional resources and the extent of jurisdiction under the USACE, RWQCB, CDFW, and CCC within each project-level restoration area (i.e., North, South, Central and Isthmus).

Response LCWLT-5

The comment states that potential impacts of the San Gabriel River water quality must be explored in much greater detail moving forward. Chapter 3.8 Hydrology and Water Quality, Section 3.8.5, Impact HYD-1 discusses the potential for contaminated water and sediment from the San Gabriel River to impact the restored Central Area. Work is being done in the watershed, outside the proposed program to improve water quality in the San Gabriel River. The San Gabriel River has a Watershed Management Program, which identifies watershed control measures to help meet MS4 permit requirements and improve the water and sediment quality in the river.

Additionally, per Mitigation Measure HYD1, a Monitoring and Adaptive Management Plan (MAMP) will be developed prior to construction. The MAMP will provide a framework for monitoring site conditions and the actions that would be taken in response to the results of the monitoring. A Draft Monitoring and Adaptive Management Plan (MAMP) Framework has been added as Appendix B of the Final EIR.

Response LCWLT-6

The commenter is further concerned about the treatment of oil wells in the restoration area including wells operated by Signal Hill Oil in the Central Area and wells operated on the Hellman Ranch property and requests information the LCWA has about the number of wells located on the property, number sealed off in the last ten years, and the number that are idle. **Figure 3.5-3**, *Geology, Soils, and Paleontological Resources,* of the Draft PEIR, identifies the location of oil wells and their status (active, idle, plugged) within the program area and Section 3.7.2.2 *Hazards and Hazardous Materials* describes the presence of oil wells for all applicable areas within the program.

Response LCWLT-7

The commenter seeks LCWA's rationale for excluding the Hitchcock property from the Project and requests consideration of its inclusion in the Plan. See response to Comment No. SCWTF-7

Response LCWLT-8

The commenter requests that the Draft PEIR be revised to 1) clarify which activities LCWA believes are covered by this EIR and which activities will require further environmental review.

a. Please see response to Comment No. LCWLT-2.

The commenter encourages LCWA to limit use of the Draft PEIR to support refinement of the Los Cerritos Wetland Optimized Restoration Plan.

a. LCWA has determined the best course of action for the Los Cerritos Wetlands Complex is to prepare a Program EIR that evaluates the environmental impacts associated with the proposed program described in Chapter 2 Project Description of the Draft PEIR. As detailed in Section 2.2 of the Draft PEIR, subsequent activities in furtherance of the proposed program will be examined in the light of the Program EIR to determine whether additional environmental documentation must be prepared.

The commenter states that an alternative that brings tidal flow to the Central Area below 2nd Street must be explored in Draft PEIR or when LCWA finalizes the Los Cerritos Wetlands Optimized Restoration Plan.

a. Please see Response to Comment No. LCWLT-3.

The commenter states that LCWA must perform studies and analysis needed to adequately disclose, analyze, and mitigate the Project's likely impacts on wildlife and sensitive species.

a. Please see Response to Comment No. CDFW-2.

The commenter requests the following steps:

1. LCWA responds to comments and revises the text of the Draft PEIR to clarify that the PEIR is intended to inform the Los Cerritos Wetlands Optimized Restoration Plan and not to provide environmental review for activities listed in the PEIR, to reclassify the alternative for the Central Area as an alternative for incorporation in the Los Cerritos Wetlands Optimized Restoration Plan, and to proceed only with restoration projects or activities that have been fully addressed by a certified EIR or are exempt from CEQA.
    a. LCWA has prepared a PEIR that evaluates the environmental impacts associated with the proposed program described in Chapter 2 of the Draft PEIR. Several steps would need to occur before the alternative to connect the Central Area to Steamshovel Slough is viable. However, as stated in Chapter 5 Alternatives, Section 5.4.2.4 and Section 5.4.2.5 and added to Section 5.4, the design is flexible enough to incorporate this option if it is chosen as the preferred approach in the future. Section 2.2 of the Draft PEIR has been modified to clarify the steps LCWA will take regarding environmental documentation for restoration projects and activities that occur after the certification of this PEIR.
2. If LCWA certifies the PEIR, it will be for the purpose of informing the drafting of the Los Cerritos Wetlands Optimized Restoration Plan.
    a. As described in Chapter 2 Project Description, Section 2.1.2, the restoration design presented in the Los Cerritos Wetlands Optimized Restoration Plan will be informed by this PEIR and public input while maintaining consistency with the framework provided by the Conceptual Restoration Plan.
3. The commenter requests that the Optimized Restoration Plan will be subject to review.
    a. Additional discussion has been added to Chapter 2 Project Description, Section 2.1.2 stating that following certification of the PEIR by the LCWA, the Los Cerritos Wetlands Optimized Restoration Plan will be finalized with input from public agencies, tribal representatives, stakeholders, landowners, and the community, and adopted by the LCWA.

Response LCWLT-9

The commenter provides a map of the Maximum Alternative from the LCWA Conceptual Restoration Plan but does not otherwise raise any specific issues regarding the content and adequacy of the Draft PEIR. As such, no further response is warranted. Please also see the response to comment no. LCWLT-3.

Response LCWLT-10

The commenter is concerned that the Draft PEIR fails to adequately disclose, analyze, and mitigate the Project's impacts on biological resources of Los Cerritos Wetlands as required by the California Environmentally Quality Act, that the Draft PEIR lacks specificity in the project description and is missing necessary, baseline information. The commenter notes that the Project's significant and adverse environmental impacts would be reduced under an alternative that connects the Central Area to the North Area.

See Response to Comment No. CDFW-2 which states that access to all the properties within the program area is not currently available for surveys because of existing land ownership, that numerous studies have been conducted regarding the biological resources of the program areas, that surveys conducted now would be out-of-date by the time certain phases of the restoration is designed, and that mitigation measures for this PEIR are designed to augment the baseline understanding of the resources for each phase of the restoration plan and to focus avoidance in the restoration design where special-status species are documented. Because the restoration program will be developed over a multi-year schedule, impacts for each restoration phase will be subsequently evaluated and mitigation implemented according to the program mitigation measures, as modified in this PEIR and in additional CEQA analysis. Response to Comment No. CDFW-2 goes on to state that mitigation measures in Section 3.3.5 have been modified to clarify that areas that are in future phases for restoration efforts will have surveys completed prior to design of the restoration plans. It must also be stated that as each phase of the restoration plan is designed, current field surveys will be conducted to define the baseline conditions at the time of the restoration plan. Chapter 2 Project Description, Section 2.2 Program Area, of the Draft PEIR has been modified to identify the steps LCWA will take to determine the necessary environmental documentation associated with individual restoration projects. This determination will be based on whether an individual restoration project would have a new significant effect and/or a substantially more severe environmental effect that was not examined in the Program EIR. Please also see the response to Comment No. LCWLT-3 regarding the alternative to connect the Central Area to the North Area.

Response LCWLT-11

The commenter claims that the biological resources analysis is inadequate because of insufficient or incomplete baseline data resulting from inadequate surveys conducted on portions of the program area. The comment continues that the entire program area was not surveyed, e.g., Hellman Retained site, Los Alamitos Retarding Basin site, South LCWA site, and Northern and Southern Synergy Oil sites had no recent surveys. The commenter claims that the 2019 Coastal Restoration Consultants surveys were limited and insufficient. As a consequence of the inadequate surveys, the information disclosure, analysis, impact assessment and mitigation are not acceptable. As such, the PDEIR analysis must be expanded and recirculated.

The nature of this program EIR contemplates that future surveys are inherent in the phased aspect of the restoration program and additional surveys will be conducted. This especially applies to certain areas of the restoration program area that are private property and/or not currently accessible to LCWA. LCWA concurs that an adequate baseline is necessary and this is part of the

restoration program, as future surveys are a necessary part of each project-level design phase, especially in designing to avoid impacts to special-status species.

When plant species blooming periods overlap, there is no need to survey separately for each species. For example, *Camissoniopsis lewisii*, which flowers between March – May, and *Lasthenia glabrata* ssp. *coulteri*, which flowers between Feb – June, have blooming periods that overlap from March to May. Consequently, both species can be surveyed during the month of April or May, with a latter May survey also capturing the potential for *Centromadia parryi* ssp. *australis* (May - Nov) to occur, as well.

The surveys conducted for the PEIR provided ample results in order for the program EIR to establish an information basis for future program development. Seven special-status species, including all three species mentioned above, were observed within the program area. These seven species are *Lycium californicum* (California boxthorn), *Lasthenia glabrata* ssp. *coulteri* (Coulter's goldfields), *Suaeda esteroa* (estuary seablite), *Suaeda taxifolia* (woolly seablite), *Camissoniopsis lewisii* Lewis' (evening primrose), *Centromadia parryi* ssp. *australis* (southern tarplant), and *Juncus acutus* ssp. *leopoldii* (southwestern spiny rush). Although special-status species listed in **Table 3.3-2**, *Special-Status Plants with Potential to Occur*, of the Draft PEIR, are included because suitable habitat is present for these species, only three special-status species beyond the seven species observed, *Abronia maritima* (red sand-verbena), *Chloropyron maritimum* ssp. *maritimum* (salt marsh bird's beak), and *Astragalus pycnostachyus* var. *lanosissimus* (Ventura marsh milk-vetch), have a moderate potential to occur, and the latter has not previously been recorded south of the Ballona Wetlands area.

The matrix below lists all special-status plant species with some potential to occur within the restoration program area with the flower periods recorded for each species. It indicates that surveys conducted in the months of May and June, the months during which the majority of surveys for this EIR were conducted. Only one special-status species, *Helianthus nuttallii* ssp. *parishii* (Los Angeles sunflower), does not flower during those two months and this species is presumed to be extinct.

As discussed above, the plant surveys cited in the preparation of this PEIR were conducted in appropriate times and in appropriate manners to inform the public and decision makers on the potential impacts the restoration program may have on special-status species and re-circulation is not required. New, appropriately-timed plant surveys will be conducted as required under the revised Mitigation Measure BIO1, which incorporates the recommendations of this comment for surveys in areas not covered during the earlier survey, and during the appropriate blooming periods for those species with the highest potential to occur. The timing of these surveys will occur prior to the designing of each restoration project that tiers off, which will certainly occur well prior to any planned construction. With the new surveys and the restoration design details, additional environmental analysis will occur in compliance with CEQA.

Common Name	Species Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
red sand-verbena	*Abronia maritima*		X	X	X	X	X	X	X	X	X	X	X
chaparral sand verbena	*Abronia villosa* var. *aurita*	X	X	X	X	X	X	X	X	X			
aphanisma	*Aphanisma blitoides*			X	X	X	X						
Ventura marsh milk-vetch	*Astragalus pycnostachyus* var. *lanosissimus*						X	X	X	X	X		
Coulter's saltbush	*Atriplex coulteri*					X	X	X	X	X	X		
south coast saltscale	*Atriplex pacifica*			X	X	X	X	X	X	X	X		
Davidson's saltscale	*Atriplex serenana* var. *davidsonii*					X	X	X	X	X	X		
Catalina mariposa-lily	*Calochortus catalinae*			X	X	X	X						
Plummer's mariposa-lily	*Calochortus plummerae*					X	X	X					
intermediate mariposa-lily	*Calochortus weedii* var. *intermedius*					X	X	X					
*Lewis' evening primrose	*Camissoniopsis lewisii*					X	X						
*southern tarplant	*Centromadia parryi* ssp. *australis*					X	X	X	X	X	X	X	
salt marsh bird's-beak	*Chloropyron maritimum* ssp. *maritimum*					X	X	X	X	X	X		
small-flowered morning-glory	*Convolvulus simulans*			X	X	X	X						
Many-stemmed dudleya	*Dudleya multicaulis*				X	X	X	X					
Los Angeles sunflower	*Helianthus nuttallii* ssp. *parishii*								X	X	X		
vernal barley	*Hordeum intercedens*			X	X	X	X						
decumbent goldenbush	*Isocoma menziesii* var. *decumbens*				X	X	X	X	X	X	X	X	
*southwestern spiny rush	*Juncus acutus* ssp. *leopoldii*					X	X						
*Coulter's goldfields	*Lasthenia glabrata* ssp. *coulteri*		X	X	X	X	X						
*California box-thorn	*Lycium californicum*					X	X	X	X				
mud nama	*Nama stenocarpum*			X	X	X	X	X	X	X	X		
prostrate navarretia	*Navarretia prostrata*				X	X	X						
coast woolly-heads	*Nemacaulis denudata* var. *denudata*				X	X	X	X	X	X			
Lyon's pentachaeta	*Pentachaeta lyonii*			X	X	X	X	X	X				
south coast branching phacelia	*Phacelia ramosissima* var. *austrolitoralis*			X	X	X	X	X	X				
Brand's star phacelia	*Phacelia stellaris*			X	X	X	X						
salt spring checkerbloom	*Sidalcea neomexicana*			X	X	X	X						
*estuary seablite	*Suaeda esteroa*					X	X	X	X	X	X		
*woolly seablite	*Suaeda taxifolia*	X	X	X	X	X	X	X	X	X	X	X	X

All but three of the special-status plant species claimed by the commenter that they were not surveyed, were analyzed in **Table 3.3-2**, *Special-Status Plants with Potential to Occur*, of the Draft PEIR, as having low potential to occur or are unlikely to occur. It is not clear why the other three species are included in the comment; *Euphorbia misera* has not been recorded as far north as Los Cerritos; *Centromadia pungens* ssp. *laevis* has a single historical record along the coast, all other records are at interior locations; and *Astragalus hornii* var. *hornii* has never been recorded along the coast.

Response LCWLT-12

The commenter asks whether the Glenn Lukos Associates (GLA) surveys covered the entire restoration program area and if all rare plant species with the potential to occur were surveyed. In addition, the commenter states that vegetation communities may change over time and the vegetation community mapping in the PEIR may not be accurate because the vegetation mapping surveys are too old.

It is agreed that vegetation communities have the ability to change over time. Accurate vegetation mapping is an important aspect of the restoration design because the restoration program area will incorporate those healthy natural communities into the future restoration phases as areas to be preserved. Because the restoration plan will be implemented over a 20-30-year period, perhaps even longer, new surveys will be required as surveys conducted in 2019 or 2020 would be clearly out-of-date by the time certain project-level restoration plans are designed. In that regard, the GLA surveys did not cover the entire restoration program area but focused on the North Area. The surveys conducted by Tidal Influence and Coastal Restoration Consultants provided additional information for Section 3. The GLA surveys covered all potential impact areas location within the North Area.

Another comment correctly states that surveys conducted after below average rainfall years are discouraged by both CDFW and USFWS since such surveys may not reflect a normal depiction of a plant species population. This comment is acknowledged. Surveys in support of the restoration program that will be designed over several years will have ample opportunity to conduct such surveys in years having average or above rainfall seasons. This same comment suggests that point counts be conducted for bird species in order to accurately understand how each species is utilizing the site resources. Point counts to document bird usage is not required and usually not undertaken for inventory surveys used for the preparation of environmental documents. Point count surveys are more appropriately used when ascertaining the extent to which an area or habitat is used by one or more species. Such technique is not required in analyzing the potential impacts of the restoration program, which itself is designed to improve the habitat for use by all coastal wildlife species in the region.

The Coastal Restoration Consultants (CRC) reports were conducted in 2018 but the CNPS and the CNDDB records searches were conducted by ESA in 2019. During the CRC surveys conducted in 2018, the biologists surveyed the accessible areas on foot and documented all biological resources related to their tasks of vegetation mapping, jurisdictional delineation, mapping of ESHA, and secondarily observation on special-status species. A full list of species observed was not included because the objective of the survey was not to inventory all plant and

wildlife species encountered during their site survey. However, the Habitat Assessment performed for the LCWA' Conceptual Restoration Plan does include an inventory of all plant and wildlife species.

The GLA focused botanical surveys are valid surveys but are not current. As explained in Response LCWLT-11, new rare plants surveys will be conducted to inform project-level restoration plans when they tier off from the Program. This approach will ensure that project-level restoration designs are developed with the most current information. It is routine practice that focused botanical surveys be floristic in nature, which implies that all species encountered are recorded and this floristic approach is applicable to all rare plant surveys and all species with a potential to occur within the survey area would be included in the survey. No species were specifically omitted during focused rare plant surveys.

It is acknowledged that the GLA burrowing owl surveys are outdated. Mitigation Measure BIO5 requires new surveys to be completed and the timing on the surveys will be prior to project-level restoration plan design.

Similarly, it is acknowledged that the jurisdictional delineation surveys will need to be updated and to include all portions of the restoration program area and these surveys will be timed to be completed prior to each project-level restoration design phase.

IPaC is a valuable database resource for records of species listed under the Federal Endangered Species Act. A quick search of IPaC yields the same species as recorded in the CNDDB with the addition of light-footed Ridgway's rail (*Rallus obsoletus levipes*). This species was not observed during surveys but has a high potential to occur. Section 3.3 Biological Resources in Table 3.3-5 and Section 3.3.2.5 mistakenly stated that this species was observed.

ESHA designation under the California Coastal Act considers the presence of special-status species but also acknowledges the habitat as being easily disturbed by human activities. It is acknowledged that areas within the restoration program area would qualify as ESHA wherever habitat supports special-status species or where sensitive natural communities exist. If additional special-status species are found during subsequent surveys, e.g., burrowing owl or light-footed Ridgway rail, these areas would also qualify as being potential ESHA. With the successful implementation of the restoration program, most, if not all, of the program area may qualify for designation as ESHA.

Response LCWLT-13

The commenter asserts that the PEIR noise analysis is focused on impacts to humans and does not address potential noise impacts on wildlife, for which small changes in ambient noise levels may alter animal behavior.

This comment is correct; PEIR Section 3.11 focuses entirely on the proposed Program's noise impacts on humans and proximate sensitive noise receptors. However, the indirect effects of noise on wildlife is discussed in Chapter 3.3 Biological Resources. In particular, noise impacts on Belding's savannah sparrow are discussed in Section 3.3.5, Program Impacts and Mitigation

Measures. Indirect noise impacts are also addressed for California back rail, Ridgway's rail, and yellow rail. All noise impacts would be temporary and associated with construction. The construction would be phased over the multiple years of the restoration program and would not concentrate temporary construction noise in any one location of the program area. With the incorporation of Mitigation Measure BIO4, potential disruption of bird nesting will be less-than-significant, as construction noise will either be avoided by working during the non-breeding season, or will require the placement of a buffer around an active nest that will attenuate noise levels at the nest to the 60 dBA level. Noise attenuation (i.e., reduction) is about 6 dBA for each doubling of distance from the source. Thus, buffers of 200 and 400 ft. will reduce the source noise by 12 dBA and 18 dBA, respectively. Specifying noise limits for each species is speculative as each species and individuals of each species have different tolerances and so the 'industry standard' of 60 dBA is the target level. Ambient noise level for the wetlands are found in Chapter 3.11 Noise. Additionally, program construction noise would not be of a magnitude to potentially combine with other cumulative projects potentially located in immediate proximity to the program area, where the noise could, but do not, combine together to cumulatively substantially temporarily increase the ambient noise environment in the program area. Therefore, program construction would not be a cumulatively considerable noise impact.

Response LCWLT-14

The commenter states that the Draft PEIR must be recirculated due to the inadequacies in the biological resources analysis, based on the commenter assumption that significant new information will be needed to address the inadequacies of the biological resources analysis.

The PEIR biological resources analysis is not deficient based on the understanding that the analysis is at the program-level. State CEQA Guidelines Section 15168 provides for a program-level analysis when a series of actions are related geographically, such as for this restoration program. The program presents the phased design of restoration of the Los Cerritos Wetlands Complex, some properties of which are privately owned and/or inaccessible to the LCWA. As required by Section 15168, later activity, i.e., development of the individual project-level restoration plans, may require additional environmental review if the new activity may have significant effects not previously examined.

As detailed in Responses to Comments Nos. CDFW-2 and CDFW-3, numerous biological studies, including botanical surveys and focused special-status species surveys, were conducted within the program area. However, access to all properties within the program area is not currently possible for surveys because of existing ongoing private operations. In addition, each project-level restoration plan design will be preceded by new biological surveys and will require further CEQA analysis at the project-level.

Please also see Responses to Comments Nos. LCWLT-11 and LCWLT-12 above regarding the adequacy of the biological resources analysis.

Response LCWLT-15

The commenter provides the California Coastal Commission staff report for Item A-5-LOB-10-015-A1 (6400 E. Loynes Dr., SEADIP Subarea 23) but does not otherwise raise any specific issues regarding the content and adequacy of the Draft PEIR. As such, no further response is warranted. Please also see the Response to Comment LCWLT-7.

Response LCWLT-16

Responses to the referenced letter are provided above in Responses to Comments Nos. LCWLT-1 to LCWLT-15.

Comment Letter SCWTF

July, 6, 2020

To: Los Cerritos Wetlands Authority

From: Sierra Club Los Cerritos Wetlands Task Force, Sierra Club Long Beach Area Group, Citizens About Responsible Planning, Protect the Long Beach/Los Cerritos Wetlands Coalition, Puvugna Wetlands Protectors

Comments on the Los Cerritos Wetlands Restoration Plan PEIR

SCWTF-1 The proposed program is enormous in scope. This is a high level document and the analyses are conceptual and theoretical rather than addressing a solid plan. Each project within the larger scope of this PEIR needs to be individually planned in detail and submitted separately for governmental approval after being approved by a panel including local residents, Native American representatives, and representatives from environmental groups such as Sierra Club as well as your current technical advisory committee. A process for planning and approving individual projects should be included. Additionally, there has been insufficient public outreach to truly inform the public about all that this project entails. The PEIR is so different from the concepts briefed at meetings we attended in 2018 as to be almost unrecognizable. The 2020 virtual meeting which we recently reviewed was also not sufficient to inform the public. Each individual program area deserves a briefing!

SCWTF-2 In the Northern Area, the idea of dredging Steam-shovel Slough is alarming, considering it will destroy existing fauna and flora. Removal of non-native species and replacement with native species is a worthy goal, but must be done slowly and carefully to avoid impacting local wildlife and ensure survival of the native species.The notion of flooding the South Synergy oilfield is alarming because unless there is a great deal of mitigation, the soil polluted with hydrocarbons and other toxic chemicals will poison the whole slough! It appears that the current salt flats, a

SCWTF-3 traditional tribal resource, will also be completely destroyed. The impacts to nearby residential areas of the

SCWTF-4 proposed berms and expanded salt marsh has not been dealt with at all. The berms are huge and obtrusive. Construction alone would impact the area for years. Who will pay to construct berms to protect oil wells? What about allowing the polluted floodwater from the San Gabriel river to inundate the man-made marsh? That water is deemed unsafe for swimmers in the ocean. Will we have three eyed frogs, infertile fish,sick birds in the marsh?

SCWTF-5 In all areas, a lot of grading has been proposed. It is stated that much of the area is covered with imported soil and debris. Unless grading is confined to removing the imported dirt from those areas as defined by careful testing for depth and spread, it could also disturb paleontological and cultural remains. Also, consideration and care needs to be given to avoiding the destruction of current ecological communities.

In short, this is a huge plan which does not address many issues some of which we document in detail below.

S.5.4 Los Cerritos Wetlands Oil Consolidation and Restoration Project

A project-level EIR was prepared for the City of Long Beach to evaluate the environmental effects associated with the Los Cerritos Wetlands Oil Consolidation and Restoration Project (State Clearinghouse Number 2016041083).

SCWTF-6 The project applicant, Beach Oil Minerals Partners (BOMP), proposes to consolidate existing oil operations and implement a wetlands habitat restoration project in portions of the North and Central Areas within the program area and on property that fall completely outside the program area. The EIR was certified by the City of Long Beach City Council on January 16, 2018. The Local Coastal Program Amendment associated with the Los Cerritos Wetlands Oil Consolidation and Restoration Project was approved by the California Coastal Commission (CCC) on August 8, 2018, with modifications to the amendment approved on October 2, 2018. The Coastal Development Permit was conditionally approved by the CCC on December 13, 2018. This PEIR relies on the technical analysis, impact discussion, and mitigation measures documented in the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse Number 2016041083) for a portion of the program area. No new information of substantial importance or change in circumstance with the Los Cerritos Wetlands Oil Consolidation and Restoration Project requires re-evaluation of the analysis in that EIR.

No mention is made of the current lawsuit by the Puvunga Wetlands vs the CA Coastal Commission concerning the Coastal Development Permit approved on 12/13/18. It would appear that the court's decision could require re-evaluation of the analysis in that EIR.

CHANGES FROM THE CONCEPTUAL PLAN

SCWTF-7 This Program EIR does not follow the Final Conceptual Plan for this restoration, which includes the LCWA's OCD property, the Loynes Triangle on the north and the triangle on Loynes Drive and Studebaker adjacent to Steamshovel Slough. (See attached maps). This is the property that SEADIP designates as a visitor center, not the Synergy or States Lands property. Please explain why these three properties were removed from the Los Cerritos Wetlands Complex.

OTHER CHANGES FROM THE CONCEPTUAL PLAN

Synergy portion: Preserve brackish marsh habitats, upland habitats and restore stormwater treatment wetlands. Instead, Table 2-12 in the PEIR shows all non-tidal salt marsh and all uplands will become tidal salt marsh. In addition, the existing 9.8 acres of salt flats will be eliminated. SCWTF-8 In the 2018, Wetlands Recovery Project, Erin Beller writes:

Due to their dynamic nature, salt flats can provide a broad array of wildlife support functions varying by landscape position (e.g., supratidal or intertidal) and degree of inundation (Table 1). Some of these functions are coincident with those provided by estuarine lagoons and ponds (when flooded) or sand dunes (when dry); others are more unique to salt flats (e.g., habitat for tiger beetles and rove beetles) (Zedler et al 1992). When flooded, for example, salt flats can support foraging for resident and migratory birds: dabbling ducks and shorebirds can feed on invertebrates, invertebrate larvae, and the occasional small fish (Schaffner 1986, Williams, Desmond & Zedler 1998), while diving birds such as grebes, cormorants, and ruddy ducks can feed in deeper water (Beller et al. 2014). Drying salt flats can provide breeding habitat for the state- and federally endangered California least tern and federally threatened western snowy plover, in addition to resident birds such as black-necked stilts and

American avocets. When dry, salt flats can support roosting and refuge for birds able to congregate safely in the large open space, as well as corridors for traveling mammals and habitat for invertebrates such as tiger and rove beetles and micro-crustacean and aquatic insects such as water boatman and brine flies. See attachment for more on Salt Flats.

SCWTF-8 End

SCWTF-9 According to Tables 2-6, 2-8 and 2-10, all 18.5 acres of existing salt flats in the Los Cerritos Wetlands are to be eliminated, along with 67.9 acres of existing Upland Habitat. Both salt flats and upland are necessary habitat for all wetlands wildlife.

Chapter 3. Environmental Setting, Impacts, and Mitigation Measures

SCWTF-10 This chapter acknowledges that the Los Cerritos Wetlands, although degraded and full of oil operations, currently contains a large number of native plants, birds, mammals, reptiles, invertebrates and insects. (we find no mention of amphibians, although we have been told there are frogs in the seasonal wetlands). The PEIR also acknowledges that construction and recreational activities are likely to destroy habitat for these species, but that the mitigations will bring back all displaced plants and animals in years to come.

Section 3.3. Biological Resources

SCWTF-11 If special-status plants cannot be avoided, they shall be incorporated into the proposed program's restoration design at a minimum ratio of 1:1 (one plant planted for every one plant removed, . . .

We believe the CA Coastal Commission requires a replacement ratio of 4:1 replacement for Special-status wetlands plants. 1:1 replacement is definitely inadequate.

SCWTF-12 Mitigation Measure BIO-2: Environmental Awareness Training and Biological Monitoring. Prior to commencement of activities within the program area, a qualified biologist shall prepare a Worker Environmental Awareness Program (WEAP) that provides a description of potentially occurring special-status species and methods for avoiding inadvertent impacts. The WEAP training shall be provided to all construction personnel. Attendees shall be documented on a WEAP training sign-in sheet.

Training is a good idea for workers. In addition, a qualified biologist should be onsite at all times to prevent workers from creating "inadvertent impacts".

SCWTF-13 Mitigation Measure BIO-3: Belding's Savannah Sparrow Breeding Habitat. Prior to the commencement of activities within the program area, a qualified biologist shall map suitable Belding's savannah sparrow habitat as the location and amount of suitable habitat is anticipated to change over time. Project activities shall be limited to July 16 through February 14 within suitable coastal marsh habitat to avoid impacts to breeding Belding's savannah sparrow. Suitable Belding's savannah sparrow breeding habitat that will be impacted by the proposed program shall be created within the program area at a minimum ratio of 1:1 (area created:area impacted). . .

Again, 1:1 created habitat is inadequate. And where are the Savannah Sparrows and other birds supposed to go during non-nesting season? Savannah Sparrows, along with many other wetlands birds do not migrate, but live

and forage in the wetlands all year. Where are the mitigations for construction in their foraging areas from July 16 through Feb. 14?

Mitigation Measure BIO-4: Nesting Bird and Raptor Avoidance. A qualified biologist shall identify areas where nesting habitat for birds and raptors is present prior to the commencement of activities within the program area. To ensure the avoidance of impacts to nesting avian species, the following measures shall be implemented:

- Construction and maintenance activities shall be limited to the non-breeding season (September 1 through December 31) to the extent feasible. If construction or maintenance activities will occur during the avian nesting season (January 1 through August 31), a qualified biologist shall conduct pre-construction nesting avian surveys within no more than 5 days prior to the initiation of construction activities to identify any active nests. If a lapse in work of 5 days or longer occurs, another survey shall be conducted to verify if any new nests have been constructed prior to work being reinitiated.

SCWTF-14

These construction dates are more likely to protect nesting birds than those dates quoted to protect Savannah Sparrows. Why are they not the same? Again, how will the foraging and roosting areas be protected?

- If active nests are observed, an avoidance buffer shall be demarcated by a qualified biologist with exclusion fencing and shall be maintained until the biologist determines that the young have fledged and the nest is no longer active.

SCWTF-15

Many juvenile birds return to the nest to be fed even after fledging. Fencing does not protect birds from the noise of construction, which can cause parents to abandon the nests. There should be no construction during nesting season, period.

Mitigation Measure BIO-5: Habitat Assessment and Pre-Construction Surveys for Burrowing Owl. A qualified biologist shall conduct a pre-construction burrowing owl survey of the program area within suitable habitat prior to construction activities. If burrowing owls are detected, a Burrowing Owl Management Plan shall be prepared and approved by CDFW, and implemented, prior to commencement of construction. The Burrowing Owl Management Plan shall be prepared in accordance with the CDFW 2012 Staff Report on Burrowing Owl Mitigation and shall address specific minimization and avoidance measures for burrowing owls, such as avoidance of occupied habitat, translocation of individuals, and on site revegetation.

SCWTF-16

We would hope that moving Burrowing Owls would be prevented by CDFW. We ask that this alternative be removed. These birds are so rare now, there should be no disturbance of any kind of their habitat.

Mitigation Measure BIO-6: Minimization of Light Spillage. A Program Lighting Plan shall be designed to minimize light trespass and glare into adjacent habitat areas prior to the commencement of activities within the program area. Nighttime lighting associated with the visitor center, parking lot, and trails shall be shielded downward and/or directed away from habitat areas to minimize impacts to nocturnal species, including breeding birds.

SCWTF-17

We see no reason to have nighttime lighting anywhere within the wetlands. The visitor center, parking lot and trails should be open during the daytime only. Emergency lighting must be shielded and non-glare.

Mitigation Measure BIO-7: Pre-Construction Bat Surveys. A qualified biologist shall conduct a pre-construction bat survey of the program area prior to construction activities. Prior to commencement of construction activities, a qualified biologist shall conduct a pre-construction clearance survey of suitable bat roosting habitat, such as mature palm trees. If bats are determined to be roosting, the biologist will determine whether it is a day roost (non-breeding) or maternity roost (lactating females and dependent young). If a day roost is determined, the biologist shall ensure that direct mortality to roosting individuals will not occur by requiring that trees with
SCWTF-18 roosts are not directly impacted (e.g., removed) until after the roosting period.
No trees should be removed from the wetlands until replacement trees are large enough to provide roosting for bats and birds.
The PEIR refers many times to the removal of non-native plants and 'weeds' which are currently being used by many animals for forage and shelter. What methods will be used for removal? What will the animals use until the replaced natives are large enough to provide food, nesting and roosting habitat?

Chapter 3. Environmental Setting, Impacts, and Mitigation Measures Section 3.3. Biological Resources
Mitigation Measure BIO-8: Focused Surveys for Special-Status Wildlife Species.
Should suitable habitat occur, a qualified biologist shall conduct focused habitat assessments and focused surveys for special-status wildlife species listed in Table 3.3-4. Both habitat assessments and focused surveys shall occur prior to LCWA's approval of the project plans or the publication of subsequent CEQA documents for any project site that potentially contains special-status species. Agency-approved protocols shall be used for specific species where appropriate during the required or recommended time of year. For all other target (special-status) species, prior to initiating surveys, survey methods shall be verified and approved in writing by CDFW and USFWS for all state- and/or federally-protected species, respectively. If special-status species are detected, a Wildlife Avoidance
SCWTF-19 Plan shall be prepared and approved by CDFW and USFWS prior to commencement of construction. The Wildlife Avoidance Plan shall include specific species minimization and avoidance measures, measures to minimize impacts to occupied habitat, such as avoidance and revegetation, as well as relocation/translocation protocols.
If special-status species cannot be avoided, Incidental Take Permits from the United States Fish and Wildlife Service and California Department of Fish and Wildlife will be required. If an incidental take permit is being obtained, compensatory mitigation for the loss of occupied habitat shall be provided through purchase of credit from an existing mitigation bank, private purchase of mitigation lands, or on-site preservation, as approved by the resource agencies. Compensatory mitigation shall be provided at a 1:1 ratio to reduce potential effects to less-than-significant levels.
Again, 1:1 replacement is inadequate. Where will the "Purchase of credit from an existing mitigation bank" occur? Removing habitat from the Los Cerritos Wetlands and purchasing mitigation from the Upper Los Cerritos Wetlands Mitigation Bank is fraudulent.

Significance after Mitigation
Less than Significant with Mitigation

Impact BIO-2: The proposed program would result in a significant impact if the proposed program would have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or United States Fish and Wildlife Service.

SCWTF-20

Agree

Construction

Direct impacts would be limited to grading necessary to reintroduce tidal flows, restore native plant communities, construction of the trails and berms, as well as temporary impacts associated with enhancement and development of berms and trails, and infrastructure and utility modifications. The following CDFW Sensitive Natural Communities and riparian habitats are present within the program area: Anemopsis californica – Helianthus nuttallii – Solidago spectabilis Herbaceous Alliance, Arthrocnemum subterminale Herbaceous Alliance, Baccharis salicina Provisional Shrubland Alliance, Cressa truxillensis – Distichlis spicata Herbaceous Alliance, Frankenia salina Herbaceous Alliance, Isocoma menziesii Shrubland Alliance, Leymus cinereus – Leymus triticoides Herbaceous Alliance, Salicornia pacifica Herbaceous Alliance, Salix gooddingii Woodland Alliance, Schoenoplectus californicus – Typha (angustifolia, domingensis, latifolia) Herbaceous Alliance and Spartina foliosa Herbaceous Alliance. Impacts associated with implementation of the proposed program will consist of grading, berm installation, fill for the overlook terrace, berm/road removal, sidewalk grading, and relocation of infrastructure and utilities. These direct impacts would be temporary given that these areas would be restored to coastal salt marsh, transitional wetland, or other native habitat as part of the proposed program. As such, there would be no net loss of habitat following implementation of the proposed program.

SCWTF-21

Signs would be installed along restored trails to inform the public of the sensitive habitats and to prohibit access into the restoration areas. Trails would be separated from the wetland areas by native upland buffer. A visitor center would be constructed on an existing raised building pad.

Disagree. Berms, sidewalks, trails and parking lots all remove habitat. These additions are not wetlands restoration. The proposed visitor center on the State Lands property is on restorable wetlands which already contain special status plants and animals. Better to tear up the building foundation and restore uplands at this location.

Impact BIO-3: The proposed program would result in a significant impact if the proposed program would have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, and coastal wetlands) through direct removal, filling, hydrological interruption, or other means.

Construction

SCWTF-22

Direct impacts to jurisdictional waters and wetlands would occur on all four areas. However, the impacts that would occur are associated with the implementation of the proposed program, which would result in long-term preservation, restoration and enhancement of waters of the United States/state. As such, no compensatory mitigation for temporary loss of waters of the United States/state is required; however, permits and/or approvals from the USACE, RWQCB, CDFW, and the CCC would be required for impacts to resources under their jurisdiction.

Plan and Mitigation Measure BIO-9. This includes temporary direct impacts to jurisdictional resources during the creation of tidal channels. The habitat types proposed for restoration will include coastal salt marsh and transitional wetland habitats, as well as establishment of upland scrub buffers. The primary goal of the proposed program is the restoration and expansion of coastal salt marsh throughout much of the program area including on existing oil production facilities, much of which includes jurisdictional waters. There will be a net increase in jurisdictional wetlands and waters following implementation of the proposed program.

Operation

SCWTF-22 cont.

The proposed program includes consolidation and abandonment of oil wells and associated racks and pipelines. Based on the guidelines set forth for removal by the California Geologic Energy Management Division (CalGEM) and the already disturbed areas that surround the wells that would be used to facilitate the removals, impacts to jurisdictional wetlands or waters are not anticipated. By restoring tidal connection, the proposed program could impact but is not anticipated to significantly affect wetland habitats by allowing rising sea levels to enter and flood the marsh. In some locations, such as in the South Area, the new tidal connection to the Haynes Cooling Channel would improve the hydrology in the wetlands with sea-level rise as compared to existing conditions, where drainage would be limited under sea-level rise. In the Central Area, the existing tidal connection provides only minor inundation of the site, and the proposed program would expand this and create much more tidal salt marsh. With sea-level rise, there would still be more tidal marsh for a longer period of time and with more natural hydrology in the Central Area under the program than under Existing Conditions. However, it is also anticipated that portions of the restored habitat would eventually convert from tidal marsh to mudflat and eventually subtidal habitat. As part of the Hydrodynamics Modeling Technical Report (ESA 2020), State projections (OPC 2018) were used to develop sea-level rise scenarios for the program. The scenarios identify 1.7 feet of sea-level rise between 2040 and 2070 and 3.3 feet of sea-level rise between 2070 and 2110. The Hydrodynamic Modeling Technical Report also provides habitat elevation bands and how the elevations are expected to change over time with sea-level rise. Grading plans developed during the design phase of projects within the proposed program will evaluate the balance of marsh habitat today and into the future based on the habitat elevation bands. An in-depth analysis and discussion of sea-level rise can be found in Section 3.8, Hydrology and Water Quality, of this PEIR.

The primary goal of the proposed program is the restoration and expansion of coastal salt marsh throughout much of the program area including on existing oil production facilities, much of which includes jurisdictional waters. As indicated above, there will be a net increase in jurisdictional wetlands and waters following implementation of the proposed program. Any inadvertent impacts that may occur to jurisdictional wetlands during the oil operation abandonment period would be restored in accordance with a Restoration Plan and Mitigation Measure BIO-9. Impacts to jurisdictional waters and wetlands would be less than significant with the implementation of a Monitoring and Adaptive Management Plan and Mitigation Measure BIO-9, Mitigation Measure BIO-10 that requires a jurisdictional delineation and issuance of jurisdictional resources permits as well as Mitigation Measure BIO-11 that requires a functional assessment of the wetland areas that will be restored in the program area.

Again, this is not a restoration plan, but a plan to turn a functioning, but degraded seasonal wetlands into a saltwater marsh. Yes, more salt water marshes are needed, but so are brackish, seasonal ones. The ends do not

justify the means. It is agreed that sea level rise will eventually turn the Los Cerritos Wetlands into a salt marsh since it has been cut off from the San Gabriel River for 70 years, but why hasten the process? The goal of this plan appears to be not restoration, but replacement, and the construction of levees to protect oil operations remaining in the wetlands, as well as commercial properties, from sea level rise.

SCWTF-22 End

Mitigation Measure

Mitigation Measure BIO-10: Jurisdictional Resources Permitting. Prior to project construction, a jurisdictional delineation report shall be prepared that describes these jurisdictional resources and the extent of jurisdiction under the USACE, RWQCB, CDFW, and CCC. If it is determined during final siting that jurisdictional resources cannot be avoided, the project applicant shall be subject to provisions as identified below:

1. If avoidance is not feasible, prior to ground disturbance activities that could impact these aquatic features, the project applicant shall file the required documentation and receive the following.

a. Nationwide Permit or equivalent permit issued from USACE;

b. Water Quality Certification issued from the Los Angeles RWQCB;

c. Streambed Alteration Agreement issued from CDFW; and

d. Coastal Development Permit issued from CCC.

2. Compensatory mitigation for impacts to jurisdictional resources is not anticipated as the proposed program's goal is the restoration and expansion of coastal salt marsh within the proposed program.

3. The project proponent shall comply with the mitigation measures detailed in permits issued from the USACE, RWQCB, CDFW, and CCC.

SCWTF-23

Mitigation Measure BIO-11: Monitoring and Adaptive Management Plan. In conjunction with Section 3.8, Hydrology and Water Quality, a Monitoring and Adaptive Management Plan (MAMP) shall be prepared and implemented prior to commencement of construction or restoration activities. The MAMP shall provide a framework for monitoring site conditions in response to the proposed program implementation. The MAMP shall include provisions for conducting a pre-construction survey to collect baseline data for existing wetland function. The MAMP shall require that monitoring focus on the functional wetland values as well as sediment quality in areas subject to the greatest deposition from storm events and that are also not subject to regular tidal flushing, (e.g., the southwestern corner of the Long Beach Property site). The MAMP shall identify habitat functions, such as biotic structure and hydrology, that shall be monitored as part of the proposed program's monitoring and reporting requirements. The MAMP shall identify sediment quality monitoring requirements that shall be performed at a frequency that would capture the potential build-up of contaminants in the deposited sediment before concentration are reached that would impact benthic macro-invertebrates and other sensitive species. The MAMP shall require that the findings of the monitoring efforts be used to identify any source of functional loss of wetlands and water quality impairment, and if discovered, provide measures to improve wetland function and for remediation of the sediment source area(s). Upon completion of restoration activities, the proposed program shall demonstrate a no net loss of aquatic resource functions and demonstrate an increase in wetland functions and values throughout the entire site.

The MAP shall be submitted for review and approval to responsible permitting agencies prior to commencement of construction or restoration activities.

Significance after Mitigation

SCWTF-23 End

Less than Significant with Mitigation

These mitigation measures assume many facts not in evidence.

There is no guarantee that monitoring efforts will result in no net loss of aquatic resource functions and an increase in wetlands functions. As Dr. Joy Zedler discovered, restoring wetlands is easier said than done. https://news.osu.edu/do-mitigated-wetlands-really-work-only-time-will-tell/

Impact BIO-4: The proposed program would result in a significant impact if the proposed program would 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

The San Gabriel River levees act as a terrestrial wildlife corridor and are the only terrestrial wildlife corridor within or adjacent to the program area. Terrestrial wildlife movement within the program area is primarily localized due to the surrounding urban landscape that includes Pacific Coast Highway, Studebaker Road, and Westminster Boulevard. The San Gabriel River levees will continue to be operated and maintained by the LACFCD and segments are anticipated to be directly impacted by construction activities to facilitate improvement of

SCWTF-24

wildlife movement and nursery sites. Direct impacts to the San Gabriel River levees, which include breaching segments, are not considered significant as project impacts will restore habitats adjacent to the levees providing additional opportunities for terrestrial wildlife movement adjacent to the levees. Temporary increases in noise and dust may have a temporary indirect impact to terrestrial wildlife movement. However, such indirect impacts are not considered significant as an existing bike bath, Pacific Coast Highway and Westminster Boulevard provide a high level of disturbance to terrestrial wildlife movement in the program area. Furthermore, future project impacts will restore habitats adjacent to the levees providing additional opportunities for terrestrial wildlife movement in the program area. The Alamitos Bay, Los Cerritos Channel, Steamshovel Slough, Haynes Cooling Channel and San Gabriel River could provide limited movement into and out of the program area for marine fish, mammals, or reptile species (i.e., green sea turtle). However, the San Gabriel River and Alamitos Bay are the only waterways that have an outlet and have connectivity to other water bodies allowing a corridor for marine animals to move through the program area. Further, Alamitos Bay, Los Cerritos Channel, and Steamshovel Slough would be avoided during construction activities and no in-water work would occur within these waterways. Such potentially significant impacts would be reduced to a less-than-significant level with implementation of Mitigation Measure BIO-8.

What is the definition of temporary? This construction plan can take years to complete. Adding further impacts to those already causing a high level of disturbance to terrestrial wildlife movement in the area will be a death blow for many of them.

Impact BIO-5: The proposed program would result in a significant impact if the proposed program would have a substantial adverse effect and conflict with biological resources protected by local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Construction

Protected Trees

SCWTF-25 Potential impacts to street trees protected by the City of Seal Beach's Protective Tree Ordinance and the City of Long Beach's Tree Maintenance Policy could include tree removal or trimming. Tree removal would result in a permanent impact, while trimming would be considered a temporary encroachment. A permit from the City of Seal Beach Department of Public Works or City of Long Beach Department of Public Works would be required prior to the removal or trimming of any street trees. In accordance with the City of Seal Beach's Protective Tree Ordinance and the City of Long Beach's Tree Maintenance Policy, trees that are removed must be replaced either within an approved 15-gallon tree or within an approved, minimum 24-inch box tree, respectively.

Replacement trees shall be planted at a minimum 1:1 ratio (tree planted:tree impacted) and shall be located in an area appropriate for their prolonged growth.

Again, urge a larger ratio than 1:1 for replacement trees. We would also insist that no tree be removed until a replacement tree is large enough to provide replacement habitat.

Pursuant to CCA Section 30240 of the CCA, impacts to ESHA are generally limited to activities such as habitat restoration as noted by the Coastal Commission Staff Report (GLA 2017d). Moreover, the CCA establishes a high standard for protection of areas that are identified as environmentally sensitive. Only resource-dependent uses, such as habitat restoration, are allowed within an ESHA. Implementation of Mitigation Measures BIO-1 through BIO-10 would ensure that impacts to existing EHSA are temporary and minimized, as well as less than significant. Potential ESHA occur throughout the South, Isthmus, Central and North Areas based on the suitability to provide habitat for special-status species and/or the presence of a CDFW Sensitive Natural Community. Ground disturbing activities associated with ecosystem restoration activities, flood risk and stormwater management, development of public access and visitor facilities, and infrastructure and utility modifications would temporarily impact ESHA. These impacts, needed to implement the habitat restoration, can be allowed pursuant to Section

SCWTF-26 30240 and

Section 30233(a)(b) of the CCA. Following completion of grading and restoration efforts, the overall ESHA would be expanded primarily due to the conversion of non-ESHA to ESHA. This would include the conversion of abandoned oil facilities to natural communities.

Operation

Tree Protection

No impacts to city-protected trees are anticipated to occur during the operation phase of the proposed program (i.e., post-restoration). Should street tree removal or trimming be required, it will be conducted in accordance with the City of Seal Beach's Protective Tree Ordinance and the City of Long Beach's Tree Maintenance Policy. Therefore, impacts to protected trees would be less than significant.

ESHA

Potential ESHA occur throughout the South, Isthmus, Central, and North Areas. Impacts during the operation of the proposed program (i.e., post-restoration) may occur during vegetation maintenance, irrigation, non-native plant removal, trash removal and maintenance of levees, berms, flood walls and water-control structures. However, these impacts would be negligible, and as described in the construction analysis above, the nature of the proposed program would expand the amount of ESHA within the program area over time. Any negligible impacts that occur by foot traffic from maintenance personnel, are permitted in accordance with Section 30240 and Section 30233(a)(b) of the CCA. Therefore, impacts to ESHA during the operational phase of the program area would be less than significant.

SCWTF-26 End

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

ESHA must be protected at all times. There should be no grading, bulldozing or herbicides allowed in ESHA. Mitigation is essential.

3.3.6 Cumulative Impacts

3.3.6.1 Construction

The project that may contribute to a cumulative impact in the study area is the Los Cerritos Wetlands Oil Consolidation and Restoration Project (Cumulative Project No. 24), which occurs in portions of the Central and North Areas and contains sensitive biological resources. Other future projects in the cumulative study area are primarily located within urban, developed areas that are generally disturbed and do not support sensitive biological resources, although some of these projects may occur adjacent to open space areas that support sensitive biological resources, including the Seal Beach Residential Project (Cumulative Project No. 3), which occurs approximately 0.25 miles from the southwestern most portion of the program area in an undeveloped area surrounded by residential development. In addition, the Haynes Generating Station Intake Channel Infill Project (Cumulative Project No. 22) is located adjacent to the program area and may result in impacts to aquatic resources, including essential fish habitat.

SCWTF-27

The Los Cerritos Wetlands Oil Consolidation and Restoration Project is proposed in portions of the Central and North Areas and could result in significant impacts to special-status wildlife and plant species, riparian areas and sensitive natural communities, federally protected wetlands, and wildlife movement and nursery sites. However, construction-related impacts to sensitive biological resources associated with the Los Cerritos Wetlands Oil Consolidation and Restoration Project would primarily be temporary, such as 0.462 acres of permanent impacts and 1.12 acres of temporary impacts to waters of the U.S/state within the North and Central Areas. Impacts associated with the Los Cerritos Wetlands Oil Consolidation and Restoration Project would be mitigated to a less-than-significant level through the implementation of Mitigation Measures BIO-1 through BIO-11 described in its EIR which avoid, minimize or mitigate for impacts to sensitive biological resources such as special-status plants and wildlife and waters of the U.S. to name a few. Similar to the proposed program, the Los Cerritos Wetlands Oil Consolidation and Restoration Project would restore, enhance, and create estuarine and associated

habitats as well as provide long-term benefits for Belding's savannah sparrow and other special-status species which occur in the overlapping portions of the Central and North Areas. The Los Cerritos Wetlands Oil Consolidation and Restoration Project is the only known restoration project within the assessment area of cumulative impacts and as such will have an overall benefit to biological resources and impacts during construction would not be cumulatively considerable (Table 3-1). The majority of the proposed program's impacts to sensitive biological resources would be temporary, and permanent impacts have largely been avoided by design or are very limited in extent. Therefore, the proposed program's contribution to cumulative impacts during construction would not be cumulatively considerable.

SCWTF-27 End

The Seal Beach Residential Project is proposed on a large, vacant lot that could result in significant impacts to special-status wildlife species such as burrowing owl; therefore, development of this parcel could result in significant impacts to protected biological resources. The Haynes Generating Station Intake Channel Infill Project is proposed on primarily aquatic habitat partially within the South Area that could result in significant impacts to special-status aquatic species such as the Pacific green sea turtle and California least tern; therefore, the development of the project could result in significant impacts to biological resources. The construction-related impacts associated with restoration activities within the program area would be short-term, as the majority of area would be temporary impacts and will be largely avoided or enhanced by design and are very limited in extent. Therefore, cumulative impacts to biological resources during construction would not be cumulatively considerable.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

The Los Cerritos Wetlands Restoration and Oil Consolidation Project is eliminated from this PEIR in the introduction. Now it appears that the project "could result in significant impacts to special-status wildlife and plant species, riparian areas and sensitive natural communities, federally protected wetlands, and wildlife movement and nursery sites." Even temporary impacts can have devastating effects on ESHA and special-status wildlife. Mitigation is certainly required for both the Oil Consolidation and the Seal Beach Residential Project.

3.3.6.2 Operation

Upon completion of the proposed program and any nearby cumulative projects, including the Los Cerritos Wetlands Oil Consolidation and Restoration Project, the Seal Beach Residential Project, and the Haynes Generating Station Intake Channel Infill Project, the project would be required to comply with federal and state regulations, as well as applicable municipal codes, pertaining to the protection of biological resources. The Seal Beach Residential Project is not anticipated to have additional impacts to sensitive biological resources during its operation as undeveloped lands where sensitive biological resources could potentially occur would be developed during construction and replaced with residential uses. The Haynes Generating Station Intake Channel Infill Project is not anticipated to have additional impacts to sensitive biological resources during its operation as aquatic resources where sensitive biological resources could potentially occur would be filled in during

SCWTF-28

construction. Therefore, the cumulative impacts to biological resources during operations of both the Seal Beach Residential Project and the Haynes Generating Station Intake Channel Infill Project would not be cumulatively considerable. Further, in conjunction with the Los Cerritos Wetlands Oil Consolidation and Restoration Project the proposed program would have an overall net beneficial effect upon coastal wetlands and other sensitive biological resources as efforts to restore, enhance, and create estuarine and associated habitats will continue during operation. Mitigation Measures BIO-1, BIO-6, and BIO-8 through BIO-11 will continue to be implemented during operation to avoid, minimize and mitigate for impacts to sensitive biological resources. Therefore, the cumulative impacts to biological resources during operations would not be cumulatively considerable.

SCWTF-28 End

Mitigation Measure

No mitigation is required.

The conclusions that the proposed projects will not be cumulatively considerable and need no mitigation is unsubstantiated.

Comments relating to California Native American peoples, history, culture, and lands

Chapter 2, Project Description

Gabrielino people (named after the Spanish Mission where many of them were baptized).

SCWTF-29

Comment: Throughout the PEIR, the term Gabrielino is used exclusively to reference the tribe indigenous to the Los Angeles area, although it was not, and is not a term created by the people themselves, but by those that robbed them of their lands and enslaved them. In the LCWA's Los Cerritos Wetlands Final Conceptual Restoration Plan, the term Tongva was liberally used which makes it even more offensive that Gabrielino is the only way the tribe is referred to by those authoring the PEIR.

The Gabrielino used the local wetlands, rivers, and streams to hunt and fish, to gather reeds and willows to build homes, and as a reliable water source

Comment: There is no mention of the tribal salt works in the wetlands. Salt was harvested and traded. Nor is the obvious use of the wetlands, rivers, and streams as transportation corridors and trade routes. The PEIR fails to document specific tribal references to the land, water, or wetlands, past or present, nor does it describe cultural practices past or present, that would allow for an understanding of the relevance of the project area to tribal peoples. There is no mention of other tribal groups, including the Acjachemen, although the area is a central feature of their cultural practices. Since major aspects of tribal culture and history are lacking in the PEIR, the Los Cerritos Wetlands Restoration Plan cannot be fully evaluated with respect to its impact on tribal peoples and culture.

SCWTF-30

Tribal members consulted believe the Tribal Cultural Landscape is eligible for listing in the National Register of Historic Places as a Tribal (or Traditional) Cultural Property

Comment: Repeatedly throughout the PEIR the word "believe" appears to question tribal knowledge, and in this case tribal understanding of what makes the program area eligible for listing as a Tribal Traditional

SCWTF-31

Cultural Landscape. Also, a Traditional Tribal Cultural Landscape is not less eligible for listing simply because an application has not been submitted to the State Office of Historic Preservation.

The wetlands are within walking distance to both Puvungna and Motuucheyngna village sites and served as an important resource to native peoples and was used both historically and in current times by native peoples

SCWTF-32

Comment: The Los Cerritos Wetlands are within the 500 acre Puvungna complex, not "within walking distance to both Puvungna and Motuucheyngna village sites." To alter the Los Cerritos Wetlands is to alter Puvungna.

Chapter 3, Environmental Setting, Impacts and Mitigation Measures, Section 2 3.4 Cultural Resources

The Gabrielino Indians were.....The Juaneno lived

SCWTF-33

Comment: The use of the past tense along with the omission of post-contact tribal connections to the area, including contemporary tribal connections to Puvungna and tribal cultural activities in the wetlands, erases history. The exclusive reliance on the language and perspectives of anthropology texts to describe tribal history is outdated and offensive. It reveals a Eurocentric bias and a failure to be inclusive of contemporary tribal scholars and sources. While abuses towards California Native Amercians are briefly noted during the Spanish and Mexican Periods, the genocide practiced by the state and by individuals, including the enslavement of tribal people, is not mentioned during the American Period. After 1542 there is no mention of tribal cultural practices or lifestyles, although they continued and have survived to this day.

The closest village to the program area was the village of Puvungna. Pictorial and Historical Map of Los Angeles County (Los Angeles Public Library, 1938) depicts two unnamed villages located approximately 2 miles northwest and 5 miles southeast of the program area.

SCWTF-34

Comment: The program area is not near, but within the Puvungna/Motuuchengna community. Citing a 1938 map that does name sites and appears not to even identify Motuuchengna as a site is questionable.

Puvungna is reported to be the birthplace of Chingichngish, the primary deity of a protohistoric and early historic belief system and ceremonial complex that spread throughout the Los Angeles basin, Orange County, western Riverside County, and northern San Diego County.

Comment: Both oral tradition and historic documents reference Puvungna as the birthplace of Chinigchinich and to use "reported to be" shows a bias against tribal cultural information. One does not say that Bethlehem is reported to be the birthplace of Jesus, that Eve was reported to have eaten an apple, or that Moses was reported to have seen a burning bush. The outdated and Eurocentric terms "protohistoric" and "early historic" assume that history began for tribal peoples only after contact with Europeans was recorded. The belief system based on the teachings of Chinigchinich continues to be part of modern tribal spiritual and cultural practices. So, in addition to being an "early historic" belief system, it is also a middle, late, and contemporary belief system. It is inappropriate to refer to California counties rather than tribes to describe a shared belief system. No tribe is named here, including the Acjachemen, the Payómkawichum, the Yuhaaviatam. Also, it was not the

SCWTF-35

"ceremonial complex" that spread. The ceremonial complex was and is Puvungna, which includes the program area.

The Juaneño people were so called because of their association with Mission San Juan Capistrano, although some contemporary Juaneño identify themselves by the indigenous term Acjachemen.

SCWTF-36 Comment: "some contemporary Juaneno identify themselves by the integenous term Acjachemen," but the authors of the PEIR prefer the Missionary position. Why is there no description of the Acjachemen's connection to Puvungna or the Los Cerritos Wetlands? It was the Acjachemen who provided the Spanish Missionary Geronimo Boscano the information for his writings on the beliefs and practices taught by Chinigchinich. Lillian Robles, Acjachemen Tribal Elder, was a leader in both the struggle to protect the Puvungna National Register site at CSULB and in efforts to prevent development projects on the Los Cerritos Wetlands. She began the Annual Ancestor Walk which includes the Los Cerritos Wetlands as a point of prayer. Neither, she or any other tribal leaders are mentioned by name, nor are their contributions to the protection and preservation of this Tribal Cultural Landscape noted in the PEIR.

The program area's historic-period use has largely focused on oil production and followed the overall trajectory of the Los Angeles Basin's oil industry.

SCWTF-37 Comment: Considering the "historic-period" began in 1542 this is wildly incorrect. Mission San Gabriel was not founded until 1771, over two hundred years later. Although many were forced into the mission system, tribal people continued to live and work throughout their original tribal areas during the Spanish, Mexican, and American periods. Both tribal peoples and settlers would have used the program area in multiple ways. Contemporary use of the Los Cerritos wetlands includes public recreation and as a wildlife refuge. As stated above, tribal members have been involved in efforts to protect the Los Cerritos Wetlands, have reintroduced traditional watercraft, tiat and tule boats, to the waterways, including Steamshovel Slough, and have continued to hold ceremony in the program area. Additionally, the detailed focus on the history of oil drilling in this "Cultural Resources" section is an insult, oil is not a cultural resource.

A review of historic topographic maps indicates that the entire program area was part of Alamitos Bay in 1896 (the date of the earliest available topographic map).....Historically, the program area was naturally a vegetated tidal wetland in Alamitos Bay.

SCWTF-38 Comment: U.S. Coast Survey Topographic map from 1859 of the coastline from Point Fermin to the San Gabriel River https://www.sfei.org/sites/default/files/So_Cal_T-sheet_Atlas_AppendixB_highres.pdf. The program area appears to be a wetlands situated between the bay and the San Gabriel River which did not empty into the bay but into the Ocean. The bay and the project area wetlands were part of the river estuary. Then, as now, the program area received fresh water from rainfall, not just from runoff, which means that while some of the area was/is tidal wetlands, other parts were/are seasonal, fresh-water, brackish wetlands.

Archaeological Sensitivity

Fill layers have the potential to contain prehistoric archaeological resources, although such resources have a

SCWTF-39 low likelihood of retaining sufficient archaeological context due to disturbances ….The low-lying, saturated environment is unlikely to have attracted occupation, so dense, rich cultural accumulations would not be expected. However, inadvertent loss of tools, as well as processing of subsistence resources, may have left traces of past activities in the uppermost portions of the soil stratum.

Comment: In other "disturbed areas," including oil fields, and in other "low-lying saturated environments, "dense, rich cultural accumulations," including thousands of burials at Ballona Wetlands and Newport Back Bay, have been unearthed."Unlikely to have attracted occupation" attempts to decontextualize the program area from human habitation over a period of 10,000 years and makes no sense. Tribal people did not just "inhabit" the tops of hills and bluffs, but also wetlands, rivers, beaches and the ocean itself. The definition of "sufficient archaeological context" like that of s "significant archaeological resources" presumes the value of cultural materials to be their contribution to western, not the intrinsic value they had to those who created them nor to their descendants.

SCWTF-40 "temporary resource procurement sites"

Comment: Identifiers like "temporary resource procurement sites" and "fish and hunting camps" do not reflect the realities of tribal lifeways. The program area was not a temporary site, nor were the resources themselves temporary. The wetlands provided the basic staples of life on a daily basis for centuries.

SCWTF-41 The CEQA Guidelines note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. Comment: This CEQA Guideline is a perfect example of Eurocentric racism towards tribal peoples and cultures as it disallows "the significant effect on the environment" that the destruction of or damage to what is valued by tribal people themselves would have.

SCWTF-42 The MLD has 48 hours from the time of being granted access to the site by the landowner to inspect the discovery and provide recommendations to the landowner for the treatment of the human remains and any associated grave goods (i.e., artifacts associated with human remains).

Comment: Why should a 48 hour timeline be imposed, other than to allow the rapid destruction of a burial site? Many MLDs are elderly, do not live on their original tribal lands, and may have other obligations. This pro-development bias does not belong in a state law.

SCWTF-43 Potential impacts to archaeological resources within the program area are considered significant and unavoidable….the proposed program's impact on archaeological resources qualifying as historical resources is considered significant and unavoidable.

Comment: And yet you persist. This so-called "wetlands restoration" means the destruction of what evidence remains of 10,000+ years of tribal occupation of the Los Cerritos Wetlands. As has been acknowledged, 2000 acres of the original Los Cerritos Wetlands are now under highways or buildings, to bulldoze and flood these last 500 acres is a choice to further erase any connection of the original people to their homeland.

Tribal Cultural Landscape

Potential impacts from the proposed program on the tribal cultural landscape could occur if the proposed program resulted in the demolition or material alteration to the essential physical characteristics that convey the historical significance of the tribal cultural landscape, such as the village sites of Puvungna and Motuucheyngna…With regards to potential impacts to Puvungna and Motuucheyngna, the archaeological manifestations of these two village sites that contribute to the landscape's historical significance would not be impacted.

SCWTF-44

Comment: "the essential physical characteristics that convey the historical significance of the tribal cultural landscape, such as the village sites of Puvungna and Motuucheyngna" presumes to define what constitutes "significance" to tribal people and apparently identifies it as what has been dug up intentionally or by accident and determined to be a "village site." In stating that the Los Cerritos Wetlands were a Traditional Tribal Landscape as well as a Sacred Site within the Puvungna complex, tribal representatives did not state that any specific area had more "essential physical characteristics" or "historic significance" than another. In making this determination that the project would not impact the landscape's historic significance, the LCWA violates the right of Indigenous Peoples to self-determination and their constitutional right to religious freedom as both are intrinsically tied to preservation of the project area.

Mitigation Measures

These measures would ensure the protection, identification, and appropriate handling and treatment of archaeological resources that contribute to the landscape's significance.

SCWTF-45

Comment: This is a false statement. The disturbance and removal of "archaeological resources" is acknowledged by archaeologists to mean the destruction of the site, and the possibility of its further study. As for what is considered

"appropriate handling and treatment"of "archaeological resources," this continues to mean the storage and study of tribal human remains and sacred and utilitarian objects in spite of appeals by the descendants for their return.

Since avoidance and preservation in place of such resources cannot be guaranteed, impacts to Native American or prehistoric archaeological resources that convey the significance of the tribal cultural landscape are considered significant and unavoidable at the program level.

SCWTF-46

Comment: Agree

The LCWA (will) consult with Native American representatives during the preparation of all cultural resources-related documents and that Native American groups are included in monitoring of ground disturbance. These measures would ensure that tribal values are considered in identification, evaluation, and treatment of archaeological resources that contribute to the landscape's significance.

SCWTF-47

Comment: "tribal values" are not ensured by requiring that tribal people monitor the destruction of tribal lands

and the removal of tribal human remains and cultural objects from their resting places. This is salt in the wound of genocide.

With regards to potential impacts to the waterways, plants, and animals, the purpose of the proposed program is to restore the natural waterways and habitat of the Los Cerritos Wetlands. These actions would have a beneficial effect on the waterways, plants, and animals. Breach(ing) the San Gabriel River levee...would result in a more natural tidal influence between the saltwater/freshwater sources and the wetlands.

SCWTF-48 Comment: Given that the existing landscape will be for the most part highly altered and unrecognizable after this so-called "restoration will not benefit the existing ecosystem but replace it with a new one. Years of dredging, flooding, scraping, or burying the wetlands under 18 foot berms and other flood control structures, or under new buildings and parking lots will reduce the existing acreage of the wetlands and eliminate most of the existing wildlife habitat. To allow the San Gabriel River to flood the entire Central Section of the wetlands and remain there during storm events will introduce pollutants that put the ecosystem and possibly the public at risk. Given that this restoration plan presumes that Beach Oil Minerals will up oil production from 300 to 24,000 barrels of oil daily by expanding drilling beneath and transporting oil across the wetlands the conclusion that "natural waterways and habitat" will improve is a gamble.

Restoration of native habitat would attract wildlife back to the area and would allow for a variety of species to again flourish within the wetlands, creating an ecosystem more closely resembling the one that existed historically and in pre-contact times.

SCWTF-49 Comment: At this time, as noted in the Draft PEIR, every part of the Los Cerritos Wetlands is inhabited by wildlife, including special-status species. All are dependent on a variety of habitat areas including salt flats, seasonal freshwater wetlands and uplands, and on non-native as well as native species of plant and animal life for their survival. To propose creating a new salt marsh segmented and surrounded by huge earthen flood control berms with elevated oil pump jacks serviced by vehicles driving on raised roads and including two visitors centers where people can look at pictures of how tribal people used to live on the land "more closely resembles pre-contact times" is delusional. As the proposed wetlands excludes people, including tribal people from the landscape, it resembles neither the historic nor pre-contact wetlands.

The proposed program also includes several mitigation measures that would lessen potential construction-related impacts to plants and animals that are considered part of the tribal cultural landscape....Implementation of these measures would ensure that any potential construction-related impacts to plants and animals are less than significant.....Potential impacts to the tribal cultural landscape would be

SCWTF-50 further reduced by considering Native American tribal values ascribed to the Los Cerritos Wetlands throughout the course of development and construction of the proposed program" ... (The LCWA will) ensure that tribal values ascribed to the Los Cerritos Wetlands as part of the tribal cultural landscape are considered as part of the design, restoration, and educational elements of the proposed program."

Comment: Disagree. Environmental awareness training, transplanting special status species, surveying bats and burrowing owls to "minimize impacts" to their habitat, avoiding nesting birds, and restoring habitat for the

SCWTF-50 End

Belding's Savannah Sparrow may "lesson construction-related impacts," but not by much. There is no real consideration given to the "plants and animals that are now part of the tribal cultural landscape" who, considering the scope and the length of this project,are not likely to survive. Calculating potential impacts is based on an end result that projects an overall increase in plants and animals within the project area if the project is successful. This kind of cruel math ignores the responsibility to protect the existing ecosystem, including the ancient salt marsh which will be exposed to pollution from old oil fields, and the non-native nesting and foraging sites of special status species and coastal birds. This approach violates basic Native American tribal values which understand all life to be related and deserving of respect. Consulting with tribal people as regards new plants, buildings, and signage as entire ecosystems are sacrificed will not "ensure that tribal values ascribed to the Los Cerritos Wetlands as part of the tribal cultural landscape are considered as part of the design, restoration, and educational elements of the proposed program."

SCWTF-51

The proposed program could materially impair the landscape's ability to convey its historical significance, resulting in a substantial adverse change in the significance of the tribal cultural landscape even with the implementation of mitigation. Therefore, impacts to the tribal cultural landscape would be significant and unavoidable at the program level.

Comment: Agree

SCWTF-52

Impacts to historic architectural resources and archaeological resources from operation of the proposed program would be less than significant....impacts to the tribal cultural landscape from operation of the proposed program would be less than significant.

Comment: Disagree. Operation of the proposed program will include accommodating existing and proposed oil extraction operations including servicing wells and maintaining roadways for four oil companies, allowing massive amounts stormwater from the San Gabriel River to pollute the wetlands and expose subsurface cultural materials, eliminating non-native species with the use of heavy equipment and herbicides, and increasing human.wildlife interaction. Any one of these constitutes a significant negative impact, taken together the negative impacts will be both highly significant and ongoing.

SCWTF-53

Mitigation Measures 4,5,7,8,9,15 Archaeological Resources Assessment, Archaeological Investigation, Avoidance and Preservation in Place of Archaeological Resources, Archaeological Resources Data Recovery and Treatment Plan, Curation and Disposition of Cultural Materials

A Qualified Archaeologist shall conduct an Extended Phase I investigation to identify the presence/absence of subsurface archaeological resources.....In the event historical resources or unique archaeological resources or resources that contribute to the significance of the tribal cultural landscape are identified, avoidance and preservation in place shall be the preferred manner of mitigating impacts to such resources....If avoidance is determined by the LCWA to be infeasible in light of factors such as the nature of the find, proposed project design, costs, and other considerations, then that resource shall be subject to Mitigation Measure CUL-8: Phase III Archaeological Resources Data Recovery and Treatment Plan. .....The plan shall state avoidance or

SCWTF-53 End

preservation in place is the preferred manner of mitigating impacts to historical resources, unique archaeological resources, and contributors to the significance of the tribal cultural landscape, but shall provide procedures to follow should avoidance be infeasible in light of factors such as the nature of the find, project design, costs, and other considerations….LCWA shall consult with appropriate Native American representatives in determining treatment of resources that are Native American in origin to ensure cultural values ascribed to the resources, beyond those that are scientifically important, are considered, including those related to the tribal cultural landscape. … LCWA shall curate all Native American archaeological materials at a repository accredited by the American Association of Museums…..If neither an accredited nor a non-accredited repository accepts the collection, then LCWA shall offer the collection to a public, non-profit institution with a research interest in the materials, or donate it to a local California Native American Tribe(s) (Gabrielino or Juañeno). Comment: This section presumes that the remaining Los Cerritos Wetlands as a tribal cultural landscape and Sacred Site are undeserving of preservation. The extent to which any spot or cultural item will be considered significant will be determined, not by the tribes themselves but by a Qualified Archaeologist. Should items be determined to be "unique archaeological resources" or be related to the tribal cultural landscape they will be salvaged. The LCWA, presuming ownership, will offer them to museums or other repositories. Should they reject the items, only them will tribal people be allowed to compete with educational institutions for possession of the remains of their own culture. This is how genocide and racism are institutionalized and legalized by both academic and state actors and institutions. This is how tribal people continue to be denied tribal sovereignty over and are excluded from what remains of tribal cultural and natural spaces, including the Los Cerritos Wetlands, and over what remains after the digging is done.

SCWTF-54

The cumulative projects proposed throughout the geographic scope of this analysis have the potential to impact archaeological resources as some of the projects would include ground disturbance. When taken together, the incremental contribution of construction of the proposed program when combined with other projects in the geographic scope is cumulatively considerable. There is no feasible mitigation for cumulative impacts to archaeological resources other than not undertaking the proposed program….Potential impacts from the proposed program on the tribal cultural landscape are considered significant and unavoidable… and there is no feasible mitigation to lessen this impact to a level of less than significant… The proposed program's residual impact on the tribal cultural landscape, which has been discretionarily determined by LCWA to be a historical resource for the purposes of this PEIR, is significant and unavoidable….Past, present, and foreseeable projects have resulted in or could result in the demolition or material alteration to some aspects of the tribal cultural landscape that convey its significance… When taken together, past, present, and foreseeable projects result in a significant cumulative impact to the tribal cultural landscape

Comment: Agree

Other projects have in the past resulted in greater impacts to the landscape than the proposed program, including impacts to archaeological sites associated with the villages of Puvungna and Motuucheyngna, as well

as other Native American or prehistoric archaeological resources that may have contributed to the significance of the landscape, and impacts to waterways (including wetlands), plant habitat, and animal habitat. The incremental effects of the proposed program are not considered significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. Therefore, the incremental contribution of the proposed program on impacts to the tribal cultural landscape as a tribal cultural resource would not be cumulatively considerable.

SCWTF-55

Comment: Disagree The project area and the Los Cerritos Wetlands are essentially one and the same. Past projects that have impacted this area include ranching, farming, oil drilling, and waste disposal. The only future projects are the Beach Oil Minerals Restoration and Oil Consolidation Project and the LCWA's Restoration Plan. To state that the former or future destruction of "prehistoric archaeological resources" outside the program area was or will be more destructive of the traditional tribal landscape that the program itself may be true. However, to conclude that the program's contribution is "incremental' and/or that an "incremental contribution" is not "cumulatively considerable" demands a twisted and tortured logic. In fact, precisely because most of the once extensive wetlands and natural areas with relatively undisturbed tribal cultural materials, including burials, have been destroyed, the cumulative impact of the progra, on the Traditional Tribal Landscape is actually greater. Since there is precious little left, the cumulative effect to consider is the risk of extinguishing all that remains.

Chapter 3, Section 3.15 Tribal Cultural Resources

Tribal Cultural Resources Definition: Tribal cultural resources..... that are either included or determined to be eligible for inclusion in the California Register of Historical Resources ...or included in a local register of historical resources, or a resource determined by the lead agency....to be significant.

SCWTF-56

Comment: This definition reveals that it is ultimately state actors, not tribal people themselves, who are empowered to define tribal cultural resources and determine their fate. In choosing to follow this model, rather than recognize the right of tribal peoples themselves to have agency over their own culture, the LCWA contributes to a legacy of dispossession and racism

AB 52 Consultation

Comment: The Notice of Preparation of a Draft Environmental Impact Report and Initial Study was issued on March 8, 2019. Tribal representatives were contacted to engage in tribal consultation in August of 2019. The Notice of Availability of a Draft Program Environmental Impact Report was issued on June 12, 2020. It would appear that no tribal representatives were contacted "early in the project planning process" as is required by AB 52, "to ensure that local and Tribal governments, public agencies, and project proponents have information available, early in the project planning process, to identify and address potential adverse impacts to tribal cultural resources." The Initial Study was prepared by ESA (Environmental Science Associates), one and a half pages of the seventy-five page document reference Tribal Cultural Resources and state that, "Additional background research on the program area, including California Native American Heritage Commission Sacred Lands File Search and consultation with Native Americans who are traditionally and cultural affiliated with the

SCWTF-57

geographic area of the program area, will be conducted." Clearly tribal groups were not part of the planning process at this stage. Nor were tribal organizations or representatives are included in the PEIR "Report Preparers" (LCWA Steering Committee, EIR Consultants, Technical Report Firms). The intent of AB 52, to alter existing CEQA policy in order that tribal peoples have an equitable role in projects that alter and in many cases damage and destroy tribal lands and culture, demands that those involved, lead agencies, program planners and those they consult with include tribal representatives and provide financial compensation for their time and expenses as they do for their own staff. Given that the majority of California tribes have neither lands nor a source of income, it should not be assumed that they will be able to contribute their time and expertise to multiple projects taking place within their tribal lands and cultural areas. However, it should be noted that in some areas tribal groups do engage in regular and ongoing consultation with local and state actors over both the management of lands and projects that could impact them. In spite of years of involvement by local tribal peoples in protecting the Los Cerritos Wetlands and the continuing role of the Los Cerritos Wetlands in tribal cultural activities, the LCWA has failed to pursue this model. Given the lack of detail in the NOP regarding the extent to which both biological and cultural resources will be impacted, we do not find that the information made available to tribal groups in August 2019, allowed them to evaluate the scope of the project as regards deciding to engage in tribal consultation and/or to comment on the program. To include comments made in response to the NOP, before the release of the Draft PEIR, and infer from these comments that tribal representatives support the program ("tribes..expressed support for the restoration of the wetlands"), is presumptive and misleading, as tribal representatives have neither been involved in planning the program nor have they received the necessary information to judge it.

SCWTF-57 End

"No tribal cultural resources identified"

Comment: This statement, supposedly agreed to by the five tribal respondents, contradicts the fact that the Los Cerritos Wetlands are themselves a cultural resource within the Puvungna complex. Not only have these same tribal leaders and the California Native American Heritage Commission stated that the project area is highly significant to tribal peoples, it is part of a Traditional Tribal Landscape and Sacred Site.

SCWTF-58

"The following discussion of the tribal cultural landscape is summarized from the Coastal Development Permit (CCC, 2018),"

Comment: Although the Draft PEIR references tribal comments in the Los Cerritos Wetlands Restoration and Oil Consolidation Project EIR when discussing the Los Cerritos Wetlands, it excludes tribal leaders comments as regards their opposition to this project, which is a defacto part of the overall Los Cerritos Wetlands Restoration Plan. We include the statement that was delivered to the California Coastal Commission on December, 13, 2018, as it identifies "tribal cultural resources" in the Los Cerritos Wetlands and also because the comments and objections are relevant to this program and the PEIR.

SCWTF-59

Chief Anthony Morales, Tribal Chair of the Gabrielino/Tongva Band of Mission Indians

The Coastal Commission's Tribal Consultation Policy was based on past experiences at Hellman Ranch/

SCWTF-59 cont.

Puvungna East, CSULB/Puvungna, and Bolsa Chica where tribal cultural, burial, and sacred sites were desecrated and destroyed.The language of the Tribal Consultation Policy is so strong, it should prevail. The opening section of the Policy refers to our history, so the Commissioners know what we have gone through. You robbed us of our culture. It is no different today, what we are going through is the same. There has been a lack of proper tribal consultation. Our concerns have not been fully understood or addressed, in part because staff has not yet received the training required by the Tribal Consultation Policy. The LCP Amendment allowing new oil drilling permits should not have been issued on August 8th. How could the Amendment to the LCP be granted immediately after establishing the Coastal Commission's Tribal Consultation Policy? We had no opportunity to have tribal consultation, per the new policy, before the Amendment was passed over the objections of myself and other tribal leaders and members. The Coastal Commission's vote was out of compliance with the Tribal Consultation Policy. In response to the Modification required by the first LCP, the developer has submitted a Cultural and Archaeological Resources Report, just trying to comply and pacify. It is just a formula and does not even try to touch on the tribal cultural issues, including sacred sites. It is a farce of a report. It is inadequate. As regards the project, we have been given vague and misleading information. Updated information (in the staff report) shows changes that are significant, such as the mitigation bank no longer being included in the restoration plan. We need more time to consult and have asked that the project hearing be postponed. We now request that a vote on the project be delayed. If a vote cannot be delayed, we request that the project be denied. We are the natural people of the land and we consider this our duty, historically. It is very challenging but we will do what we have to do. There's got to be some kind of authority. People know what is happening to the land. We fought them at Hellman Ranch, at Bolsa Chica, at Banning Ranch. There are burials in oil tank farms, human remains have been found on active oil drilling sites, when new pipelines were being laid (in 1999 at the Arco Refinery in Carson, and at Hellman Ranch in 2004). I keep repeating myself, the evidence is there. We're saying that the Los Cerritos Wetlands constitutes a Tribal Cultural Property. Puvungna was a community, a spiritual gathering place for many tribes, birthplace of Chingishnish, lawgiver and god. This was documented by Boscana in his study of the Acjachemen at Mission San Juan Capistrano which was translated by J.P. Harrington. Oral tradition is very important. The Coastal Commission deals with water and should be concerned about the possible destruction of water by this future oil operation. We're always trying to defend ourselves. People know all this, what is happening to the land, already. This project is like the others where we told you what was there and you didn't listen. The Tribal Cultural Property is the same and we are revisiting the same issues as at Hellman Ranch/Puvungna East and Bolsa Chica. The project area is within the same general footprint, tied in geographically to areas that are very sensitive to us. Presenting one site at a time is a problem. Anything and everything within this area must be treated with due diligence.

Julia Bogany, Cultural Resources Director of the Gabrielino/Tongva Band of Mission Indians states, We have our own tribal archaeologists who need to be consulted, instead of just having information from the developer's tribal consultant and their archaeologist. The salt marsh needs to be protected. How ironic. We sell oil to other countries and buy it from other countries. We won't have "America the Beautiful" if we

SCWTF-59 cont.

continue to tear it apart at the people's expense. We, the people, pay for other peoples' oil. They are just about tearing, tearing, tearing. Constantly tearing up the land, constantly coming to us to take more and more minerals out of the earth.

Gloria Arellanes, member of the Tiat Society and Gabrielino/Tongva Band of Mission Indians, asks the question, when you honor a sacred site, I don't know how you do that but we have ceremonies. We use sacred sites to have a connection to the ancestors. Now we've been squeezed by buildings, and roads, and oil, stripped of these places we depend on. We always hear that "there are not enough cultural resources" (to prevent or or alter a development). Burials (six burials constitute a cemetery), cog stones, salt marshes, make this area sacred. I expect realistic things. I would like to see realistic projections about what this project will do to the land. What is the purpose of the Coastal Commission if not to protect the coast? Long Beach now smells like oil. Oil extraction does nothing good for Mother Earth and for the citizens that live in the area. I believe it causes more earthquakes. As blood runs through our veins, oil runs through the earth.. At Bolsa Chica mesa, the developer unearthed human remains, put them in trash bags, and stored them in trailers on the site. As an elder it hurts to know that my Ancestors are treated like trash. All these sites are connected, I don't see them as separate. The Los Cerritos Wetlands is our church, this is where we pray, this is where we go to remind people of who we are. You do not know that there are no burials in the wetlands, in the project area. It is very frustrating. We constantly struggle to keep these parcels of land in a natural state. We get very few wins when it comes to land, look at them. Allow people to have these sacred sites. The Coastal Commission should not be afraid of developers and their money. I am opposed to the project. I would not support any development on any area that we pray on or consider sacred. Allow people to have these sacred sites.

Rebecca Robles, Acjachemen Tribal Elder
In consultation with Coastal Commission staff, tribal elders were asked for for proof that tribal cultural resources exist and are at risk from this project. Rebecca Robles, Acjachemen, co-founder of the United Coalition to Preserve Panhe, responded by saying: We are proving it right now. You have four tribal elders here….your job is to listen. This is a continuation of the genocide that is happening everywhere. This land is sacred, it should not be built on. Many of us are saying it, not just one or two, and we keep saying it. It is our creation spot. We say it but the needs of others get priority. We are the canary in the coal mine. Since the first contact with Europeans in 1779, almost 250 years ago, everything has changed. Somehow, someone has to acknowledge that this is sacred land, including the only ancient salt marsh left. We're saying NO! This will harm people, we will not continue to exist. We continue to go to these sites, they are the last natural sites in Puvungna and Motuucheyngna. The project is so convoluted that I don't trust that the restoration would be beneficial to the land. I am concerned about sea level rise, some of the land that will be exchanged (for oil drilling sites) will be underwater (within 40 years). The restoration is being presented in a disingenuous way. The Cultural and Archaeological Resources report submitted by the project proponent is incorrect and incomplete. There is a conflict of interest when the people who want to do the project are providing the info

SCWTF-59 End

for the Cultural Resource Analysis. It is mainly about the history of oil drilling. In the 1970's there was a cultural revitalization and Native American students at CSULB were able to rebury an Ancestor who had been disturbed when a water pipe was being dug on the National Register site of Puvungna. In the 1990's the University wanted to build on the National Register site. The ACLU represented twenty- eight Native American litigants and the NAHC also got involved in the lawsuit. Puvungna is the entire campus. We do ceremony to heal and to preserve our part of community. This is one reason the Ancestor Walk goes through the Los Cerritos Wetlands. These wetlands are within walking distance of Puvungna sites at CSULB, the Hellman site where twenty-two Ancestors were unearthed in 1996, and Bolsa Chica. The site is in the last natural area, the last intact wetlands that links Puvungna and Motuucheynga. This is the area we traveled through to reach Bolsa Chica. It is where we fished, gathered tule, and had our salt pannes. This is the last remaining ceremonial space, leave it natural. Avoid it all together. This is our birthright, to be able to walk on the land, to put our tule boats in the water, to see the stars. Our ancestors are native to this place and have lived here for tens of thousands of years. It is our responsibility to care for this land, and we don't take it lightly. This is our Standing Rock.

In conclusion, the staff report acknowledges that the project violates the Coastal Act, stating that, "Special Conditions do not adequately mitigate the potential damage to archeological resources or tribal cultural resources and the introduction of new development remains inconsistent with the tribal cultural landscape as described by tribal members with a cultural connection to the Los Cerritos wetlands." We ask that you deny the project on this basis.

SCWTF-60

If a California Native American tribe has requested consultation pursuant to Section 21080.3.1 and has failed to provide comments to the lead agency, or otherwise failed to engage in the consultation process, or if the lead agency has complied with Section 21080.3.1(d) and the California Native American tribe has failed to request consultation within 30 days, the lead agency may certify an EIR or adopt an MND .
Comment: the 30 day deadline to request Tribal Consultation has been suspended due to Covid- 19

This tribal cultural landscape has not been formally documented, geographically defined, nor has it been evaluated for listing in the California Register or for listing in a local register of historical resources. As such, no impacts would occur. No mitigation is required.
a resource determined by the lead agency, in its discretion ... to be significant
the lead agency shall consider the significance of the resource to a California Native American tribe

SCWTF-61

Comment: Disagree. Significant and unavoidable impacts that cannot be mitigated will occur during the construction and operation of the program. To state that the tribal cultural landscape has not been formally documented or evaluated is to devalue the testimony of tribal leaders to the California Coastal Commission as well as statements made to the LCWA during tribal consultation. It is both Eurocentric and racist to demand that tribal culture, including tribal cultural landscapes, be documented and evaluated by Qualified Archaeologists and listed in state registries other than the California Native American Heritage Commission's Sacred Sites Registry, before they can be considered to be impacted by development. Discrimination on the

basis of race and/or religion applies to the manner in which tribal consultation is both held and evaluated as part of the CEQA process. .

SCWTF-62 LCWA has determined, in its discretion and as supported by substantial evidence presented in the CCC Staff Report, that the tribal cultural landscape is significant .... the tribal cultural landscape includes the village sites of Puvungna and Motuucheyngna (represented by prehistoric archaeological sites in the California State University – Long Beach and the Hellman Ranch areas, respectively), Native American or prehistoric archaeological sites within or near the Los Cerritos Wetlands, as well as the waterways, plants, and animals that are present in the area. Comment: Agree

SCWTF-63 3.15.5 Program Impacts and Mitigation Measures, 3.15.6 Cumulative Impacts
Comment: These sections repeat those same sections under Cultural Resources, see comments above.

SCWTF-64 Conclusion: What is lacking in the Tribal Cultural Resources section, and the PEIR as a document, is both historic context and deference to tribal perspectives as regards tribal culture and land. California Native American Tribes did not freely cede the right or the responsibility for their territories, peoples, cultural identities, histories, spiritual practices, or their human remains and cultural artifacts to Spain, Mexico, the California Republic, or the United States. When state actors deny tribal entities the agency to act as sovereign nations, they continue a legacy of conquest and state-sponsored genocide. The LCWA needs to transfer jurisdiction over the public lands within the Los Cerritos Wetlands Complex to those tribal peoples with a physical and cultural connection to them.

Questions regarding the Los Cerritos Wetlands Plan PEIR

SCWTF-65
1. The Eurocentric concept of "restoration" that argues for more "native plants" and "native species" while excluding Native American people is a continuation of the removal of tribal peoples from their lands and the public consciousness. Along with other forms of racism, it is embedded in public policies over national and state lands and waters, including national and state parks, and the Los Cerritos Wetlands. How can the Los Cerritos Wetlands Plan PEIR be revised to address this historic and systemic racism?

SCWTF-66
2. Given that the LCWA acknowledges that the Los Cerritos Wetlands are a Traditional Tribal Landscape, how is it that none of the Los Cerritos Wetlands Restoration Plan Goals and Objectives reference tribal peoples or concerns? "Surrounding community" and "other interested parties" are the only groups mentioned in this section.

SCWTF-67
3. The PEIR acknowledges that the Los Cerritos Wetlands are a Traditional Tribal Landscape. Why is there no mention of land use, land management, or restoration from a tribal perspective, including restoring ownership and/or co-management of the wetlands to tribal groups who are culturally affiliated with them?

SCWTF-68
4. Why, after being asked to consult with traditional tribal ethnobotanists and tribal cultural consultants, did the LCWA not include any tribal experts, organizations, or state actors on the Technical Advisory Committee designing the PEIR? Why didn't the LCWA commission a technical report to provide baseline

SCWTF-69 information as to Traditional Tribal Landscape management and restoration requirements?

SCWTF-70 5. Why is Gabrielino, a name imposed by the Spanish Missionaries, used exclusively when describing the indigenous people of the area? Why is Tongva not used? Why is there no other tribal group with historic and cultural connections to the Los Cerritos Wetlands named at all? What about the Acjachemen, the Payómkawichum? What about the Acjachemen, the Payómkawichum, the Yuhaaviatam?

SCWTF-71 6. We understand from a number of tribal representatives who are on the required contact list that they have not been contacted by the LCWA regarding the PEIR. How can the LCWA address this problem?

SCWTF-72 7. We also see that, although several tribes and numerous tribal councils are culturally connected to the Los Cerritos Wetlands, only one tribal group, the Kizh, is referenced as providing tribal cultural consultants and monitors on the project. Given that the Los Cerritos Wetlands, as part of the Sacred Site of Puvungna, have intertribal significance, the PEIR should identify additional tribal groups as well.

SCWTF-73 8. Why is the meeting that the LCWA held on the Los Cerritos Wetlands Restoration Plan at the Seal Beach Library not mentioned in the PEIR? If it wasn't a scoping meeting, what was it? Are the presentations and public comments from this meeting part of the public record or not? It was attended by @ 70 people, more than the other 3 meetings put together and comments and questions made by those in attendance deserve to be part of the public record.

SCWTF-74 9. "Today, nearly all of the program area has been converted from its historic wetland habitat, though a few remnant and degraded historic habitats remain." Converted to what? Why do refer to historic "wetland habitat" singular, when both historically and seasonally multiple wetlands habitats did and do exist?

SCWTF-75 10. "No new information of substantial importance or change in circumstance with the Los Cerritos Wetlands Oil Consolidation and Restoration Project requires re-evaluation of the analysis in that EIR." What about the new perimeter berms, are you saying that the berms are not of substantial importance or will not make a change in circumstance?

SCWTF-76 11. "Potential environmental impacts to this activity (new oil drilling operations) are not analyzed under this PEIR, except to the extent these activities are reasonably anticipated future activities that may have a cumulative effect on activities within the program area.

SCWTF-77 12. So why is the cumulative effect of BOM's proposed oil operations not discussed in the PEIR? Especially considering that the risks to the environment and public health and safety posed by the project could not be mitigated, therefore the project did not comply with the Coastal Act (an override procedure was used to permit the project).

SCWTF-78 13. "Potential disturbances to sensitive habitats and species during operation of the proposed program would be minimized through effective design of public access areas to keep people on trails and out of habitat areas. Are people really the problem? Why is there no mention of how flooding, bulldozing, trenching, grading, soil storage and treatment, removing plants (possibly with machinery and herbicides), installing irrigation systems, building and paving new roadways, constructing new buildings, fences, and giant berms could potentially disturb sensitive habitats and species?

14. "The success of restoration efforts would be measured based on established performance criteria focusing on the abundance and diversity of native vegetation and the wildlife that use the Los Cerritos Wetlands

SCWTF-79 Complex." What about the successful preservation of existing habitat and wildlife? How is this not a goal? Why is "success measured only in terms of creating additional new habitat and producing more wildlife in the long run?

SCWTF-80 15. Why is the loss of existing habitat and wildlife discounted?

SCWTF-81 16. Regarding public access, the PEIR commits to "develop and enhance public access, recreation, and educational opportunities within the program area, while balancing the need for protection of sensitive habitats." What about wildlife which tend to avoid areas where humans are present?

SCWTF-82 17. When you total the number of acres of "managed vegetation" on berms/levees, does this acreage include the trails and roads, which would obviously not be vegetated? If not, is the acreage covered by trails and roads on the berms/levees calculated into the Developed acreage? What about the paved roads on the berms/levees, are they considered Developed?

SCWTF-83 18. What is the total acreage of land covered by new berms/levees, (including interim berms), oil drilling pads and new roadways (including the raised 1st St)?

SCWTF-84 19. In the South Area berms are listed as covering 3.6 acres. What about the raised road (1st St), how many acres will be covered by this road?

SCWTF-85 20. No acreage for a berm on Isthmus is listed on the chart. But a berm is mentioned as being on the Isthmus, "Acreages presented here assume the construction of an earthen berm which has a slightly larger footprint than a flood wall." What is the acreage of this berm?

SCWTF-86 21. Do the 11.1 acres of berms on the North Area include the sheetrock berm? If not how many acres does the sheetrock berm include?

SCWTF-87 22. Regarding water control structures: "A temporary access route, 35-feet wide, would be created using mats to provide equipment access." Where is the access road?

SCWTF-88 23. "The levees would also require periodic repaving of the access road and trail, replacement or repair of installed fencing." Where is the fencing?

SCWTF-89 24. "The levees would also require periodic repaving of the access road and trail, replacement or repair of installed fencing." Where is the fencing?

SCWTF-90 25. Will the road on the Perimeter Levees be paved? Will well pads and access roads be paved? How big will the pads and the access roads be at their base. How many well pads and access roads will there be? Signal Hill has 7 active oil wells on site, are there also inactive oil wells? Does each well need a separate well pad?

SCWTF-91 26. What is the final 1 acre of impervious surface on the North Area? Is this the proposed Visitor's Center and parking lot? Does this calculation presume that all oil operations, including Termo's, are gone and that there are no remaining oil pads, storage tanks, or paved roads (including on the berms/levees)?

SCWTF-92 27. "These storage basins or bioswales would be sized to accommodate the local area drainage." What measures are in place to prevent street runoff from polluting the wetlands?

SCWTF-93 28. What will happen in the Central Area during a major storm event once the SG River wall is gone? Will a "net" keep tons of trash (including large objects) being washed down the channel from entering the wetlands? What about microplastics?

29. "The Central Area is expected to primarily be a backwater area during flood events." What is a backwater

SCWTF-94 area? Is the water coming in only from the river or also from storm drains and roadways? What, if any, pollution controls are in place to filter out contaminants that could harm wetlands plants, fish, and wildlife?

SCWTF-95 30. What is meant by defining a particular area as "non-native"? Does this mean no native plants, or animal life of any kind inhabit or use this area?

SCWTF-96 31. What is a "transitional zone?" What kind of habitat and wildlife are in this zone?

SCWTF-97 32. "Disturbed habitat" is not a biological term, what kind of habitat/s is/are disturbed?

SCWTF-98 33. What is a "high-functioning wetland" vs. a "low-functioning wetland?"

SCWTF-99 34. 8.8 acres of existing salt flats will be reduced to 0 acres. Salt flats are considered to be the most endangered and least studied environments of coastal wetlands. Why are they not being preserved?

SCWTF-100 35. Why is there no reference to existing seasonal brackish or freshwater wetlands? Why is there no reference to rainfall as a source of fresh water? After a heavy rain most of the wetlands are flooded and pools of fresh/brackish water remain for an extended period of time.

SCWTF-101 36. Every section of the 503 acres is described as supporting special status species of plants and wildlife, but most areas will be dredged, flooded, graded, have berms constructed on them, and replanted, so as to be totally reconfigured. Why does this PEIR not reference (in detail) the loss sof special status species and all the other elements of the ecosystem that they depend on?

SCWTF-102 37. Why are certain areas within the Los Cerritos Wetlands Complex alternately excluded and included in the PEIR? For example, the calculations of existing and "restored" habitat, exclude Steamshovel Slough and other properties in the Northern Area. However, although the PEIR states that the program conforms to the Los Cerritos Wetlands Restoration and Oil Consolidation Project, the LCWA's property, outside the complex, slated to be an oil drilling site, is to be considered in the PEIR as a possible location for a Visitor Center.

SCWTF-103 38. Why do you think salt marsh habitat should be expanded and created at the expense of salt flats, freshwater /brackish seasonal wetlands? Especially as it will involve reducing the amount of land that is currently or potentially wetlands due to the need for berms to protect oil and commercial infrastructure?

SCWTF-104 39. Why should our remaining wetlands be used to provide flood control measures for roadways and private commercial and industrial operations in response to sea level rise?

SCWTF-105 40. Every section of the 503 acres is described as supporting special status species of plants and wildlife, but most areas will be dredged, flooded, graded, have berms constructed on them, and replanted in a project, so as to be totally reconfigured. "Since ecological restoration involves many variables, especially in systems as large and complex as the Los Cerritos Wetlands, there is uncertainty in how the project would perform," how can this loss be justified?

To: Sally Gee, Los Cerritos Wetlands Authority
Re: LCWA Los Cerritos Wetlands Restoration Plan DEIR, NOP
From: Sierra Club, Angeles Chapter, Long Beach Area Group
Contact Person: Conservation Committee Representative, Anna Christensen
achris259@yahoo.com

Comments and concerns as follows:

1. The Site Map (Fig 2) - unclear, incorrect - most properties are designated by owner, one by its nickname, one, not at all. Since the LCWA is listing properties/owners at the present time, it should include its own 5 acre property at 2nd and Studebaker which has been included in the LCWA's previous maps of the Los Cerritos Wetlands (as the site of the proposed visitors center and land bridge over 2nd St connecting wetlands areas). As the "Pumpkin Patch" is included, it's owner should be listed, and plans for the entire site (including new oil operations and an office building) should be described in the EIR.

SCWTF-106

2. Misleading statement in this document and by representatives of the LCWA at the Public Scoping Meeting lead the public to conclude that conditions imposed on the Los Cerritos Wetlands and LCWA properties under the FEIR of the Los Cerritos Wetlands Restoration and Oil Consolidation Project are legal, final, and cannot be challenged or even discussed in comments to the LCWA's Los Cerritos Wetlands Restoration DEIR. "The EIR (for the Los Cerritos Wetlands Restoration and Oil Consolidation Project) was certified by the City of Long Beach City Council in July 2018. - No mention CCC approval - is this because of the lawsuit filed against the CCC for violating the Coastal Act in approving the Los Cerritos Wetlands Restoration and Oil Consolidation Project?

SCWTF-107

3. The restoration project is described as "habitat enhancement." However, many of the proposed alterations to the project area will damage or destroy existing wetlands, seasonal and salt marshes, and wildlife habitat. They will endanger wildlife, including protected species and migratory birds. The assumption that bulldozing and trenching to create additional tidal influence will improve a seasonal wetlands subject to sea rise must be questioned. The assumption that all non-native species are "invasive," have no value, and must be eradicated must be questioned. The need to destroy existing plant communities to remove toxic soil must be questioned. The NOP is out of date in all these respects.

SCWTF-108

4. "Public Access" is a plus when seeking approval at the city and state levels as it gains the support of those who want to reassure constituents that the public will get to enjoy their natural resources up close and personal. It fails to take into account that for wildlife areas, public access is problematic to the extreme. No public access is warranted to ensure that the Los Cerritos Wetlands survive and thrive as a living ecosystem. No visitors center with access road, parking lot, and security lighting, no and walking trails within the wetlands. These are not "restoration" elements as they were not there in the first place. They may satisfy human wants and needs but they expand the human footprint and risk the present health and future well being of wildlife.

SCWTF-109

5. We submit that the Cultural Resources section is disrespectful to tribal peoples who have been excluded from participating in the NOP, distorts and omits tribal history,

SCWTF-110

denies the proven existence of tribal cultural resources in the project area, fails to describe the Los Cerritos Wetlands as a Tribal Traditional Cultural Property and Sacred Site.

SCWTF-111

6. We concur with others that this is not the time to create/submit an EIR for the "restoration" of the Los Cerritos Wetlands and that a "Program EIR" is not appropriate.

SCWTF-112

7. We attach documents with which we concur and reserve the right to expand our comments at a later date.

To: Sally Gee, Los Cerritos Wetlands Authority
Re: Comments on the Los Cerritos Wetlands Restoration DEIR, Notice of Preparation

Tribal concerns about the LCWA's NOP for the Los Cerritos Wetlands Restoration DEIR include:

1. Lack of inclusion of tribal perspectives in the preparation of the NOP (the basic design of the project).

SCWTF-113
- No evidence of consultation with any tribal entity, tribal member with expertise in tribal culture or tribal ethnobotany, or tribal individual with a previous history of involvement in protecting the Los Cerritos Wetlands. *"LCWA **will be** conducting consultation," LCWA **will consult** with tribes"*

SCWTF-114
- The NOP fails to include tribal cultural information from the 2015 Final Los Cerritos Wetlands Restoration Plan

2. The Cultural Resources Section asks if the project would "*Cause a substantial adverse change in the significance of an archaeological resource"* and further states, "*The program area is in the vicinity of known archaeological resources and may have the potential to contain undocumented prehistoric and historic-period archaeological resources."* Written from an outdated Eurocentric perspective, the section ignores the current understanding and acknowledgement of **tribal cultural resources**, current laws (SB18), and current policies (CCC and State Lands Tribal Consultation Policies) which recognize California Indian peoples as sovereign living nations capable of planning and engaging in cultural resource management over public lands within their tribal territories and/or with which they maintain a cultural connection.

SCWTF-115

SCWTF-116
- The Cultural Resource section omits or misidentifies tribes having historic and cultural connection to the Los Cerritos Wetlands. The tribal history of the area identifies only one tribe by name, the Gabrielino, a name given by Spanish Missionaries, not that in current use. *From 1,000 years before present to approximately 1542 A.D., Los Angeles County and Northern Orange County were occupied by the Gabrielino people (named after the Spanish Mission where many of them were baptized)."* The Tongva, Acjachemen and other Southern California tribes maintain their connection to the Los Cerritos Wetlands through ceremonial and social activities and by monitoring and opposing developments which threaten the health of the wetlands, the waterways, and the surrounding communities.

SCWTF-117
- The Cultural Resources section omits highly significant tribal history and place names, including Puvungna, a major ceremonial center and the birthplace of Chinigchinich,

the founder of a spiritual tradition practiced by multiple Southern California tribes today.

- The Cultural Resources section improperly questions whether tribal cultural resources exist within the project area. It describes known village, burial and cultural sites as being "nearby" the wetlands rather than including the wetlands **within** the tribal communities of Puvungna and Motuuchenya. "*Nearby Native American sites are known to be located at California State University Long Beach, Rancho Los Alamitos Historic Ranch, and Heron Point." "Native American burials have been encountered at sites in the vicinity of the program area (California Coastal Commission, 2018)." "If necessary, mitigation measures will be recommended to reduce potential significant impacts to historical resources."* SCWTF-118
- Tribal interests are assumed to be limited to their connection to archaeological sites and cultural resources including burial sites that could be disturbed/destroyed during excavation. Tribes are not acknowledged as living communities and governing bodies with a legal right to maintain a physical and spiritual connection to the Los Cerritos Wetlands. Nor are past and present tribal efforts to protect and use the wetlands for spiritual, cultural, and recreational purposes acknowledged. SCWTF-119
- The NOP fails to acknowledge that the Tongva and Acjachemen recognize the Los Cerritos Wetlands as both a Tribal Cultural Landscape and Sacred Site, eligible to be listed as such by the NAHC and SHPO. SCWTF-120
- In ignoring tribal cultural perspectives, tribal historic and current connections to the Los Cerritos Wetlands, the NOP fails to identify potentially significant impacts to the Los Cerritos Wetlands and to the tribal peoples having physical and cultural connections to the project area. The proposed mitigation measures fail to acknowledge the continued and consistent comments by numerous tribal leaders that any and all disruption of natural areas do harm and should be avoided. *If necessary, mitigation measures will be recommended to reduce potential significant impacts to cultural resources.* It describes "potentially significant impacts" and "cultural resources" as follows: *Since the proposed program would require excavation and grading in some portions of the program area, ground-disturbing activities could unearth subsurface human remains"* and *"historic-period archaeological resources"* SCWTF-121
- Restoration plans that include increased public access at the expense of wildlife, that involve the destruction of existing plant communities supporting wildlife, that employ pesticides and involve excavation and bulldozing, are in and of themselves destructive and disrespectful measures. Realistically, restoring the Los Cerritos Wetlands to the once magnificent river estuary beloved by its tribal occupants is not possible. To include tribal peoples in protecting what remains is essential. Failing to do so, the NOP reveals a continued mindset of dominion over rather than true appreciation for the natural world and the original peoples of the land. SCWTF-122

Appendix 7: Salt Flats in Southern California Coastal Wetlands

of the *Wetlands on the Edge: The Future of Southern California's Wetlands Regional Strategy 2018*

Written by Erin Beller, San Francisco Estuary Institute

Introduction

Salt flats are a type of seasonal wetland that is characteristic of arid, semi-arid, and mediterranean-climate coastal environments such as Southern California. They are subject to intermittent flooding due to tidal or freshwater influence and remain unvegetated due to salt concentration, with soil salinities often exceeding 100-200 ppt (Pennings and Bertness 2001). They are extremely dynamic features, experiencing large fluctuations in salinity and inundation. They were widespread historically and are present in many Southern California estuaries today, providing an array of ecosystem functions for resident and migratory wildlife. However, little is known about the formative processes, historical and contemporary distribution, and ecosystem functions and services of salt flats in the region relative to other estuarine habitat types. As a result, we currently lack sufficient information to identify appropriate regional objectives for salt flat management.

While specific regional objectives for estuarine salt flat management are outside the scope of this document, we recognize salt flats as an important component of overall estuarine and transition zone habitat diversity in Southern California. We suggest these features have the potential to provide important ecological functions and services, appear to be under-represented in current systems compared to historical conditions, and merit consideration as part of regional habitat mosaics. Here, we provide background context on salt flat characteristics; a preliminary assessment of their historical distribution, ecosystem functions and services; and typologies in Southern California.

What is a Salt Flat?

Salt flats – also known as salt pans (or pannes), *salinas*, alkali flats, playas, and sabkhas, among other terms – are unvegetated seasonal wetlands that fluctuate between dry, hypersaline conditions and shallow freshwater and/or tidal inundation (Briere 2000, Yechieli and Wood 2002). In estuaries, they often occur where evaporation seasonally exceeds inflow, as well as in systems with low rainfall, strong seasonal variation in precipitation, and/or irregular tidal inundation (Pennings and Callaway 1992, Largier et al. 1997, Pennings and Bertness 1999). We distinguish salt flats (which can be quite extensive,

covering hundreds of acres) from the small salt pannes that occur in areas with limited drainage within many salt marshes (Boston 1983, Pennings and Bertness 2001).

The presence of estuarine salt flats indicates some degree of disconnectivity from regular tidal inundation that would allow for desiccation, either due to elevation (e.g., above Mean Higher High Water where inundation is infrequent) or a physical barrier such as sand dunes or inlet closure. As a result, salt flat conditions and dynamics (including shape and landscape position, inundation regime, soil and water salinity, sediment dynamics) are variable from year to year and feature to feature.

Methods

We performed three initial tasks to enhance our understanding of historical spatial distribution, change over time, and ecosystem functions and services of Southern California salt flats. First, we synthesized information on the key ecosystem functions based on expert opinion from the Science Advisory Panel, reports, and papers and performed an initial review of historical ecosystem services based on existing research (Beller et al. 2014). This was not intended to be comprehensive, but instead provide an overview of some of the core functions and services provided by salt flats. Second, we used existing historical habitat type mapping derived from U.S. Coast Survey T-sheets (Stein et al. 2014) to document the historical distribution of salt flats in Southern California prior to major Euro-American modifications (circa mid-19th century). Finally, we developed a preliminary historical typology of Southern California salt flats based on visual assessment of their landscape position and ecological context.

Ecosystem Functions and Services

Due to their dynamic nature, salt flats can provide a broad array of wildlife support functions varying by landscape position (e.g., supratidal or intertidal) and degree of inundation (Table 1). Some of these functions are coincident with those provided by estuarine lagoons and ponds (when flooded) or sand dunes (when dry); others are more unique to salt flats (e.g., habitat for tiger beetles and rove beetles) (Zedler et al 1992). When flooded, for example, salt flats can support foraging for resident and migratory birds: dabbling ducks and shorebirds can feed on invertebrates, invertebrate larvae, and the occasional small fish (Schaffner 1986, Williams, Desmond & Zedler 1998), while diving birds such as grebes, cormorants, and ruddy ducks can feed in deeper water (Beller et al. 2014). Drying salt flats can provide breeding habitat for the state- and federally endangered California least tern and federally threatened western snowy plover, in addition to resident birds such as black-necked stilts and American avocets. When dry, salt flats can support roosting and refuge for birds able to congregate safely in the large open space, as well as corridors for traveling mammals and habitat for invertebrates such as tiger and rove beetles and micro-crustacean and aquatic insects such as water boatman and brine flies.

Ecosystem services have not been robustly documented for salt flats in the contemporary landscape, but historically included salt production by indigenous and Euro-American residents, transit (since the dry margins of salt flats provided convenient travel routes), and recreational activities (including use as racetracks when dry, and boating and swimming while flooded).

Table 1. Salt flat ecosystem functions.

Ecological function	Supratidal salt flats	Intertidal salt flats
Dry season (or dry margins)		
Roosting and refuge for shore birds, terns, and gulls	✓	✓
Breeding habitat for resident and migratory birds	✓	✓
Habitat for invertebrates (e.g., tiger and rove beetles, micro-crustacean and aquatic insects)	✓	✓
Corridors for travelling mammals	✓	✓
Wet season/flooded		
Foraging for resident and migratory birds (e.g., for dabbling ducks and shorebirds)	✓	✓
Tidewater goby habitat?		✓
Southern California steelhead?	✓	✓

Historical Salt Flat Distribution and Typology

Salt flats were historically present in approximately one-quarter of Southern California 104 estuarine systems (cf. Stein et al. 2014; Figures 1 & 2). They were found across the Bight, from Goleta Slough to the Tijuana River estuary, and covered more than 3,000 acres in total (~10% of total estuarine habitat area excluding subtidal open water; Stein et al. 2014). Salt flat size, shape, landscape position, and ecological context varied across systems, with salt flats ranging in size from less than one acre to well over 1,000 acres (flanking either side of the San Gabriel River as it entered what is now Los Angeles Harbor). Other than the Los Angeles Harbor area, the largest salt flats (between 150 and 1,000 acres) were found in northern San Diego County (Batiquitos, San Elijo, Buena Vista, and Agua Hedionda lagoons, ranging from 160 to 475 acres), at Goleta (~200 acres), and Mugu Lagoon (largest salt flat ~180 acres; 250 acres total). Other notable salt flat complexes were found at Ballona (135 ac) and Seal Beach (135 ac). Preliminary analysis based on Stein et al. (2014) suggests that approximately 95% of estuarine salt flats in the Bight were found in these nine systems. (Note, however, that this does not account for salt flats documented by local historical analyses in other systems such as Los Peñasquitos Lagoon; cf. Beller et al. 2014).

Based on an initial visual assessment, we suggest two broad categories for Southern California salt flats historically distinguished by position in the wetland complex and presumed degree of tidal and freshwater influence: **supratidal salt flats** and **intertidal salt flats** (Figures 1 & 2). Supratidal salt flats occurred at elevations above Mean Higher High Water, and as a result were subject to only infrequent tidal overflow (e.g., during storm surges or spring tides, or during inlet closure with net inflow of water from watershed and by wave overwash). These salt flats were located above the marsh plain, as part of the transition zone between tidal and terrestrial habitats. Examples include the salt flats formerly found at Goleta and the Los Angeles River (Figure 1). In contrast, intertidal salt flats occurred at elevations between Mean High Water and Mean Higher High Water, and desiccated due to disconnection from

tidal waters due to inlet closure with net loss of water through evaporation (and perhaps owing to other physical barriers). Examples include the extensive, seasonally flooded lagoons formerly found in northern San Diego County (Beller et al. 2014; Figure 2).

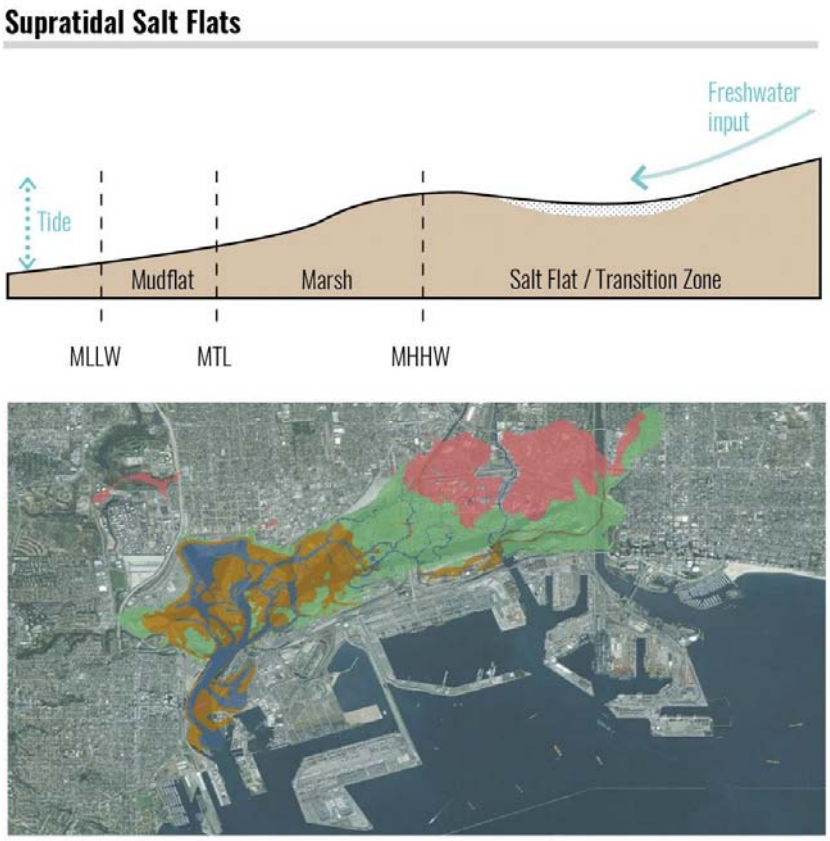


Figure 1. The top panel shows a cross section for historical supratidal salt flats. Historical salt flats (pink) in the Los Angeles area were generally supratidal in nature (historical habitat types, modern aerial).

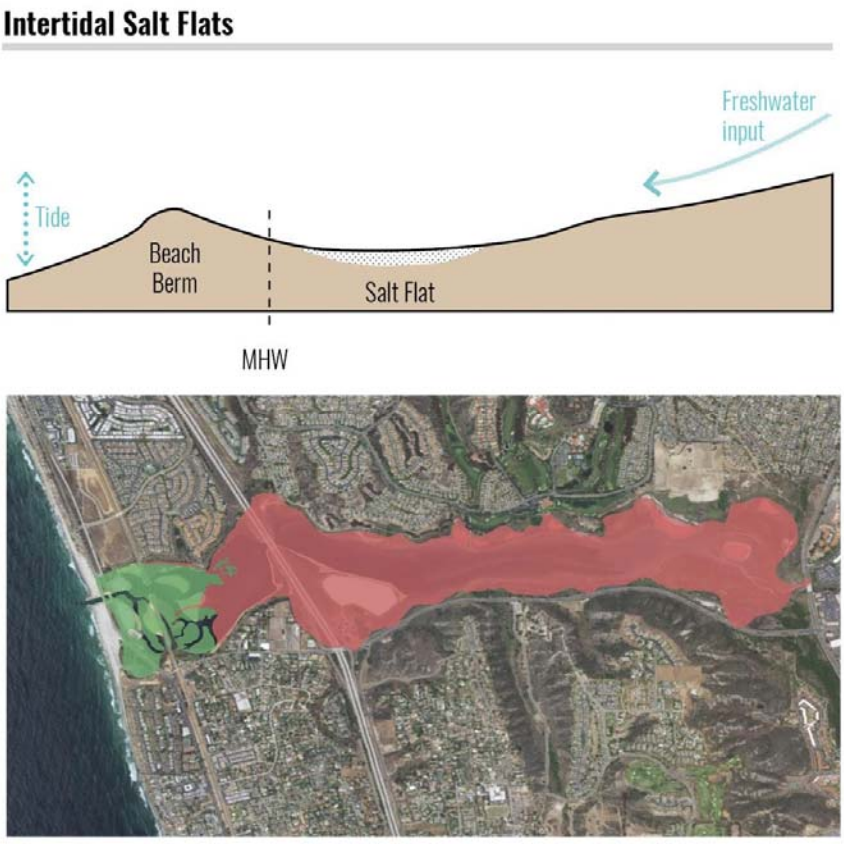


Figure 2. The top panel shows a cross section for historical intertidal salt flats. Historical salt flats (pink) in estuaries such as Batiquitos Lagoon in northern San Diego County were generally intertidal in nature (historical habitat types, modern aerial).

While some salt flats clearly fall into one of these typologies, distinguishing many others without ancillary information on elevation, inundation regime, and formative processes is challenging to impossible, illustrating the wide variety of context in which salt flats were found. More research is needed to differentiate between features and refine the typology.

Contemporary Salt Flat Distribution and Characteristics

Like other intertidal habitat types, salt flats have experienced dramatic changes since the 19th century, with losses of approximately 80% of total area (Stein et al. 2014). However, there are still a few salt flats in the California Bight region, for example in Devereux Slough, San Elijo and Tijuana estuaries. Remaining salt flats include a mixture of salt flats that likely function similar to historical analogs (e.g., salt flats at San Elijo Lagoon; Figure 3) and unvegetated features resulting from legacies of human use or anthropogenic disturbance such as soil compaction, grading, fill, or sediment deposition (e.g., salt flats at the Tijuana River estuary in places with a history of military activity; Figure 3).

Somewhat surprisingly, however, historical salt flat extent is more robustly documented than the current extent of salt flats. While contemporary coastal wetland mapping for the Southern California

Bight is available both from the National Wetlands Inventory (NWI) and Center for Geographical Studies (CGS) at California State University, Northridge, they employ standardized classification schemes that do not distinguish between different types of unvegetated intertidal habitats (e.g., salt flats and mud flats; Cowardin et al. 1979). Salt flats and mud flats are therefore indistinguishable in these products; as a result, the regional distribution of salt flats in the contemporary landscape remains poorly documented and regional assessments of estuarine habitat change (e.g., Stein et al. 2014) have not been able to differentiate change over time between these two unvegetated wetland types.

Local assessments of change over time in salt flat extent and distribution (e.g., Beller et al. 2014, Safran et al. 2016) have used coarse differentiations between salt flats and mudflats based on the presence or absence of a connection to subtidal open water, paired with input from local experts. However, these maps represent only an approximation of salt flat habitat, and have not been validated in the field or systematically evaluated by regional advisors. As a result, detailed mapping of current salt flat distribution, vetted through local knowledge and field validation, remains a regional need (see Goal 4).



Figure 3. Images of contemporary natural salt flats in San Elijo Lagoon (top) and Tijuana estuary (bottom).

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Bermzerk!



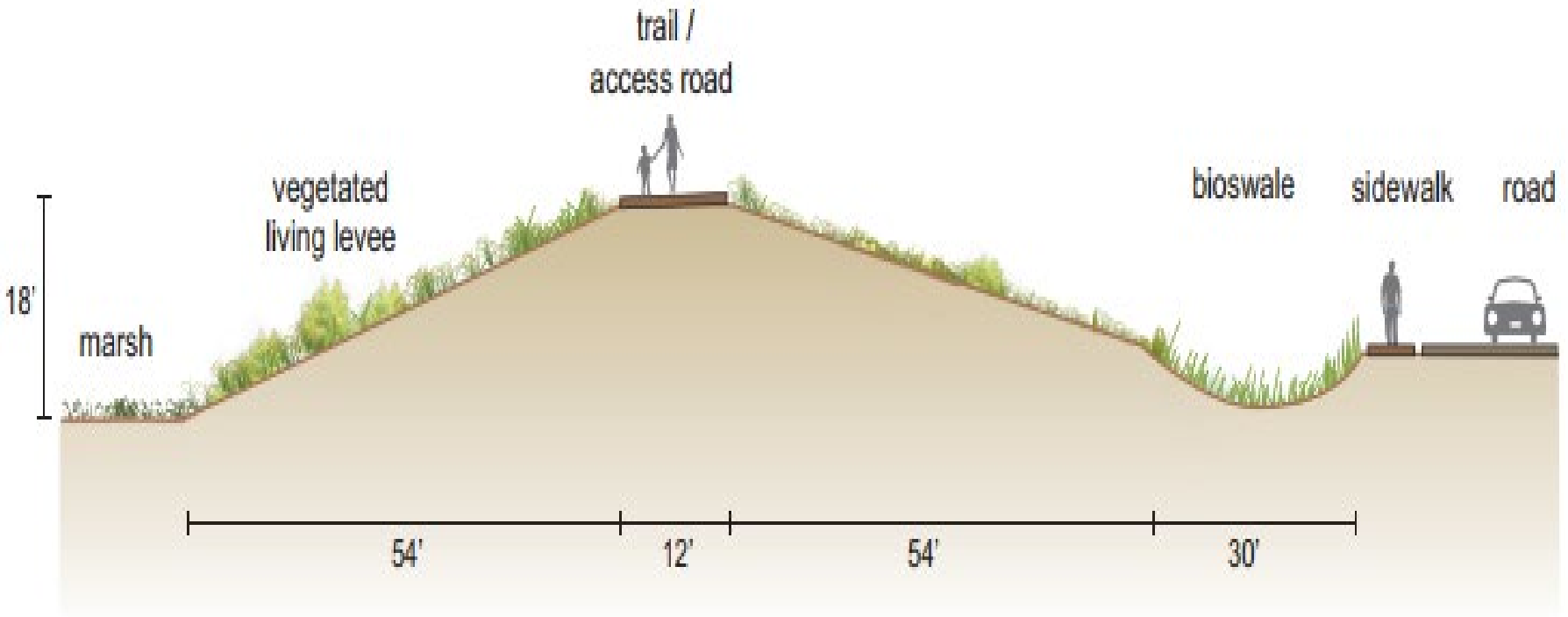
The Lost Cerritos Wetlands

Comment Letter SCWTF



The Los Cerritos Wetlands Restoration Plan PEIR includes huge earthen berms across and around the wetlands to protect oil operations and industrial and commercial properties from flooding and eventual sea level rise. Existing wetlands and wildlife habitat will be bulldozed and buried as flood control infrastructure and the creation of salt marshes are prioritized over the preservation of this fragile and complex ecosystem.

Comment Letter SCWTF



Some berms will be 18 feet tall.

Some will be 120 feet wide.

Some will be paved for vehicles servicing oil and gas operations.

Some will have pump jacks sitting on top of them.

Some will be set back to allow room for oil pipelines and runoff from streets.

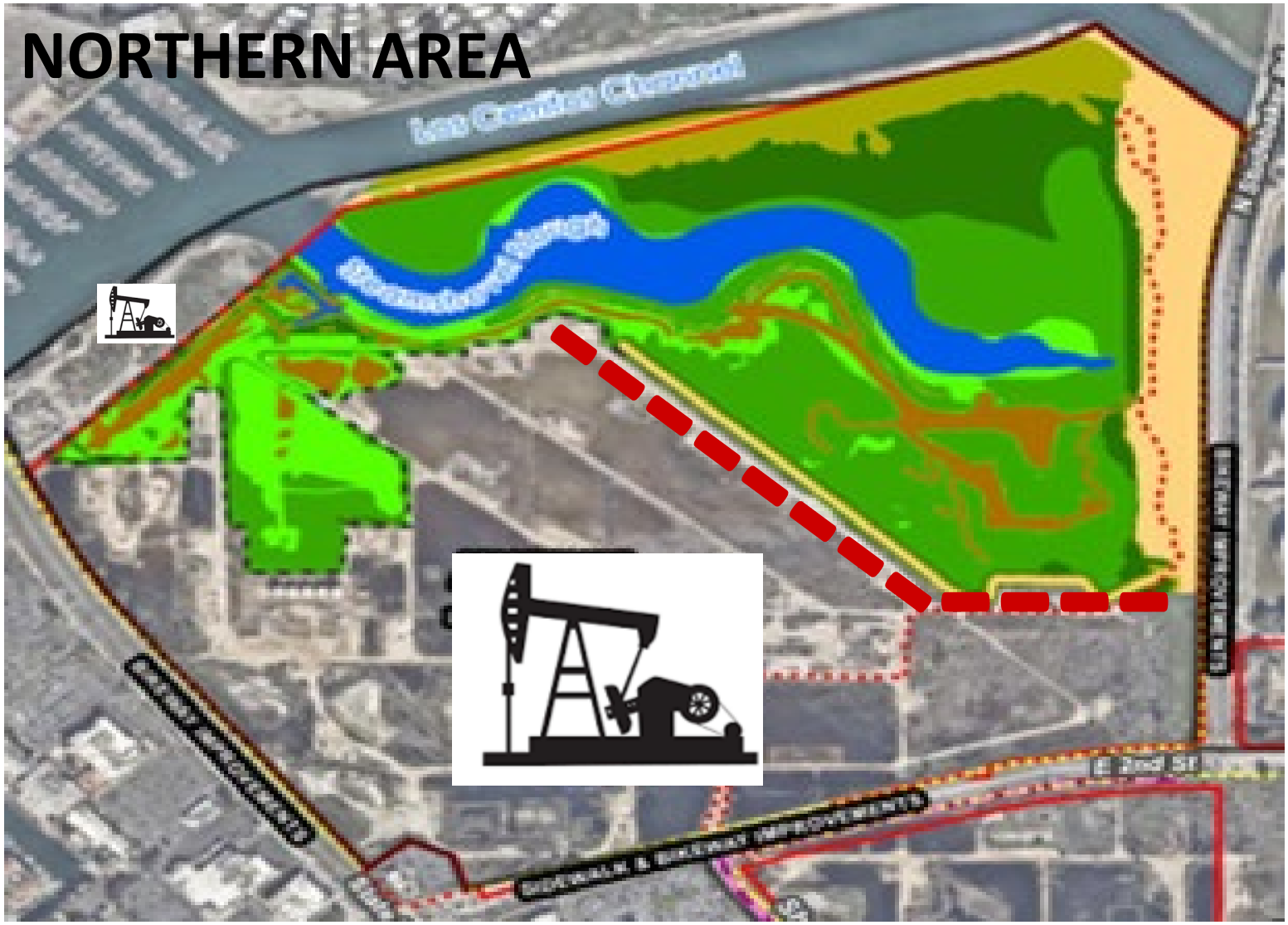
ALL WILL BE BUILT ON, AND ELIMINATE, EXISTING WETLANDS!!!

Berms will be constructed on the Northern, Central, and Southern Areas of the Los Cerritos Wetland Complex, all of which will eventually become salt marshes.

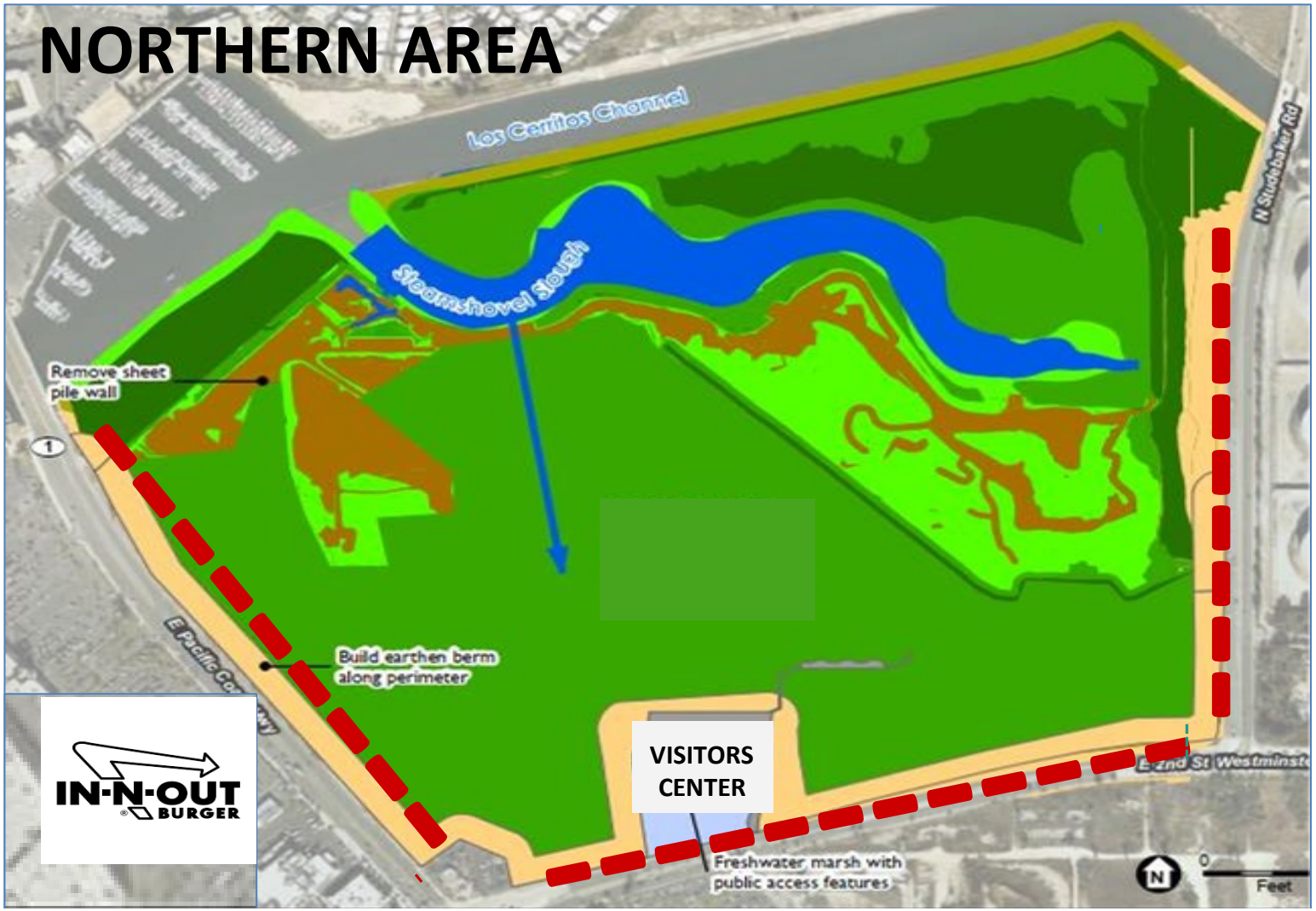


Comment Letter SCWTF

In the Northern Area, Beach OIl Minerals oil field will be protected by a new berm when Steamshovel Slough is extended over seasonal wetlands habitat, including rare salt flats. These wells will continue in operation for twenty years after BOM expands onto new sites.

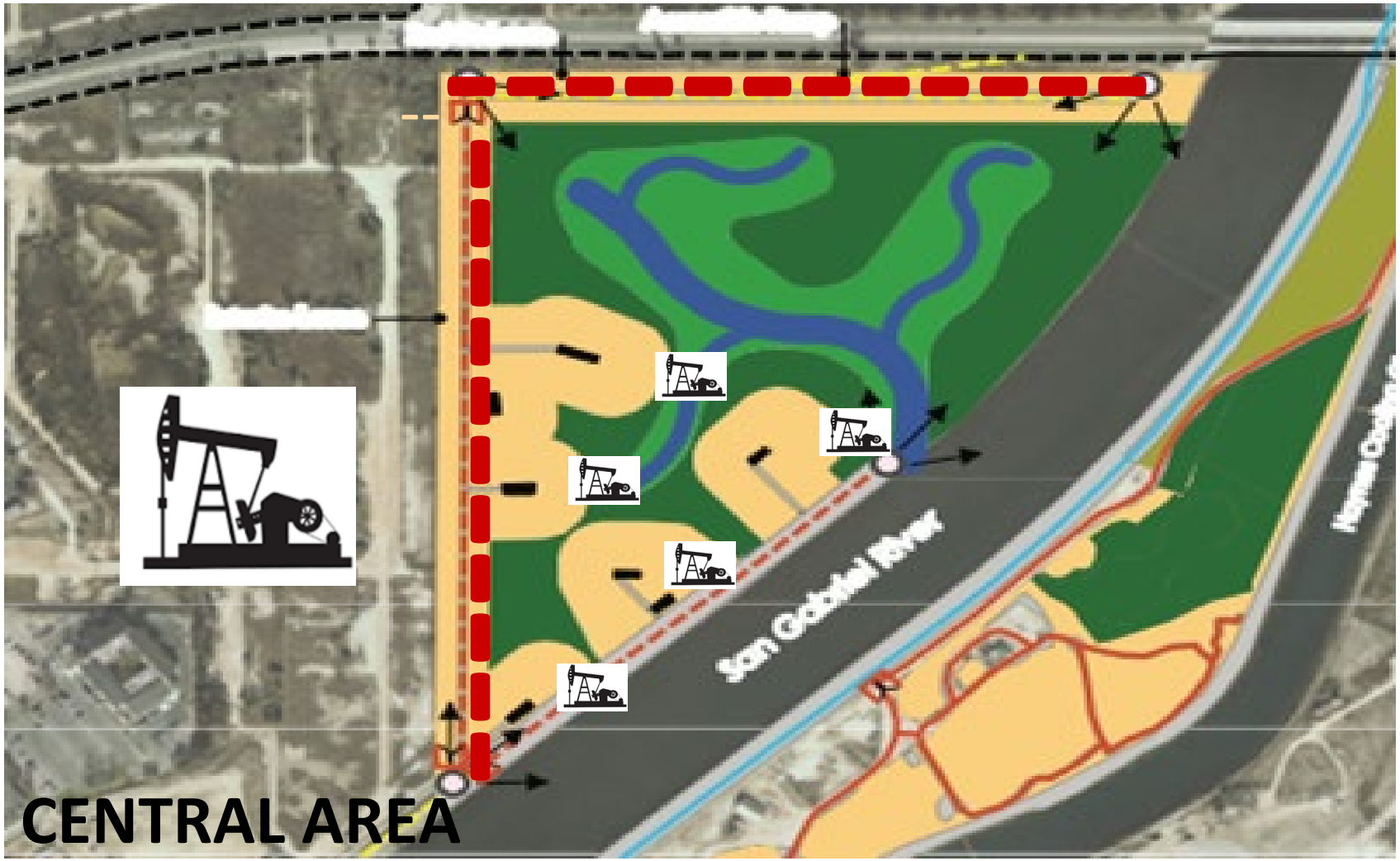


When oil operations cease and the salt marsh is further expanded, high berms will be built along PCH, 2nd St, and Studebaker Rd. to protect the In and Out Burger, malls, the proposed Vistors Center, and multiple new 5 and 7 story buildings.

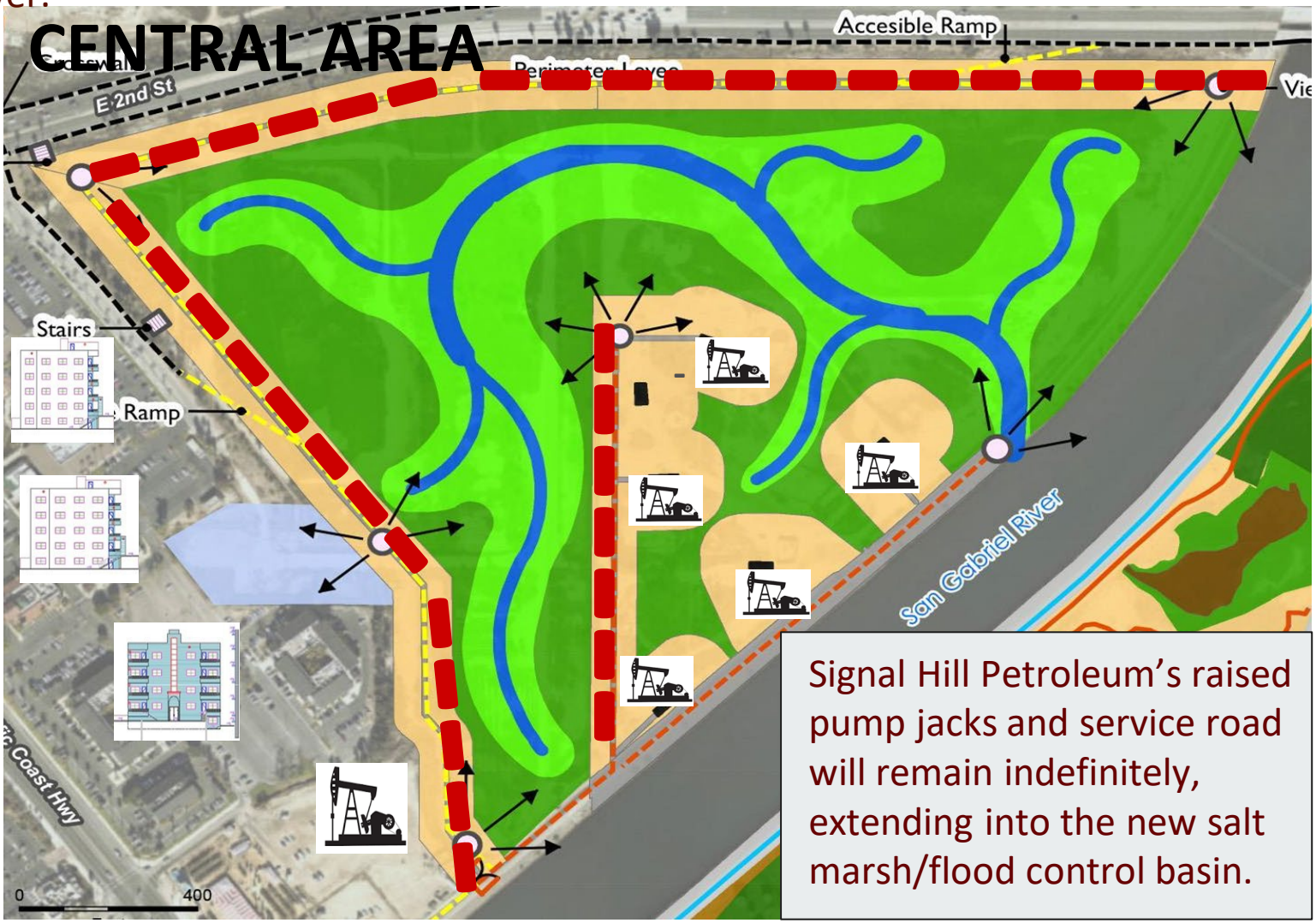


Comment Letter SCWTF

In the Central Area, when the San Gabriel River Channel wall is removed to create a new salt marsh and flood control basin, a berm across the wetlands will protect BOM's wells on the City of Long Beach property and also serve as a road for service vehicles maintaining Signal Hill Petroleum's pump jacks which will be lifted onto raised pads. A berm along 2nd St will protect BOM's new oil operations and the industrial zone.



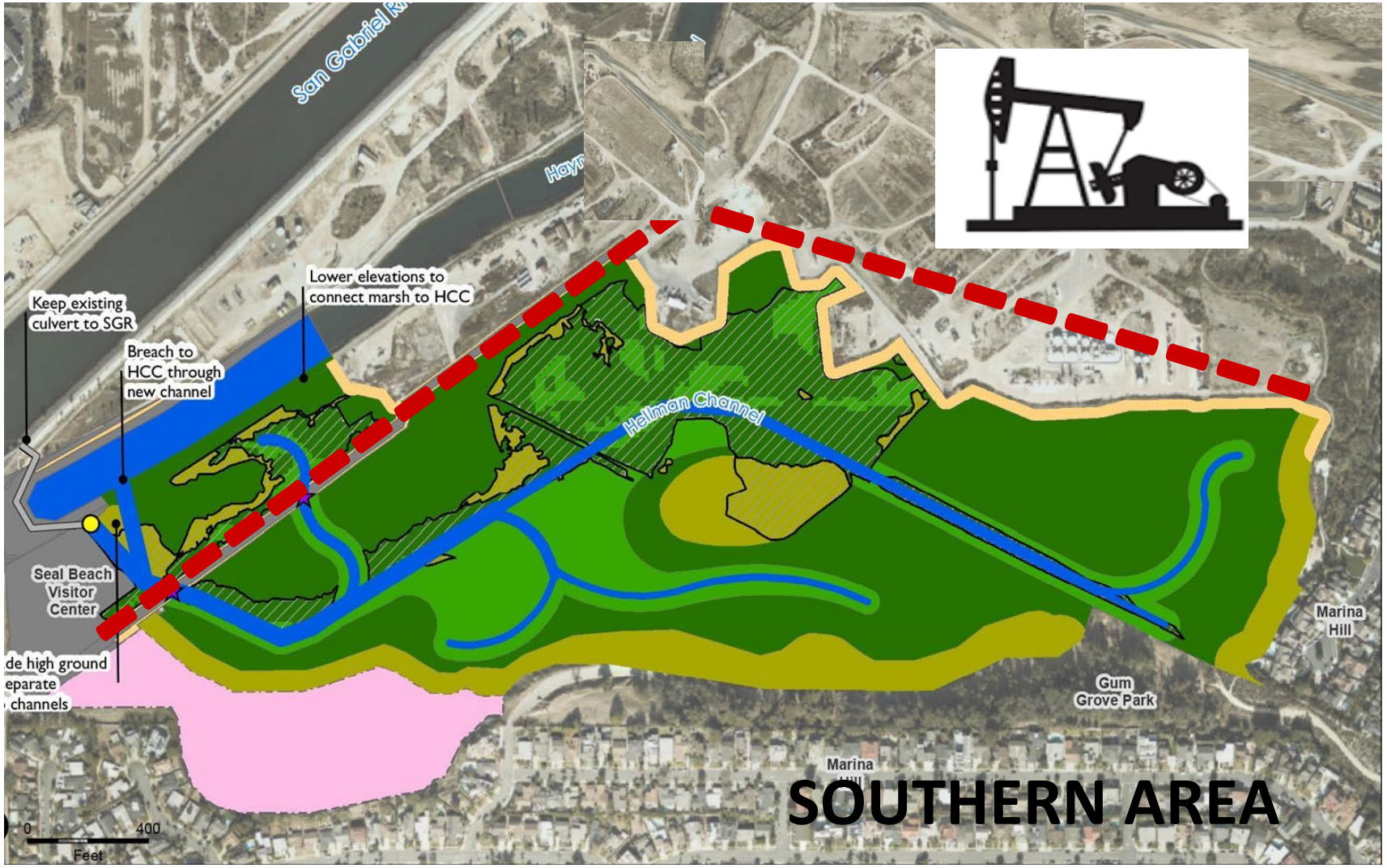
When BOM's wells on the Long Beach Property are shut down, it will also be flooded. To protect malls, Bom's new oil operations, and proposed mixed-use development, 18' high berms will extend along 2nd St. to PCH and along PCH to the San Gabriel River.



Signal Hill Petroleum's raised pump jacks and service road will remain indefinitely, extending into the new salt marsh/flood control basin.

Comment Letter SCWTF

In the Southern Area, the wetlands will be divided and destroyed when the service road to Hellman's oil and gas operation is elevated and a berm is built to protect well sites from flooding as existing habitat is transformed into a new salt marsh.



As new berms come and go the wetlands will also become storage sites for excavated and dredged soils until these are either used in flood control or hauled away. Existing wildlife areas will become construction zones for the next half century or even longer.



Comment Letter SCWTF

The LCWA must **X** out these Giant Berms! Adapting to sea level rise must not come at the expense of our remaining wetlands and wildlife areas. Nor should flood control measures designed to protect oil drilling operations and commercial properties be disguised as restoration projects. Wetlands, not Walls!





Figure 1-3. Map of Entire LCW Complex

Comment Letter SCWTF



SOURCE: Mapbox, LCWA

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 2-2

Project Site and Local Vicinity

ESA

Comment Letter SCWTF

4/18 2020

To: Kate Hucklebridge, California Coastal Commission

From: The Los Cerritos Wetlands Task Force, Sierra Club

Concerns regarding the proposed Upper Los Cerritos Wetlands Mitigation Bank

Note: We address our concerns regarding the Upper Los Cerritos Mitigation Bank as described in the following: Army Corps File No.: SPL-2016-007562016 Mitigation Bank Prospectus, Los Cerritos Wetlands Restoration and Oil Consolidation Project EIR (Upper Los Cerritos Wetlands Mitigation Bank/Restoration Plan), Coastal Development Permit 9-18-0395, Coastal Commission Staff Report Th14a, and the 8/22/2019 Memorandum from Sam Schuchat to the State Coastal Conservancy



Synergy site, showing boundary of Upper Los Cerritos Wetlands Mitigation Bank

I. Concerns regarding the benefit of a Mitigation Bank to Los Cerritos Wetlands and to the preservation/restoration of wetlands overall.

1. Research into mitigation banking reveals this mechanism to be problematic. Rather than reducing the destruction of existing wetlands, Mitigation Banks may actually be increasing it. It has become highly profitable to purchase credits in exchange for the right to build on existing wetlands. Selling these credits further profits Mitigation Bankers. Finally, those engaged in designing, promoting, and conducting invasive and expensive restoration projects for Mitigation Banks profit from damaging and destroying existing wetlands ecosystems. Additionally there has been a failure to implement and monitor Wetlands Mitigation Banks that actually restore and/or create sustainable wetlands ecosystems,*"Current restoration practice and wetlands mitigation policies will maintain and likely accelerate the global loss of wetlands ecosystem functions…If restoration as currently practiced is used to justify further degradation, global loss of wetland ecosystem function and*

structure will spread…In addition, developers often promise to create or restore wetlands in one location in exchange for getting permission to bulldoze wetlands in another location… The research is saying these new sites just don't do as well" (*Structural and Functional Loss in Restored Wetland Ecosystems*, *David Moreno-Mateos)*

2. The Upper Los Cerritos Wetlands Mitigation Bank is presumptive and premature. In order to establish the bank, Beach Oil Minerals proposes a major reconfiguration of the Los Cerritos Wetlands ecosystem. To ensure the survival of the Los Cerritos Wetlands, input from diverse entities with a commitment to the preservation and restoration of coastal wetlands is essential. Failure to take into consideration multiple options, discounts the expertise required and available to make the best possible decision for the wetlands, waters, and the community. A measured approach, which includes and verifies the results of alternative scenarios, holds more promise and far less risk than BOM's plan. For public agencies to limit consideration and analysis to a single proposal by a private party who happens to own acreage and mineral rights in the Los Cerritos Wetlands complex shows a lack of judgment.

II. Concerns regarding the Upper Los Cerritos Wetlands Mitigation Bank and the Los Cerritos Wetlands Restoration and Oil Consolidation Project

1. The 2016 Prospectus for the Upper Los Cerritos Wetlands Mitigation Bank states that*, "the design, goals, and objectives described herein are in alignment with goals and objectives previously outlined and approved in LCWFCRP." (2015 Los Cerritos Wetlands Final Conceptual Restoration Plan).* We disagree. The LCWFCRP has been significantly altered to accommodate the Los Cerritos Wetlands Restoration and Oil Consolidation Project. The Prospectus does not mention or consider the risks to the wetlands, waters, and community posed by these changes. Allowing oil infrastructure and other construction on ESHA and other wetlands habitat areas, expanding oil operations onto wetlands adjacent property (including that designated for a Visitors Center in the 2015 plan), and expanding drilling operations beneath the Mitigation Bank property (involving the injection of chemicals and large amounts of produced water), must be included in the Prospectus and evaluated by the IRT. The proponent has not met the following requirement to "*discuss potential conflicts and compatibility with any conservation plans, CDFG conceptual area plans, or other land use plans, policies, or regulations.*" (*Prospectus 2016*)
2. To imply that the Mitigation Bank can be reviewed without considering its connection to the Los Cerritos Wetlands Restoration and Oil Consolidation Project is misleading, "*The establishment of the Mitigation Bank is not dependent on the Project nor is it compensatory mitigation for the*

Project." (*Prospectus 2016*). While the Upper Los Cerritos Wetlands Mitigation Bank may contribute to the restoration of the Los Cerritos Wetlands, it also enables Beach Oil Minerals new oil operations to pollute and put at risk the entire wetlands ecosystem and the public's health and safety, while also contributing to sea rise and climate change-"*Establishment of the proposed Mitigation Bank discussed herein is associated with the larger Los Cerritos Wetlands Restoration and Oil Consolidation Project (Project) that will occur on four properties including the Synergy Oil Field, Pumpkin Patch site, Los Cerritos Wetlands Authority (LCWA) site, and a City-owned Property. " (Prospectus 2016)*

3. The environmental and financial risks to the proposed Mitigation Bank property posed by the Los Cerritos Wetlands Restoration and Oil Consolidation Project must be factored in as regards the feasibility of the Mitigation Bank. This should include the footprint of the expanded oil operations under and around the Los Cerritos Wetlands, which will increase oil extraction from 300 to 24,000 barrels of oil daily and add 70,000 tons of GHG emissions annually, requiring BOM to purchase Cap and Trade credits. The oil operations, including a pipeline over the Newport-Inglewood Fault, and "enhanced" injection drilling beneath the Mitigation Bank area, pose threats that cannot not be mitigated, *"BOMP will benefit from the ability to drill new oil wells and construct associated infrastructure, including storage tanks, pipelines, and an office building, increasing oil production to approximately 80 times current levels, from about 300 barrels per day (bpd) to up to 24,000 bpd. 70 new wells and four storage tanks would be constructed on the OTD parcel, and 50 new wells, an office building, and a warehouse would be constructed on the Pumpkin Patch. A 2,200 ft. pipeline would be constructed to connect the Pumpkin Patch and the OTD parcel. As a result of the project, oil production will increase significantly, as noted above." (California Coastal Conservancy memo, 8/22/2019)*
4. The Upper Los Cerritos Wetlands Mitigation Bank is inappropriate for a Traditional Tribal Landscape, *"Special Conditions do not adequately mitigate the potential damage to archeological resources or tribal cultural resources and the introduction of new development remains inconsistent with the tribal cultural landscape as described by tribal members with a cultural connection to the Los Cerritos Wetlands." (CCC Staff Report)*

III. Concerns regarding the Upper Los Cerritos Wetlands Mitigation Bank Restoration Plan

1. The current plan for breaching the existing berm separating Steamshovel Slough from Synergy's oil fields will compromise one of the few remaining salt marshes in Southern California, and the only remaining ancient one. The impact of a single extreme alteration on the existing waters and area of the slough (enlarging it by 1/3), could destroy this fragile and rare ecosystem. *"Steamshovel*

Slough is approximately 1,950 feet long and is considered a historic or "ancient" marsh in that it has not been modified through dredging or filling." (BOM EIR). "Reestablish 22.38 acres of tidal salt marsh habitats through strategic grading and removal of segments of a constructed berm that restricts historic tidal connections between the Steamshovel Slough and the oil field (south of bank area)." (Prospectus, 2016)

2. Residues from oil drilling operations and soils from proposed dredging and grading will negatively impact the marsh ecosystem. A healthy salt marsh (that doesn't currently qualify for Mitigation Bank credits) will be degraded in order to include it in the Upper Los Cerritos Mitigation Bank, *"This full tidal salt marsh appears to have changed little over the decades and is a model climax coastal salt marsh plant community. It is likely that this stability is due to its full tidal conditions and lack of major landform alteration." (Los Cerritos Wetlands Habitat Assessment Report).*
3. Increasing tidal influence and expanding tidal connections will destroy rare, historic coastal salt flats/salt pans serving as seasonal wetlands. *"Descriptions of alkali meadows in this area are found in both the narrative accounts and in the locality information from herbarium records: 'In the earlier years, part of the land lying east of Los Alamitos ranch was white in spots, when the alkali lay in cakes on the ground. After the flood these places were covered from a few inches to four feet deep with silt. The land would then grow anything.' (Thornburg: Reagan 1915)." Historic Ecology and Landscape Change, San Gabriel River Floodplain. "Salt flats are a type of seasonal wetland that is characteristic of arid, semi-arid, and Mediterranean climate coastal environments such as Southern California….They were widespread historically and are present in many Southern California estuaries today, providing an array of ecosystem functions for resident and migratory wildlife ….When flooded, for example, salt flats can support foraging for resident and migratory birds: dabbling ducks and shorebirds can feed on invertebrates, invertebrate larvae, and the occasional small fish, while diving birds such as grebes, cormorants, and ruddy ducks can feed in deeper water. Drying salt flats can provide breeding habitat for the state and federally endangered California least tern and federally threatened western snowy plover, in addition to resident birds such as black-necked stilts and American avocets. When dry, salt flats can support roosting and refuge for birds able to congregate safely in the large open space, as well as corridors for traveling mammals and habitat for invertebrates such as tiger and rove beetles and micro-crustacean and aquatic insects such as water boatman and brine flies. …Ecosystem services have not been robustly documented for salt flats in the contemporary landscape, but historically included salt production by indigenous and Euro-American residents…. Salt flats were historically present in approximately one-quarter of Southern California 104 estuarine systems…. (Appendix 7: Salt Flats in Southern California Coastal Wetlands, Wetlands on the Edge: The Future of Southern California's Wetlands, Regional Strategy 2018)*

4. Expanding a saltwater marsh at the expense of seasonal wetlands by breaching the berm to allow full tidal influence will result in a loss of wetlands ESHA and other wildlife habitat. The existing salt flat ecosystem on the Synergy site is historic, relatively healthy, and capable of thriving. *"Most wetlands on the California Coast, with the exception of San Francisco and San Diego, were not open to the sea. They did not have full tidal influence…. The fact that there is full tidal influence in Steamshovel Slough is because of man-made changes with a Marina that's dredged constantly. To do more of that (expand full tidal influence) is wrong. It is not what the habitat is supposed to be, it's not what the flora and the fauna need. (Marcia Hanscom, Protect Ballona Wetlands and Wildlife. re BOM EIR/CDP 9-18-0395). "We are now at a 99% loss of salt flat/salt pan habitat. Pickleweed/Parish's Glasswort (Arthrocnemum subterminale) is a native plant that is abundant on BOM's property. It is a powerful wetland indicator. Being covered by saltwater, even one or two times, will kill the plant. The dominance of that plant tells us that this area has not been tidal for a long time because the plant grows as a clone and can live for centuries growing outward. Then it looks like a donut with the inside bare and growth at the outside. This is how long this plant has been on this property. The property is very valuable in serving as wetlands AS IS and doesn't need any restoration." (Roy Van de Hoek, Ballona Institiute, wetlands scientist, re BOM EIR/CDP 9-18-0395).* Pickleweed is critical to the endangered Belding's Savannah Sparrow as a foraging and nesting site, and as a food source. Converting salt flats or and other areas to salt marsh may also reduce the amount of habitat available to least terns, snowy plovers, other shorebirds. *"Pickleweed habitats have been degraded by changes in tidal flow and freshwater inputs, invasion of nonindigenous plants, and fragmentation by trails and roads. Restoration of this habitat type is difficult and may not result in suitable nesting habitat for sparrows." (Keer and Zedler 2002)*



seasonal wetlands on Synergy property

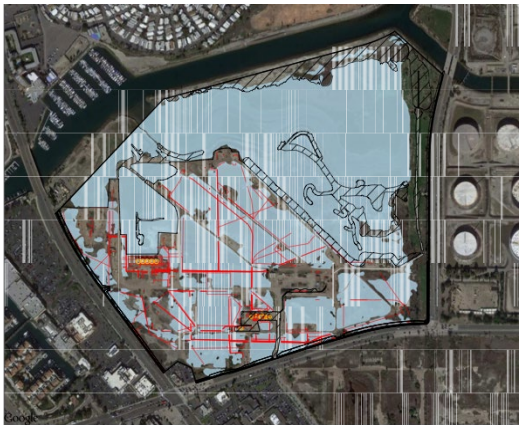


salt flat ecosystem on Synergy property

5. Earthmoving, grading, trenching, and construction activities will permanently impact existing habitat/displace wildlife/destroy tribal cultural areas: *"Grading would occur in the northern portion of the Synergy Oil Field site, in the transitional wetland areas, tidal channel, seawall berm*

area, on the southern portion of the site, around the perimeter of the Synergy Oil Field site and would last approximately 9 months. Earthwork would be accomplished through standard earthmoving equipment including excavators, bulldozers, front-end loaders and trucks for hauling material." (BOM EIR/CDP 9-18-0395)

6. 6. Although the use of Glyphosate has proven to be toxic to the environment and to human health, Mitigation Bank area "weed" management strategies include the use of herbicides: *"If grading precedes planting by more than a few months in these areas, it would be necessary to eradicate all undesirable exotic plants that have become established prior to planting and seeding of the mitigation site…. a "grow and kill" cycle would be established to eradicate these plants… the use of herbicides (the aquatic formulation of glyphosate would be used)." (BOM EIR/CDP 9-18-0395) "Glyphosate has direct eco-toxicological effects…and indirect effects. The latter result from the unprecedented elimination of flora termed weeds. Direct and indirect effects have cascading impacts on the food chain and on biodiversity." (Glyphosate Monograph, Pesticide Action Network)*
7. New trails, roads, parking lot, and visitors center will increase human footprint at the expense of wetlands ESHA, wildlife habitat, and Traditional Tribal Landscape.



CCC Wetlands on Synergy Site



proposed visitor center and parking lot

8. Sea rise will submerge salt marsh habitat, reducing foraging and breeding grounds for the Savannah Belding's Sparrow. As habitat shrinks due to increasing inundation, it may also decline in quality, which might lead to breeding failure before all habitats are lost. In the Mitigation Bank area, BOM's Updated Sea Level Rise Analysis (2017) stated that salt marsh habitat will decrease, *"due to much of the area becoming subtidal habitat with further SLR. …The vegetated marsh area would generally decrease as some marsh habitats would convert to mudflat or subtidal due to the increased inundation frequency. Overall, salt marsh will evolve from a diverse range of habitats to be more subtidal and mudflat after sea level rises."* Additionally, sea rise projections in the restoration

proposal did not address full impact at the time and current projections show that sea-rise will be more rapid, and storm surges more severe, than predicted in 2018.



2018 NOAA Sea Level Rise modeling APP shows Synergy Site inundated with 1 foot of sea rise



2019 CAAP Sea level rise projection shows Synergy Site inundated by King Tide

IV. Tribal Concerns

1. Flooding, earthmoving, and construction will permanently alter and damage this Traditional Tribal Landscape. It will destroy evidence of tribal occupation, including salt flats used for salt production by indigenous peoples. This will negatively impact tribal spiritual and cultural practices necessary to the wellbeing and survival of tribal groups with a connection to Puvungna and the Los Cerritos Wetlands, *"We use sacred sites to have a connection to the ancestors. Now we've been squeezed by buildings, and roads, and oil, stripped of these places we depend on." (Gloria Arellanes re CDP 9-18-0395)*
2. The IRT must include the California Native American Heritage Commission. The Los Cerritos Wetlands are of great historic and contemporary value to California Native American tribal peoples who have the right to be represented by the CNAHC, the state agency most able to voice their concerns as regards the planning, authorization, and implementation of the Upper Los Cerritos Wetlands Mitigation Bank, *"The California Native American Heritage Commission (NAHC or Commission), created in statute in 1976 (Chapter 1332, Statutes of 1976), is a nine-member body whose members are appointed by the Governor. The NAHC identifies, catalogs, and protects Native American cultural resources -- ancient places of special religious or social significance to Native Americans and known ancient graves and cemeteries of Native Americans on private and public lands in California. The NAHC is also charged with ensuring California Native American tribes' accessibility to ancient Native American cultural resources on public lands, overseeing the treatment and disposition of inadvertently discovered Native American human remains and burial items, and administering the California Native American Graves Protection and Repatriation Act (CalNAGPRA),*

among many other powers and duties."

3. The right of tribal peoples to protect and access the Los Cerritos Wetlands/Puvungna have been violated by project proponents, including city and state agencies, *"We had no opportunity to have tribal consultation, per the new policy (Coastal Commission Tribal Consultation Policy), before the Amendment (to LCP allowing new drilling sites) was passed over the objections of myself and other tribal leaders and members. The Coastal Commission's vote was out of compliance with the Tribal Consultation Policy." (Chief Anthony Morales, Gabrieleno/Tongva re CDP 9-18-0395)*
4. The project area lies within the Sacred Site of Puvungna, recorded by the California Native American Heritage Commission, *"We're saying that the Los Cerritos Wetlands constitutes a Tribal Cultural Property. Puvungna was a community, a spiritual gathering place for many tribes, birthplace of Chingishnish, lawgiver and god." (Chief Anthony Morales, Gabrieleno/Tongva re CDP 9-18-0395). "The site is in the last natural area, the last intact wetlands that links Puvungna and Motuucheynga. This is the area we traveled through to reach Bolsa Chica. It is where we fished, gathered tule, and had our salt pans. This is the last remaining ceremonial space. Leave it natural. Avoid it all together." (Rebecca Robles, Acjachemen re CDP 9-18-0395)*
5. References to the tribal history of the area and contemporary tribal peoples' relationship to the wetlands and surrounding area are inadequate. Essential information is lacking, erroneous, or written from a Eurocentric perspective in documents pertaining to the Mitigation Bank Restoration Plan. This includes the Los Cerritos Wetlands Restoration and Oil Consolidation Project EIR and other information and testimony presented to the California Coastal Commission. *"In response to the Modification required by the first LCP, the developer has submitted a Cultural and Archaeological Resources Report, just trying to comply and pacify. It is just a formula and does not even try to touch on the tribal cultural issues, including sacred sites. It is a farce of a report. It is inadequate." (Chief Anthony Morales, Gabrieleno/Tongva re BOM EIR/CDP 9-18-0395*)



Richard Bugbee, Luiseno, making tule boat



Michele Castillo, Acjachenmen, LC Wetlands

V. Financial and Legal Concerns

1. The Upper Los Cerritos Wetlands Mitigation Bank lacks proper oversight, *"The LCWA is not a signatory to the BEI. When LCWA becomes the owner of the Northern Synergy Oil Field, the BEI will already be final and will impose obligations on LCWA….(The) LCWA is not a party to the BEI and is not a member of the Interagency Review Team. If the BEI includes future landowner obligations that are unacceptable to LCWA, LCWA will have to either agree to comply with those obligations or refuse to take ownership of the Synergy Oil Field. LCWA has requested that it be made a party to the BEI so that LCWA's concerns regarding its property ownership of the bank can be adequately addressed." (CCC memo, 8/22/19)*
2. The Upper Los Cerritos Wetlands Mitigation Bank is not financially viable. The LCWA and the Coastal Conservancy have issues regarding the Upper Los Cerritos Mitigation Bank documents, *"**Adequacy of Endowment Fund:** It is critical that the endowment fund be adequate to provide for long-term management of the bank property. If adequate funding is not available, restored and enhanced habitats may become degraded, and LCWA may be unable to meet its obligations under the BEI… Conservancy and LCWA staff and contractors have reviewed the assumptions underlying the endowment fund calculations and found that long term management costs were not included or were underestimated, resulting in an endowment fund size that will likely prove inadequate." (CCC memo)*
3. The Upper Los Cerritos Wetlands Mitigation Bank exposes state agencies to unfunded liabilities, *"**LCWA's Liability:** While LCWA will take responsibility for the long-term management of the bank property upon acquiring the property, LCWA should not take on liability associated with establishing the mitigation bank and BOMP's operation of the mitigation bank, or with BOMP's on-going oil operations that are part of the Consolidation Project. LCWA seeks to be adequately protected, and to have adequate funding available and processes in place to insure against liabilities associated with the Synergy Oil Field property. As one potential measure, LCWA is requesting that adequate insurance coverage and indemnity be provided to cover such liability." (CCC memo)*
4. The Land Exchange Agreement should be finalized before the IRT approves the Upper Los Cerritos Wetlands Mitigation Bank and before the Mitigation Bank comes before the Coastal Commission for approval, *"Upper Los Cerritos Wetlands Mitigation Bank is anticipated to be finalized Fall of 2019. The Land Exchange Agreement is anticipated to be finalized Fall of 2019 or Spring of 2020. Prior to LCWA entering into the Land Exchange Agreement with BOMP, at one of its upcoming public meetings, the Conservancy will consider whether to approve the transfer of the OTD Parcel for purposes of the Consolidation Project." (CCC memo)*

5. Tidelands, including Steamshovel Slough, should be preserved in their natural state, *"There is a growing public recognition that one of the most important public uses of the tidelands - a use encompassed within the tidelands trust - is the preservation of those lands in their natural state, so that they may serve as ecological units for scientific study, as open space, and environments which provide food and habitat for birds and marine life, and which favorably affect the scenery and climate of the area." Marks v. Whitney, California Supreme Court*
6. Steamshovel Slough is Land in the Public Trust. It has historically been, and is today, a public waterway that lies below the high tide marker. In 1924 the public tidelands in the area were conveyed to the city as a part of the state tidelands trust grant. Steamshovel Channel was included in that grant. In 1965 the California State Legislature enacted chapter 1688. Section 5 provided that any tidelands conveyed under the terms of the act should pass free of the tidelands trust; **that no lands below the mean high tide line should be conveyed.** Additionally, *"the public trust might be invoked to protect the water resources upon which the wetlands are dependent, to protect the wildlife which are dependent on the wetlands for their continued vitality, or in some circumstances, to protect the wetlands for their own sake." Applications of the Public Trust Doctrine to the Protection and Preservation of Wetlands: Can It Fill the Statutory Gaps*
7. The Los Cerritos Wetlands Oil Consolidation and Restoration Project Final EIR states that Public Trust status as regards Steamshovel Slough is not settled law. ESA / 150712.01 CHAPTER 9, Responses to Comments SECTION 9.2 Comments and Responses 9-314, *"The comment states that using the Steamshovel Slough as the basis for a mitigation land bank violates the public trust doctrine and that as such title to Steamshovel Slough is not settled and therefore should not be described as the property of Synergy LLC in Mitigation Bank documents nor should Synergy LLC control any Mitigation Bank operations. Response to comment****: It is not settled that the public trust doctrine applies to the Steamshovel Slough, nor is this response intended to serve as the legal opinion of the City of Long Beach regarding the application of the public trust doctrine to the Steamshovel Slough."***
8. Lack of clear title to Steamshovel Slough violates CA FISH AND GAME CODE, CHAPTER 7.9. Conservation Bank and Mitigation Bank Applications and Fees 1798 (L) which requires a current preliminary report covering the site of the proposed bank that identifies the owner of the fee simple title and shows all liens, easements, and other encumbrances and depicts all relevant property lines, easements, dedications, and other features.
9. According to the City of Long Beach's Local Coastal Plan, *"The official maps (engineering, zoning, land use, plot, parcel, legal boundaries) of Alamitos Bay and its immediate periphery will be*

brought up to date so as to indicate proper current boundaries of public property, to erase antiquated but abandoned rights, to show public access easements and rights of passage, to show tideland rights and responsibilities according to the Constitution, to designate proper zoning categories consistent with the new Land Use Element and any revisions thereof resulting from adoption of the LCP so that designations of public and private interests and rights are correct, unambiguous and so that this information is available as public knowledge." This does not appear to have been done.

10. The City of Long Beach Local Coastal Plan calls into question the legality of the proposed Mitigation Bank: *"The Los Cerritos Wetlands is a tidelands mudflat and marsh lying in a Los Angeles County "island" which is enclosed within the Long Beach City boundaries, and is included in the SEADIP Specific Plan of Long Beach. This Wetlands is an environmentally sensitive area by this RMP; a significant ecological area in the Los Angeles County General Plan; a lagoon to be protected in the Coastal Plan of 1975; a viable wetland according to the Department of Fish and Game; an essential bird feeding area as designated by the National Wildlife Service; the habitat of species listed in the Endangered Species Act; and an environment subject to the Basic Wetland Protection Policy of the State Resources Agency. In view of the delicate ecological sensitivity of Los Cerritos Wetlands to any human disturbance, this RMP calls for a strong set of implementing actions which protect and preserve this area as it is, postponing any enlargements and restorations (such as are permitted in the SEADIP plan) until certain scientific, economic and other studies have been completed. These studies are aimed to answer critical questions concerning the irreversibility of the ecosystem to earth cutting and filling; concerning the ecological feasibility of reconfiguration and restoration projects; and concerning the boundaries of the ecologically sensitive area with attendant rights and responsibilities of private, public and governmental parties."* To the best of our knowledge the required studies have not yet been done.

11. Subjecting waterways, surface and groundwater to interference is prohibited by the Local Coastal Plan, *"30231. Biological productivity; waste water: The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and likes appropriate to maintain optimum population of marine organisms and for protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entertainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas…"*

VI Additional Legal Questions regarding the Mitigation Bank

(Bold type: government policies, Regular type: Upper Los Cerritos Wetlands Mitigation Bank Restoration Plan, Red ink: Questions)

1. **"A mitigation bank is a site developed for such a purpose, whereas the person or entity undertaking such restoration work is referred to as a mitigation banker. Just as a commercial bank has cash as an asset that it can loan to customers, a mitigation bank has mitigation credits that it can eventually sell to those who are trying to offset debts. The bank site is the physical acreage that is restored, established, enhanced, or preserved."**

   Q - It appears that BOM can sell mitigation credits as soon as the IRT approves the BET. Will credits be for sale prior to Coastal Commission review of the Bank? How does this not violate the requirement that mitigation credits are sold for sites "developed (past tense) for such a purpose"?

   "The mitigation bank establishment process includes approval of a prospectus by the IRT, followed by the review and approval of a bank-enabling instrument by the IRT, the final approval of which allows the bank developer to initiate a phased release of mitigation credits from the bank."

2. **"The mitigation banker is responsible for not just the development, but also the future upkeep and maintenance of the mitigation bank. Provision should be made for ensuring implementation of the resource management plan in the event of non-performance by the bank owner and/or operator."**

   Q – What are BOM's obligations as the mitigation banker? It appears that both land ownership and mitigation banking responsibilities are in flux?

   "Los Cerritos Wetlands Restoration and Oil Consolidation Project EIR:
   Name: The Upper Los Cerritos Wetlands Mitigation Bank
   Owner: Beach Oil Minerals Partners, Operator: Synergy Oil & Gas, LLC
   Conservation Area Manager: (Proposed): LCWA
   Responsible Party for Long-Term Management of the Mitigation Bank: The long-term management of the Conservation Area is expected to be performed by the LCWA as the Conservation Area Manager. If it becomes necessary to identify an alternate Conservation Area Manager, one will be proposed to the IRT members for approval.
   According to the LCWA: BOMP will retain the option to establish a mitigation bank on the Southern Synergy Oil Field after the property is transferred to LCWA…..BOMP will establish and operate a mitigation bank, the Upper Los Cerritos Wetlands Mitigation Bank, on the Northern

Synergy Oil Field, which includes Steamshovel Slough. Operating the mitigation bank will involve restoring tidal wetlands and native uplands on the property, and BOMP will receive the right to sell mitigation credits. LCWA, as the new property owner of the mitigation bank property, will be obligated to maintain the property for perpetuity….LCWA may accept the offer and acquire title to the Southern Synergy Oil Field. BOMP will retain the option to establish a mitigation bank on the Southern Synergy Oil Field after the property is transferred to LCWA."

3. **"Before the FWS can approve a conservation bank, landowners are required to provide funding for monitoring and long-term management of the conservation bank through establishment of a non-wasting endowment.**"

   Q - The land exchange between the LCWA and BOM has not been completed. Will BOM, the current owner of the proposed mitigation bank property, be responsible for providing funding in both the short and long term? When the LCWA takes ownership of the property, will it become liable for monitoring and management of the bank? What liability does the LCWA have if mitigation causes environmental damage and/or if funding is not available to maintain the mitigation bank?

   "LONG-TERM MANAGEMENT PLAN: BOMP will provide the necessary funding to an agency-approved long-term management entity, herein referenced as Conservation Area Manager. The Long-Term Financing Mechanism: Financing for the ongoing management activities within the Conservation Area will be provided through a non-wasting endowment generated by a Property Analysis Record (PAR) or a PAR-equivalent. Synergy proposes to have the LCWA hold the endowment."

4. **"Mitigation credits may be bought by anyone who plans to undertake commercial development on or near a wetland or stream that will in the process negatively impact the ecosystem of that region."**

   Q. - Who will determine the price of mitigation credits? Will the Mitigation Banker make a profit? Will mitigation credits be available to those developing properties next to or near the Los Cerritos Wetlands? Should the CCC approve SEASP, will credits be available to those constructing five and seven story buildings along PCH between Loynes Drive and the San Gabriel River?

5. **"Generally, lands previously designated for conservation purposes through another program are not eligible unless designation as a bank provides an additional conservation benefit to the species."**

   Q. The Los Cerritos Wetlands have been previously designated for conservation purposes. The

LCWA was specifically formed in order to conserve the Los Cerritos Wetlands and implements numerous conservation programs. In 2015, the LCWA approved a Final Los Cerritos Wetlands Restoration Plan and it is now preparing an EIR for the restoration of the entire Los Cerritos Wetlands. The proposed design of the Upper Los Cerritos Wetlands Mitigation Bank risks and reduces existing wetlands and wildlife habitat and cannot guarantee an overall additional conservation benefit. Steamshovel Slough is possibly Public Trust Land in no need of restoration and should not be included in the mitigation bank plan. Are the Los Cerritos Wetlands even eligible to be included in a Mitigation Bank?

VI. Conclusions

Presumed Benefits/Actual Risks

Presumed Benefits

1. Funds a plan to restore part of the Los Cerritos Wetlands.
2. Though the IRT, federal and state agencies participate in the design and approval of the Mitigation Bank and restoration plan, providing expertise and financial oversight.
3. The restoration and maintenance of the Mitigation Bank property will be fully financed and liability and risk will be assumed and fully funded by the Mitigation Bank/Banker.

Actual Risks

1. Will allow environmental destruction in exchange for the purchase of Mitigation Credits.
2. Will partially fund the Restoration Plan of the Los Cerritos Wetlands Restoration and Oil Consolidation Project, which expands oil drilling beneath and around the Los Cerritos Wetlands, contributes to air, ground and water pollution, and destroys existing ESHA in the Los Cerritos Wetlands.
3. Includes Steamshovel Slough in the Mitigation Bank as Synergy's (private) property, although 1) the slough qualifies as Public Trust Land, 2) the deed to the slough is not settled as required by law, and 3) the slough does not need restoration.
4. The restoration plan being considered by the IRT will destroy existing ESHA and wildlife habitat on the Synergy property, pollute Steamshovel Slough, and destroy tribal cultural materials and cultural practices.
5. Financial oversight/funding for restoration and/or assumption of risk for materials/situations that could prove hazardous in the future is not assured.

6. The IRT does not include the California Native American Heritage Commission, the State Agency representing California Native Americans with regard to Tribal Cultural sites, materials, and practices.

Assumptions/Counterarguments

Assumptions

1. The Upper Los Cerritos Wetlands Mitigation Bank Restoration Plan will restore historic salt marsh wetlands habitat, which will improve/benefit existing wetlands habitat/wildlife.
2. The restoration plan is based on solid scientific research and current evidence and is safe and sustainable both environmentally and financially.
3. The IRT does not require input from the CNAHC. The CNAHC lacks the authority/ability to serve on the IRT for the proposed mitigation bank in the Los Cerritos Wetlands.

Counterarguments

1. The Mitigation Bank Restoration plan includes reshaping existing landforms to expand the Steamshovel Slough salt marsh at the expense of salt flats and other wetlands habitat. The salt flats on the Synergy property are also historic habitat, and, being far more at risk than coastal salt marshes, are more deserving of protection and restoration. Expanding coastal salt marshes is not necessarily beneficial to coastal wetlands ecosystems nor is it a sustainable practice, especially in light of projected sea rise.
2. The Los Cerritos Wetlands were not a salt marsh. Although Steamshovel Slough is today a salt marsh, in both ancient and historic times, it was fed by fresh water as was the entire Los Cerritos Wetlands ecosystem until the San Gabriel River was channelized in the 1930s. Additionally tidal waters did not consistently enter the Los Cerritos Wetlands as the opening from Alamitos Bay to the ocean was not permanent before the river was channelized and the bay was dredged.
3. Research into the history, biology, and benefits of coastal salt flats is limited and ongoing and must be revisited by the IRT before concluding that the flats should be submerged in order to expand salt marsh habitat.
4. Sea rise projections (due to climate change) have increased dramatically since the LCWA's restoration plans for the Los Cerritos Wetlands were finalize in 2015, and even since the Los Cerritos Wetlands Restoration and Oil Consolidation Project was approved in 2018. Dredging and flooding existing wetlands habitat that will become sub-tidal within the life of the project destabilizes the ecosystem and makes no environmental or financial sense.

5. Evidence is mounting that "modern" methods of fossil fuel extraction, including fracking and steam and water injection drilling, harm the environment and human health. The Mitigation Bank furthers Beach Oil Minerals' plans to use water-injection drilling methods to expand oil operations, polluting the Los Cerritos Wetlands and surrounding areas and contributing to poor human health and climate change.
6. The Mitigation Bank Restoration Plan involves additional risks to the Los Cerritos Wetlands, to Tribal Peoples, and to the community and does not ensure that damage to any of the above will be compensated. Nor does the Bank acknowledge or attempt to mitigate the risks resulting from the Los Cerritos Wetlands Restoration and Oil Consolidation Project or from BOM's current and/or proposed oil extraction operations in the Los Cerritos Wetlands.
7. If BOM's operations are not profitable and/or result in significant environmental damage, it appears that the public will be liable.

Asks of IRT Team

1. Do not approve the Mitigation Bank or delay approval until certain Special Conditions of the Los Cerritos Wetlands Restoration and Oil Consolidation Project are met, including new biological and geological studies, sea rise projections, and Archeological/Tribal Cultural studies/recommendations and Tribal Consultations.
2. Research the history, value, and viability of salt flats/pans in the LC Wetlands, especially those on the Synergy property. What specific ecosystem are they integral to, what was/is their role in the Tribal Traditional Landscape?
3. Question whether the Los Cerritos Wetlands were historically a salt marsh and/or if salt marshes are more environmentally beneficial and should prevail at the expense of other wetlands habitats.
4. Consider alternative restoration plans for the Synergy property that do not involve breaching the berm, expanding Steamshovel Slough, or large-scale flooding of salt flats and other existing habitat.
5. Consider alternative restoration plans for the Synergy property that do allow trenching and scraping the existing landscape as this disturbs and destroys existing habitat and wildlife and possibly tribal cultural materials as well.
6. Rather than remove massive amounts of soil from the oil fields, explore the safer and less invasive alternative of allowing areas that support ESHA and other wildlife habitat to remain undisturbed.

7. Do not allow a Visitor Center and parking lot on the Synergy property, all of which is a wetlands and wildlife habitat area. Remove the Bixby Office building from the site and do not agree to use it as a Visitor Center as it is contaminated with asbestos and other toxins.
8. Do not allow herbicides to be used on the Synergy Property either for restoration or maintenance purposes.
9. Appoint a representative from the California Native American Heritage Commission to the IRT. As part of the Sacred Site of Puvungna, the Los Cerritos Wetlands are of great historic and contemporary value to California Native American tribal peoples who have an equal right to representation in the planning of the Upper Los Cerritos Wetlands Mitigation Bank.



Belding's Savannah Sparrow in Pickleweed



California Tree Frog on salt flat in LC Wetlands

Comment Letter SCWTF

From:	Anna Christensen
To:	Sally Gee
Subject:	Comments on LCWRP PEIR email 1
Date:	Monday, July 6, 2020 9:37:57 PM
Attachments:	LCWRP PEIR Consolidated Comments .pdf APPENDIX 7 Salt Flats v1.pdf tribal comment to LCWA NOP.doc Sierra Club LCWA Rest NOP comment .pdf Conceptial plan map LCW.pdf LC Wetlands Map 2020.mhtml

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Dear Sally, Thanks for being understanding. Due to file size we must send multiple emails.
The Comments are from the following organizations:
Los Cerritos Wetlands Task Force, Sierra Club
Long Beach Area Group, Sierra Club
Citizens About Responsible Planning
Protect the Long Beach/Los Cerritos Wetlands Coalition
Puvugna Wetlands Protectors

Email 1 includes the following attachments:
LCWRP PEIR, Consolidated Comments Appendix 7, Salt Flats
Tribal Comments to NOP/Initial StudyConceptual Plan Map
Sierra Club Comments to NOP/Initial SudyLC Wetlands Map 2020
Conceptual Plan map LCWA

LC Wetlands Map 2020Email 2 includes 1 Attachment
BERMZERK Powerpoint Presentation

Email 3 includes 1 Attachment:
Concerns regarding the Proposed Upper Los Cerritos Wetlands Mitigation Bank

Questions about this material can be sent to either Ann Cantrell (anngadfly@aol.com) or myself AnnaChristensen259@gmail.com

From: Anna Christensen (via Google Slides)
To: Sally Gee
Subject: Bermzerk! attachment to PEIR comments sent by Anna Christensen
Date: Thursday, July 9, 2020 12:58:32 PM
Attachments: Bermzerk! .pptx

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annachristensen259@gmail.com has attached the following presentation:

Bermzerk!

Dear Sally, I just realized that I sent you the wrong BERMZERK slideshow. Instead of sending you a draft of the slide show, I meant to send you the final version which I have attached here. I hope that it can replace the previous entry.

Google Slides: Create and edit presentations online.
Google LLC, 1600 Amphitheatre Parkway, Mountain View, CA 94043, USA
You have received this email because annachristensen259@gmail.com shared a presentation with you from Google Slides.

From: Anna Christensen
To: Sally Gee
Subject: Comments on LCWRP PEIR email 3
Date: Monday, July 6, 2020 9:51:46 PM
Attachments: Concerns regarding the proposed Upper Los Cerritos Wetlands Mitigation Bank.docx

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Dear Sally, Thanks for being understanding. Due to file size we must send multiple emails.
Email The Comments are from the following organizations:
Los Cerritos Wetlands Task Force, Sierra Club
Long Beach Area Group, Sierra Club
Citizens About Responsible Planning
Protect the Long Beach/Los Cerritos Wetlands Coalition
Puvugna Wetlands Protectors

Email 3 includes the following attachment:
Concerns regarding the Proposed Upper Los Cerritos Wetlands Mitigation Bank

This file is larger than 10MB, but I cannot edit it until tomorrow, will send shorter version then.
Questions about this material can be sent to either Ann Cantrell (anngadfly@aol.com) or myself AnnaChristensen259@gmail.com

Sierra Club Wetlands Task Force, July 6, 2020

Comment Letter SCWTF

Response SCWTF-1

The commenter expresses concern that the proposed program is large in scope, that environmental analysis of it is too high level and conceptual, and that each project in this program will need to be individually planned and approved. LCWA concurs that individual projects within the restoration program covered by the PEIR will require detailed project-level planning. As part of project-level planning, LCWA will conduct outreach to seek input from stakeholders and the general public. In addition, projects will need to obtain permits from federal, state and local regulatory agencies. Furthermore, project-specific planning will involve environmental analysis under CEQA to determine if additional significant environmental impacts not described in the PEIR have the potential to occur. Please see Response to Comment No. LCWLT-2; additional discussion has been added to Chapter 2 Project Description, Section 2.1.2 to more clearly describe the CEQA process for individual restoration projects.

The commenter also expresses concern that there has been insufficient public outreach associated with the PEIR. As noted above, LCWA does plan to conduct additional public outreach associated with project-specific planning. However, LCWA has held numerous public meetings and met with individual stakeholder groups and our Technical Advisory Committee to review the PEIR and solicit input. Specifically, LCWA held two in-person public workshops on the restoration design and two online workshops on the PEIR as well as an additional in-person public meeting associated with the PEIR Scoping Process. The LCWA has also provided updates on the project at all LCWA board meetings since the project inception in late 2017.

Response SCWTF-2

This comment expresses concerns regarding biological impacts from alteration of Steamshovel Slough and contamination of the South Synergy Oil Field site in the North Area. The North Area is currently privately owned. The environmental impacts associated with the project-level restoration plan for the near-term North Synergy Oil Field Site has already been evaluated as part of the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse No. 2016041083). This PEIR relies on the technical analysis, impact discussion, and mitigation measures documented in the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR. The South Synergy Oil Field Site is phased for long-term and will get restored only once the oil operations on that site have been consolidated and the soil is remediated, which will take at least 20 years.

Response SCWTF-3

This comment expresses concerns for impacts to salt flats in the North Area, but does not raise any specific issues regarding the content and adequacy of the Draft PEIR. Further response to salt flats is addressed in Responses to Comments Nos. SCWTF-8 and SCWTF-30.

Response SCWTF-4

The commenter raises several general questions about the construction of earthen levees and berms as part of the proposed program. All impacts of the proposed program are analyzed in this PEIR, including impacts from the construction of the earthen levees and berms. Construction costs and funds are to be determined and obtained during project-level designs.

Response SCWTF-5

The commenter provides a general statement about soil composition in the program area and that careful testing of soils, consideration, and care are needed to protect paleontological and cultural remains. The comment is noted, and no further response is warranted.

Response SCWTF-6

The commenter provides a statement about a pending lawsuit on the Coastal Development Permit associated with the Los Cerritos Wetlands Oil Consolidation and Restoration Project (SCH #2016041083). Since a decision on the lawsuit has not yet been reached, this PEIR relies on the technical analysis, impact discussion, and mitigation measures documented in the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse No. 2016041083) for portions of the program area. No new information of substantial importance or change in circumstance with the Los Cerritos Wetlands Oil Consolidation and Restoration Project requires re-evaluation of the analysis in that EIR. Appendix L of the Draft PEIR provides a summary of the environmental effects and mitigation measures for the Los Cerritos Wetlands Oil Consolidation and Restoration Project.

Response SCWTF-7

This comment states that the PEIR differs from the Conceptual Restoration Plan by not including restoration or public access components on three properties and asks for an explanation., (See attached maps). LCWA has removed these parcels from the PEIR for the following reasons:

1. LCWA's 5.1-acre parcel at the northeast corner of 2nd St and Studebaker Ave: A feasibility study was carried out to explore potential uses of this property. Restoration and a visitor center were both considered, as well as a staging area. LCWA determined that it would be preferable to site a visitor center adjacent to the wetlands rather than across a busy street, allowing visitors to directly access trails and viewing areas in the wetlands and adjacent uplands from the visitor center. LCWA is currently negotiating an agreement with Los Cerritos Wetlands LLC which would result in the exchange of the 5.1-acre parcel for the ~150-acre Synergy Oil Field, where a visitor center is proposed. The land exchange will allow for the restoration of wetlands and siting of a visitor center (in an already existing building) and trail on the 150-acre site, and the removal of oil infrastructure on that site. Oil infrastructure will be consolidated on the 5.1-acre parcel and on the Pumpkin Patch parcel nearby. LCWA has determined that this exchange is the use of the parcel which will do the most to further the goals of public access and wetlands restoration for the LCW.
2. Loynes Triangle south of Loynes Drive and north of the Los Cerritos Channel: The private landowner for this parcel has not expressed interest in selling when approached by LCWA, and is currently pursuing development of this parcel. While the LCWA would pursue protection and restoration of this property if the landowner were a willing partner, we do not

anticipate that occurring at present. Lastly, this property is subject to a restoration order conditioned by the California Coastal Commission.

3. Triangular parcel (~1.8 acres) on southeast corner of Loynes Drive and Studebaker adjacent to Steamshovel Slough: This site was removed from the PEIR because it is small and separated from the remaining wetlands by the Los Cerritos Channel. While it may be feasible to restore this site to wetlands, it would be challenging to do so because of the need to remove fill and drainage infrastructure, as well as protect Studebaker and Loynes from flooding and scour. LCWA will continue to pursue the protection and restoration of public access and natural resources on this site, but did not include it in the PEIR because it is peripheral to the overall program. Any restoration or public access development on this site will undergo planning that will include public outreach and opportunities for comment. At present, the parcel is proposed as mitigation for impacts of an industrial development on the adjacent parcel. The Initial Study-Mitigated Negative Declaration for this project is available on the City of Long Beach's website, here: www.longbeach.gov/lbds/planning/environmental/reports/

Response SCWTF-8

The commenter expresses concern for the restoration plan's proposed habitat distributions on the "Synergy Portion" (identified as the North Area in the PEIR) and provides insight into the importance of salt flats. The LCWA is a long-time contributing member of the Wetlands Recovery Project's wetlands managers group and is well aware of the importance of salt marsh sub-communities like salt flats and salt pannes. See Response to Comment No. SCWTF-2. The details of the habitat distributions in the South Synergy Oil Field site will be decided once a project for that location is identified and project-level environmental review is performed. The LCWA will be sure to represent all of the specialized habitats in future planning on this site.

Response SCWTF-9

The commenter expresses concern that salt flats and upland habitats are proposed to be eliminated by the PEIR. Goal #1 of the proposed program is to "restore tidal wetland processes and functions to the maximum extent possible." In order to achieve this goal, the program proposes converting non-tidal salt flats to tidal salt marsh. It is expected that these flats will not become fully vegetated and instead become thriving salt pannes that will attract the unique invertebrate and avian communities detailed in Response to Comment No. SCWTF-8. Currently these non-tidal salt flats do not possess these unique ecological communities. Furthermore, disturbed uplands are also proposed to be converted to tidal wetlands wherever possible, however, supratidal transition zones are proposed in order to provide high tide refugia and resilience to future sea level rise.

Response SCWTF-10

The commenter expresses concerns that existing amphibian populations are being overlooked by the proposed program. The language in Chapter 3, Section 3.3.2.5 of the PEIR has been amended so as to recognize the presence of amphibians within the program area. The phasing of this program is designed to allow for wildlife populations to be maintained while other areas are under restoration or recovering from restoration activities. As stated in Section 3.4.5 of the Draft PEIR, the MAMP described in Mitigation Measure BIO11 will "include provisions for conducting a pre-construction survey to collect baseline data for existing wetland function".

These wetlands functions include "biotic structure" which includes use of habitat areas by amphibians. Therefore, the presence of amphibians will be documented and provisions will be made to ensure that there is no net loss to this important aquatic resource function.

Response SCWTF-11

See Response to Comment No. CDFW-4.

Response SCWTF-12

The commenter expresses support for the proposed WEAP, but requests that a qualified biologist be present at all time to prevent inadvertent impacts during construction. Mitigation Measure BIO2 (see Section 3.4.5 of the Draft PEIR) has been modified to include language requiring that the qualified monitoring biologist is present on site during all construction activities.

Response SCWTF-13

The commenter expresses concern that the 1:1 mitigation ratio for impacts to Belding's Savannah Sparrow breeding habitat is inadequate. Mitigation Measure BIO3 (see Section 3.4.5 of the Draft PEIR) has been modified to include language requiring that existing Belding's Savannah Sparrow breeding and foraging habitat be demarcated in the field in advance of any construction activities and that this habitat will be avoided to the maximum extent feasible. Finally, the mitigation ratio has been increased to 2:1.

Response SCWTF-14

The commenter asks why the time frames allowing for construction activities provided in Mitigation Measure BIO4 differ from those provided in Mitigation Measure BIO3 and expresses concerns for impacts to foraging and roosting areas. Belding's savannah sparrow has a distinct breeding season that is widely accepted by managers and has been documented in the scientific literature, whereas general nesting birds and raptor species have much broader ranges for nesting and breeding seasons. Impacts to foraging and roosting areas will be mitigated by implementation of Mitigation Measure BIO11 as discussed in Chapter 3.4 Biological Resources, Section 3.4.5 Project Impacts and Mitigation Measures, of the Draft PEIR.

Response SCWTF-15

The commenter asserts that no construction should occur during bird nesting season. BIO4 indicates that "Construction and maintenance activities shall be limited to the non-breeding season (September 1 through December 31) to the extent feasible." Therefore, the mitigation measure agrees with this comment. Furthermore, breeding activity has potential to happen any time during the year and therefore the process of creating an avoidance buffer and involvement of a qualified biologist is important to include in Mitigation Measure BIO4. Regulatory permits will further shape the timing requirements for construction activities.

Response SCWTF-16

The commenter states that burrowing owls are rare and expresses hope the CDFW would prevent translocation of burrowing owls. The LCWA agrees that this special status species is rare and

one individual has only been observed in the Los Cerritos Wetlands on a few occasions over a decade ago. Breeding activities have never been observed. However, avoidance will be given first priority and all attempts will be made to enhance the areas where burrowing owl have previously been observed.

Response SCWTF-17

The commenter states that there should be no nighttime lighting anywhere with the wetlands, apart from emergency lighting at the visitor center and associated facilities, and that the visitor center, parking lot and trail should be open during the daytime only. No unnecessary lighting will be installed by the project. Only nighttime lighting required for safety will be included. As stated in Mitigation Measure BIO6 (see Section 3.4.5 of the Draft PEIR), nighttime lighting installed as part of the project shall be designed to minimize light trespass and glare into adjacent habitat areas.

Response SCWTF-18

The commenter states that no trees should be removed from the wetlands until replacement trees are large enough to provide roosting for bats and birds. The comment asks what methods will be used for removal of non-native plants, and what animals using these plants will use for habitat while native plants planted by the project are still too small to provide food, nesting and roosting habitat. Methods for removal of non-native plants will vary depending on the size, structure, and location of the plants. Mechanical methods will generally be used for removal, and many upland areas dominated by non-native plants will be restored to wetlands after mechanical removal of non-native plants followed by grading of these areas to remove fill and restore elevations that will support wetlands communities. Project-level planning will detail the methods to be used for non-native plant removal. The program will be implemented in a phased manner, allowing for wildlife to utilize trees and plant communities in areas that are not undergoing restoration while native vegetation develops in restoration areas. In addition, vegetation in adjacent areas such as Gum Grove Park will provide habitat while native plantings become established. Impacts from loss of habitat due to non-native plant removal are expected to be temporary and less than significant.

Response SCWTF-19

The commenter indicates the a 1:1 mitigation ratio for special status species habitat impacts is inadequate and asks about the purchasing of mitigation bank credits. See Response to Comment No. CDFW-4 regarding mitigation ratios. Furthermore, the program is designed to be self-mitigating as it pertains to special status species habitat and the purchase of mitigation bank credits has not been proposed as a mitigation measure, especially since there currently are no species-specific mitigation banks with approved service areas that include the program area.

Response SCWTF-20

The commenter is quoting the text of Draft PEIR Impact BIO2 and does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response SCWTF-21

The commenter expresses opposition to the proposed visitors center on the State Lands Parcel Site. While this comment is noted, as it does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response SCWTF-22

The commenter states that the proposed program is sacrificing degraded seasonal wetlands in exchange for tidal wetlands. Goal #1 of the proposed program is to "restore tidal wetland processes and functions to the maximum extent possible." This goal was developed through a consensus-based stakeholder process that began in 2011 and is supported by the LCWA's Technical Advisory Committee. This Technical Advisory Committee determined that tidal wetlands are the most appropriate habitat type to be restored within the program boundary based on historical ecology and the quality of existing habitats. However, tidal wetland restoration will not be feasible in all areas and it is expected that in some instances seasonal wetlands will be enhanced.

Response SCWTF-23

The commenter provides a general statement that asserts that there is no guarantee that monitoring efforts will result in no net loss of aquatic resource functions and increase in wetlands functions, but does not raise any specific issues regarding the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response SCWTF-24

The commenter asks about the definition of the term "temporary" as stated in the definition of Impact BIO4 and asserts that further impacts to terrestrial wildlife could be fatal. This comment does not raise any specific issues regarding the content and adequacy of analysis in the Draft PEIR. As such, no further response is warranted.

Response SCWTF-25

The commenter suggests the need for a larger ratio than 1:1 for replacement trees and suggests that no trees should be removed until a replacement tree is large enough to provide replacement habitat. The 1:1 ratio proposed by the program for replacement trees is consistent the City or Long Beach and City of Seal Beach local regulations regarding trees in the coastal zone. Replacement trees are required to meet the size requirements for both Cities upon installation.

Response SCWTF-26

The commenter states that ESHA must be protected at all times from grading, bulldozing or herbicides and that mitigation is essential, but does not raise any specific issues regarding the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response SCWTF-27

The commenter restates the entirety of PEIR Section 3.3.6.1; states that the Los Cerritos Wetlands Oil Consolidation and Restoration Project was eliminated in the PEIR introduction;

and, that given the potential for significant cumulative impact, mitigation measures should be applied for the Los Cerritos Wetlands Oil Consolidation and Restoration Project and the Seal Beach Residential Project.

As explained in PEIR Section 2.4.4, a project-level EIR was prepared for the City of Long Beach to evaluate the environmental effects associated with the Los Cerritos Wetlands Oil Consolidation and Restoration Project. The PEIR relies on the technical analysis, impact discussion, and mitigation measures documented in the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR.

Both the Los Cerritos Wetlands Oil Consolidation and Restoration Project and the Seal Beach Residential Project were identified as cumulative projects in the PEIR (see **Table 3-1**, *Cumulative Projects*), as each were within a 3-mile radius of the program area boundary. At the time each project was approved by its respective City, project specific mitigation measures were adopted. To conduct a cumulative analysis in this PEIR, potential impacts of the approved projects (including their mitigation) were analyzed in conjunction with the potential impacts associated with implantation of the proposed project. Inasmuch as no cumulatively significant impacts were identified, no mitigation measures were required. No changes to the PEIR have been made in response to this comment.

Response SCWTF-28

The commenter states that the conclusion in Chapter 3.3 Biological Resources, Section 3.3.6.2 that cumulative impacts to biological resources from operation of the program and of nearby projects would not be cumulatively considerable is unsubstantiated. LCWA analyzed potential impacts from operation of the proposed program and the operation of nearby projects that could contribute to cumulative impacts. The PEIR provided reasoning to justify the conclusion that the operation of the program and nearby projects would not result in cumulatively considerable impacts to biological resources. The primary reason for this conclusion is that direct impacts to biological resources from the program, which itself will greatly enhance the value of the Los Cerritos Wetlands habitats, and nearby projects would occur primarily during the construction phase and not during the operation phase. Another important point contributing to this conclusion is that the proposed program is expected to have ongoing benefits for biological resources during its operation, as management of the wetlands will continue with the goal of enhancing habitat quality for special status and other wildlife species and the provision of ecosystem services. Cumulative impacts from the construction phase of the program and nearby projects are analyzed in the PEIR Section 3.3.6.1 and are found to not be cumulatively considerable as well.

Response SCWTF-29

The commenter states that the Spanish names used to refer to tribal entities is used exclusively in the PEIR, and it is not a term created by the people themselves. LCWA acknowledges that tribes prefer to use indigenous terms when referring to tribal groups. The PEIR has been revised to indicate that the terms Tongva, Kizh, and Acjachemen are preferred by many descendant groups over the Spanish words that have historically been used to describe them. Since there are two

indigenous terms that are used by different groups to refer to Gabrielino tribes (Tongva and Kizh) the term Gabrielino is used to encompass both groups. In response to this comment and others, Chapter 2 Project Description, Section 2.4.2 has been revised to include indigenous terms. Also, Section 3.4.2.2 - Ethnographic Setting and 3.15.2.2 Ethnographic Setting, of the Draft PEIR have been modified.

Response SCWTF-30

The commenter states that there is no mention of tribal salt works in the wetlands, and that the PEIR fails to document specific tribal references to the land, water, or wetlands, past or present, not does it describe cultural practices past or present. The commenter further states that there is no mention of other tribal groups, including the Acjachemen. The commenter also states that without these aspects, impacts to tribal peoples and culture cannot be fully evaluated.

In a follow-up tribal consultation meeting on August 17, 2020 between LCWA and the Gabrieleno/Tongva San Gabriel Band of Mission Indians and an Acjachemen Tribal Elder, information regarding the importance of salt marshes and salt flats to tribes was shared and requested to be included in the PEIR. In response to the consultation meeting and this comment, Section 3.15.2.3 has been revised.

Section 2.4.2 has also been revised to include a reference to mineral resources, such as salt, and to indicate that tribes used the wetlands and its resources in past and in current times. In addition, impacts to salt marshes has been added to the analysis of impacts to the tribal cultural landscape in Section 3.4.5 - Program Impacts and Mitigation and Section 3.15.5 - Program Impacts and Mitigation. Please note that some salt marsh will always be available throughout the construction phase of the program.

With respect to the comment that there is no mention of other tribal groups, including the Acjachemen, Section 2.4.2 has been revised to include a reference to the Acjachemen. The commenter is referred to Section 3.15.2.3 - Identification of Tribal Cultural Resources, which lists all the tribes who were contacted as part of the AB 52 process for the PEIR. A total of 26 tribes were contacted, including those from a multitude of different groups (including Payomkawichum, Yuhaaviatam, Tataviam, and Kumeyaay). The only tribal groups who requested consultation are Tongva, Kizh, and Acjachemen tribes, and these are the tribes who were included in the ethnographic Section. Section 3.4.2.2 - Ethnographic Setting and 3.15.2.2 - Ethnographic Setting, which also includes a discussion of the Juaneño, who identify themselves by the indigenous term Acjachemen.

Response SCWTF-31

The commenter states that the use of the word “believe” appears to question tribal knowledge and that a traditional tribal cultural landscape is not less eligible for listing simply because it has not been formally listed. LCWA acknowledges and fully supports the significance and importance of the tribal cultural landscape to tribal groups. Although the landscape has not been formally evaluated for listing in the National Register or California Register, LCWA determined, in its discretion and as supported by substantial evidence provided by tribal groups, that the landscape meets the definition of historical resource (CEQA Guidelines Section 15064.5(a)(4)) and tribal

cultural resource (Public Resources Code Section 21074(a)(2)), and is treating it as such for the purposes of the program regardless of whether it has been listed in a register or not. In response to this comment, Section 2.4.2 has been revised to refer to this determination, which is presented in Chapters 3.4 Cultural Resources and 3.15 Tribal Cultural Resources of the Draft PEIR.

The word "believe" is not meant to question tribal knowledge, but rather to acknowledge tribal knowledge about their own resources. However, in response to this comment the word has been replaced with "identified."

Response SCWTF-32

The commenter states that the wetlands are within the 500-acre, Puvungna complex, not within walking distance, and that to alter the Los Cerritos Wetlands is to alter Puvungna. In response to this comment and others, Section 2.4.2 - Cultural History of the Los Cerritos Wetlands Complex has been modified to indicate that the wetlands are within the Puvungna and Motuucheyngna village sites community. Chapter 3.4 Cultural Resources and Chapter 3.15 Tribal Cultural Resources have also been modified to indicate that the Los Cerritos Wetlands are located in between the archaeological manifestations of Puvungna and Motuucheyngna, and the wetlands were identified by tribes to be part of the larger cultural landscape of Puvungna and surrounding villages.

Response SCWTF-33

The commenter states that referring to tribes in the past tense and omission of post-contact tribal connections to the area erases history. The commenter further states that reliance on anthropology texts is outdated and offensive, and fails to include contemporary tribal scholars and sources. The commenter also states that there is no mention of tribal practices or lifestyles after 1542, or treatment of tribal peoples during the American Period. LCWA recognizes that California Indian Tribes are living communities with historical and contemporary connections to the Los Cerritos Wetlands. LCWA also understands that tribes have expertise and knowledge in their own history.

In response to the first part of the comment and others, Draft PEIR Section 3.4.2.2 Ethnographic Setting has been revised

In response to the second part of the comment, additional information has been added to Chapter 3.4 Cultural Resources, Section 3.4.2.3 - Historic Setting regarding treatment of California Native Americans during the American Period.

Response SCWTF-34

Commenter states that the program area is not near, but within the Puvungna/Motuuchengna community and questions citing a 1938 map regarding village site locations. Regarding the first part of the comment, as noted above and in response to this and other comments, Section 2.4.2 - Cultural History of the Los Cerritos Wetlands Complex has been modified to indicate that the wetlands are within the Puvungna and Motuucheyngna village sites community. Chapter 3.4 Cultural Resources and Chapter 3.15 Tribal Cultural Resources have also been modified to indicate that the Los Cerritos Wetlands are located in between the archaeological manifestations

of Puvungna and Motuucheyngna, and the wetlands were identified by tribes to be part of the larger cultural landscape of Puvungna and surrounding villages. Regarding the second part of the comment, the 1938 map was one of a number of sources that was consulted to identify named and unnamed villages sites within or in the vicinity of the program area (Johnston 1962; King, 2004; McCawley, 1996). The named and unnamed village sites identified in or closest to the program area were noted in the PEIR, and the source cited. However, LCWA recognizes that Motuucheyngna was not included in Section 3.4.2.2 - Ethnographic Setting and 3.15.2.2 - Ethnographic Setting, and, in response to this comment, a reference to Motuucheyngna was added to the ethnographic setting.

Response SCWTF-35

The commenter states that both oral tradition and historic documents reference Puvungna as the birthplace of Chinigchinich and to use "reported to be" shows a bias against tribal cultural information. The commenter also indicates that the terms "protohistoric" and "early historic" assumes tribal history began after European contact. The commenter further indicates that it is inappropriate to refer to California counties rather than tribes. In response to this comment, the text has been revised in Chapter 3.4, Section 3.4.2.2 Ethnographic Setting, of the Draft PEIR.

Response SCWTF-36

The commenter states that there is no description of the Acjachemen's connection to Puvungna or the Los Cerritos Wetlands, and that Boscana was describing the Acjachemen in his writings on the beliefs and practices taught by Chinigchinich. The commenter also states no tribal leaders are mentioned by name, nor are their contributions to the protection and preservation of this Tribal Cultural Landscape noted in the PEIR. LCWA acknowledges the Acjachemen's connection to Puvungna or the Los Cerritos Wetlands. In response to this comment and other comments, Chapter 3.4 Cultural Resources, Section 3.4.2.2 Ethnographic Setting, of the Draft PEIR has been revised.

Response SCWTF-37

The commenter states that considering the date of 1542 as the start of the historic-period is inaccurate since Mission San Gabriel was not founded until 1771. The commenter also states that tribal peopled continued to live and work on their original tribal areas during the Spanish, Mexican, and American periods. The commenter further states that tribal members have been involved in protection of the Los Cerritos Wetlands and have reintroduced traditional practices to the area. The commenter also states that including the history of oil drilling in the Cultural Resources Section is an insult since oil is not a cultural resource.

With regards to the first part of the comment, while the historic setting acknowledges that Spanish explorers made brief visits to the region in 1542 and 1602, the historic setting begins with the year 1769, which is the date that the first mission was established in Southern California. With regards to the Section part of the comment, LCWA understands the importance of the Los Cerritos Wetlands to tribal groups and acknowledges their efforts to protect the wetlands and reintroduce traditional tribal practices to the area. LCWA consulted with California Native American groups pursuant to AB 52, and has included their input in Chapter 3.15 Tribal Cultural

Resources. With regards to the last part of the comment, the Cultural Resources Section includes an analysis of impacts to all cultural resources, including those of a built nature (buildings, structures, objects). Built environment resources include those related to the oil industry that historically occupied most of the program area, and a discussion of the oil industry is included in the historic setting to provide a context for evaluating impacts to those associated resources.

Response SCWTF-38

The commenter provides a general statement that asserts that the program area historically did not empty into the ocean but does not raise any specific issues regarding the content and adequacy of the Draft PEIR. In review of the reference graphic it appears that the historical map does indeed indicate that the program area was connected to the ocean tides.

Response SCWTF-39

The commenter states that the definition of sufficient archaeological context and significant archaeological resources presumes the value of cultural materials to be their contribution to western, not the intrinsic value they had to those who created them nor to their descendants. LCWA acknowledges the importance of Native American archaeological resources to descendant groups. Mitigation measures related to the evaluation and treatment of Native American archaeological resources requires LCWA to evaluate resources under all four California Register Criteria (1-4) and to consult with Native American Tribes to ensure cultural values ascribed to the resources, beyond those that are scientifically important, are considered in the evaluation, including those related to the tribal cultural landscape.

Response SCWTF-40

The commenter states that identifiers describing types of archaeological sites do not reflect the realities of tribal lifeways, and the wetlands provided the basic staples of life on a daily basis for centuries. LCWA acknowledges that the wetlands provided Native Americans with natural resources. The analysis of impacts to the tribal cultural landscape identifies the waterways, plants, or animals as important aspects to the significance of the landscape in recognition that the wetlands provided and still provides a multitude of natural resources to Native American communities. The geoarchaeological review presented is a prediction of the types of archaeological sites that would be expected to be encountered in the various landforms underlying the program area based on knowledge of similar landforms. As described in Chapter 3.14 Tribal Cultural Resources, dense archaeological deposits related to continuous, long-term human occupation, such as those found to the north and south of the program area, are not anticipated to be within the estuary deposits given the wet environment, but may be below estuary deposits on the earlier coastal plains deposits.

Response SCWTF-41

The commenter states that the CEQA Guidelines are an example of Eurocentric racism towards tribal peoples as it excludes tribal values when assessing if a significant effect on the environment would occur. While the statement in question is related to historical resources and unique archaeological resources, a lead agency is also tasked with determining if there are tribal cultural resources present within a project area. LCWA consulted with California Native American Tribes

with regards to identification and impacts to tribal cultural resources, which are analyzed in Chapter 3.15 Tribal Cultural Resources. The commenter is referred to Section 3.15.3 for a discussion of the regulatory framework surrounding tribal cultural resources. Please note that under Public Resource Code Section 21074, tribal cultural resources can include those that are or are not also historical resources or unique archaeological resources. If a resource is not a historical resource or unique archaeological resource, but is a tribal cultural resource, a significant effect on the environment could occur.

Response SCWTF-42

The commenter states that the 48-hour timeline for an MLD to make recommendations regarding the treatment of human remains after is pro-development bias and does not belong in a state law. LCWA understands that there are concerns regarding this timeline. Per Mitigation Measure CUL17, until LCWA and the landowner have conferred with the MLD, no further action shall occur where the discovery occurred. LCWA's intent is to work with the MLD and landowner to develop a mutual agreement regarding the treatment of Native American human remains discoveries.

Response SCWTF-43

The commenter expresses opposition to the proposed program based on potential significant and unavoidable impacts to archaeological resources. While this comment is noted, as it does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response SCWTF-44

The commenter states that identification of the essential physical characteristics that convey the historical significance of the tribal cultural landscape presumes to define what constitutes significance to tribal peoples. The commenter further states that in making this determination that the project would not impact the landscape's historic significance, the LCWA violates the rights of indigenous peoples. With respect to the first part of the comment, the identified essential physical characteristics are the significant characteristics of the landscape and wetlands that were identified by California Native American Tribes during tribal consultation with the California Coastal Commission for the Coastal Development Permit for the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR and during tribal consultation with LCWA for this PEIR pursuant to AB 52. With respect to the second part of the comment, Chapter 3.14 Tribal Cultural Resources, Section 3.14.5 Project Impacts and Mitigation Measures, of the Draft PEIR does not conclude that the program would not impact the landscape's historic significance, but rather that "…the proposed program could materially impair the landscape's ability to convey its historical significance, resulting in a substantial adverse change in the significance of the tribal cultural landscape even with the implementation of mitigation. Therefore, impacts to the tribal cultural landscape would be significant and unavoidable at the program level."

Response SCWTF-45

The commenter states that the mitigation measures would not ensure the protection, identification, and appropriate handling and treatment of archaeological resources that contribute

to the landscape's significance, but would destroy them and place tribal human remains and sacred and utilitarian objects in storage for future study over the objections of descendants who want them returned. LCWA acknowledges tribal preferences regarding avoidance of archaeological resource and objection of curation of tribal human remains and associated items. It is also LCWA's preference to avoid archaeological resources. Mitigation Measure CUL7 in Chapter 3.4 Cultural Resources, Section 3.4.5 Project Impacts and Mitigation Measures of the Draft PEIR, requires that LCWA first consider avoidance and preservation in place of resources that contribute to the significance of tribal cultural landscape (significance would be determined in consultation with California Native American Tribes pursuant to Mitigation Measure CUL6). If avoidance is infeasible, then as required by Mitigation Measure CUL8, LCWA will determine the appropriate treatment in consultation with California Native American Tribes to ensure cultural values ascribed to the resources, beyond those that are scientifically important, are considered in assessing treatment, including those related to the tribal cultural landscape. Tribal human remains and associated items will not be curated (i.e., stored) for future study. Disposition of Native American human remains and associated funerary objects or grave goods shall be determined by the landowner in consultation with LCWA and the Most Likely Descendant in accordance with Mitigation Measure CUL18: Human Remains Discoveries.

Response SCWTF-46

The commenter expresses agreement for the determination that impacts to resources that convey the significance of the tribal cultural landscape is significant and unavoidable at the program level. This is noted for the record; however, the comment does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response SCWTF-47

The commenter states that tribal values are not ensured by requiring that tribal people monitor the destruction of tribal lands and the removal of tribal human remains and cultural objects. As noted under Response to Comment No. SCWTF-45, it is also LCWA's preference to avoid archaeological resources. Also, tribal human remains and associated items will not be curated (i.e., stored) for future study. Please see Response to Comment No. SCWTF-45 for a further discussion of the mitigation regarding avoidance and treatment of archaeological resources and human remains.

Response SCWTF-48

The commenter provides a general statement that disagrees with the conclusion that the proposed program would have a beneficial effect on the waterways, plants, and animals, but does not raise any specific issues regarding the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response SCWTF-49

The commenter states that as the program is proposed, it excludes tribal people from the landscape and will not resemble a historic or pre-contact wetlands. The goals of the proposed program are to restore and enhance the Los Cerritos Wetlands, taking into account tribal input (see Mitigation Measure CUL16: Native American Input in Chapter 3.4 - Cultural Resources).

LCWA does not intend to exclude tribal people from the wetlands as part of this process. In response to this comment, the Draft PEIR has been revised to include a new mitigation measure to develop a tribal access plan in Chapter 3.4 Cultural Resources, Section 3.4.5 Project Impacts and Mitigation Measures of the Draft PEIR.

Response SCWTF-50

The commenter provides a general statement that disagrees that the proposed program would have a beneficial effect on the waterways, plants, and animals, and states that this approach violates basic Native American tribal values. The commenter disagrees that future consultation with tribal people during the design of projects ensures that tribal values will be considered. As noted in other comments, LCWA conducted consultation with California Native American Tribes pursuant to AB52, who indicated that the program area is culturally sensitive and important, and generally expressed support for the restoration of the wetlands. Tribal members made specific requests to mitigate potential impacts to resources important to the Native American community and LCWA incorporated this input into mitigation measures outlined in Chapter 3.4 Cultural Resources. The commenter is referred to Section 3.15.2.3 – Identification of Tribal Cultural Resources for details regarding the consultation process and outcome.

Response SCWTF-51

The commenter expresses agreement for the determination that the proposed program could impair the landscape's ability to convey its historical significance, resulting in a substantial adverse change in the significance of the tribal cultural landscape even with mitigation, resulting in significant and unavoidable to the tribal cultural landscape at the program level. This is noted for the record; however, the comment does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response SCWTF-52

The commenter disagrees that operational impacts to historical and archaeological resources and the tribal cultural landscape will be less than significant since operation of the proposed program would include accommodating existing and proposed oil extraction operations, allowing stormwater from the San Gabriel River to pollute wetlands and expose subsurface cultural resources, removing non-native species with heavy equipment and herbicides, and increasing human and wildlife interaction. The Draft PEIR evaluates the water quality impacts and risk for erosion associated with connecting the San Gabriel River waters to wetlands during operation of the proposed program in Chapter 3.8 Hydrology and Water Quality, Section 3.8.5 Project Impacts and Mitigation Measures. The public access trails and visitor center are located on the periphery of the habitat restoration to reduce human and wildlife interaction. LCWA will remove non-native species after habitats have been restored in compliance with agency permits and approvals, such that impacts to biological resources are minimized. Oil operators within the program area have ownership and easement rights which LCWA must adhere to until those easement rights are re-negotiated or LCWA becomes the landowner of all properties within the program boundary.

Response SCWTF-53

The commenter states that significance of cultural resources will be determined by a Qualified Archaeologic and not by the tribes themselves. The commenter objects to curation of archaeological resources. With regards to the first part of this comment, Mitigation Measures CUL6 and CUL8 in Section 3.4.5 Project Impacts and Mitigation Measures of the Draft PEIR, requires LCWA to determine the significance of cultural resources and appropriate treatment of cultural resources in consultation with California Native American Tribes to ensure cultural values ascribed to the resources, beyond those that are scientifically important, are considered. With regards to the second part of this comment, LCWA understands that tribes may prefer to retain ownership of artifacts. The State of California Resources Agency's *Guidelines for the Curation of Archaeological Collections* (State Historical Resources Commission and Department of Parks and Recreation, 1993) states that archaeological collections that are created by compliance with state environmental laws and regulations (such as CEQA) must be housed at qualified repositories. The guidelines also state that a collection from a Native American site may best be curated by a qualified repository maintained by a tribal museum. LCWA will consult with tribes on the final disposition of Native American archaeological materials and on the selection of the curation facility, with preference given to tribal museums for Native American collections. If a suitable repository cannot be identified, then LCWA will donate the collection to a local California Native American Tribe(s) (Gabrielino or Juañeno). In response to this comment and other comments, Mitigation Measure CUL15 has been revised in Chapter 3.4 Cultural Resources, Section 3.4.5 Project Impacts and Mitigation Measures of the Draft PEIR.

Please note that this does not pertain to Native American human remains and associated items, which will be treated in accordance with applicable state law, and the disposition of Native American human remains and associated funerary objects or grave goods shall be determined by the landowner in consultation with LCWA and the Most Likely Descendant in accordance with Mitigation Measure CUL17: Human Remains Discoveries.

Response SCWTF-54

The commenter expresses agreement for the determination that cumulative impacts to cultural resources and the tribal cultural landscape from the proposed program is significant. This is noted for the record; however, the comment does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response SCWTF-55

The commenter disagrees that other projects in the past have resulted in greater impacts to the landscape that the proposed program, and that the incremental contribution of the proposed program to the tribal cultural landscape is not cumulatively considerable. Since the program would restore and enhance the wetlands, LCWA considers past projects to have been more detrimental to the landscape than the proposed program.

Response SCWTF-56

The commenter states that the definition of tribal cultural resources according to state law contributes to a legacy of dispossession and racism. This is noted for the record; however, the

comment does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response SCWTF-57

The commenter states that tribal representatives were not contacted early in the planning process as required by AB52. LCWA adhered to all requirements of AB 52.

Response SCWTF-58

The commenter indicates that the statement that "no tribal cultural resources" were identified by the five tribal respondents contradicts the fact that the Los Cerritos Wetlands is a cultural resource significant to tribal peoples. LCWA understands there may be some confusion about this statement. None of the five tribal respondents referred to the area as a "tribal cultural resource" per se, but did refer to the importance and significance of the area to tribes. The tribal cultural landscape, which LCWA determined meets the criteria for "tribal cultural resource" as defined by Public Resources Code Section 21074, was identified during consultation with California Native American Tribes and the California Coastal Commission for the Coastal Development Permit for the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR. However, in response to this comment, the statement that no cultural resources were identified has been removed from Section 3.15.2.3 and **Table 3.15-2**, *Summary of Tribes Consulted*.

Response SCWTF-59

The commenter states that the Draft PEIR excludes tribal comments regarding opposition of this project and references a December 13, 2018 statement that was delivered to the California Coastal Commission. The statement then references an LCP Amendment. This comment appears to be reference the California Coastal Commission's Coastal Development Permit for the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR, which is separate from the proposed program. This is noted for the record; however, the comment does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response SCWTF-60

The comment notes that the 30-day deadline for California Native American tribe to provide comments to the lead agency on a CEQA document was suspended due to COVID-19. According to the Governor's Office of Planning and Research (see https://opr.ca.gov/ceqa/), Governor Newsom's Executive Order N-54-20, issued on April 22, 2020, suspended certain timeframes for tribal consultation required under AB 52 (Chapter 532, Statutes 2014) for 60 days. Specifically, the Executive Order suspended the timeframes governing when a tribe must request consultation and when lead agencies must begin the consultation process for an EIR, negative declaration, or mitigated negative declaration. Deadlines for public review and comment periods for CEQA documents, such as for draft EIRs and negative declarations, were not suspended and those deadlines remained unchanged. LCWA initiated its tribal consultation process on June 17, 2019, such that the consultation period was completed approximately nine months before Executive Order N-54-20 was issued. The LCWA did extend its comment deadline on the PEIR for all commenters until July 6, 2020 in recognition of the challenges posed by the pandemic. LCWA

received three comment letters from Native American tribes. These letters and our responses are included in the Final PEIR.

Response SCWTF-61

The commenter disagrees with the finding under Impact TRI1. In response to this and other comments, TRI1 in Chapter 3.15 Tribal Cultural Resources, Section 3.15.5 Project Impacts and Mitigation Measures of the Draft PEIR has been revised to refer the reader to TRI2 regarding impacts to tribal cultural resources and required mitigation measures.

Response SCWTF-62

The commenter agrees with the LCWA's determination stated in the PEIR that the tribal cultural landscape discussed in the PEIR is significant. This is noted for the record; however, the comment does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response SCWTF-63

The commenter states that Sections 3.15.5 – Program Impacts and 3.15.6 – Cumulative Impacts repeat the same Sections under Cultural Resources, and refers the reader to previous comments, but does not specify which ones. The commenter is referred to previous responses regarding impacts to cultural resources.

Response SCWTF-64

The commenter states that the PEIR lacks a discussion of the historic context and deference to tribal perspectives regarding tribal culture and land, and suggests that the LCWA needs to transfer jurisdiction over the public lands within the Los Cerritos Wetlands Complex to those tribal peoples with a physical and cultural connection to them. The PEIR provides a discussion of the project area's history in the cultural resources Section, including noting that Native American tribes were forcibly relocated and converted, and that hard labor was imposed on Native Americans, and that many Native Americans died from disease and hard labor. This comment also raises policy questions regarding the transfer of jurisdiction to lands in the program area that are outside the scope of CEQA. The comment regarding transfer of jurisdiction is noted for the record; however, the comment does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response SCWTF-65

The commenter states that the concept of restoration, including restoration of native plants and wildlife, while excluding Native American people, is part of structurally racist public policies governing national and state lands and waters and asks that the PEIR be revised to address historic and systemic racism. The LCWA seeks to involve Native American tribes in planning for restoration, education and public access at the Los Cerritos Wetlands, not to exclude them. The LCWA will strive to plan and implement the restoration and management of the Los Cerritos Wetlands in a manner that includes Native Americans and incorporates their perspectives. This comment raises questions about public policy that are outside the scope of CEQA. It is noted for

the record; however, the comment does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response SCWTF-66

The commenter asks how the LCWA can acknowledge the Los Cerritos Wetlands are a traditional tribal landscape, but not reference tribal peoples or concerns in the LCW Restoration Plan Goals and Objectives. The LCWA acknowledges that this is a shortcoming of the current goals and objectives, which were arrived at through discussion with stakeholders as part of the Conceptual Restoration Plan process. However, that discussion did not include tribal representatives. The LCWA has revised the goals and objectives in Chapter 2 Project Description, Section 2.5 Project Objectives, of the Draft PEIR to include a reference to Native American tribes. In addition, the LCWA will work with tribal representatives during the project-specific planning phases to consider other revisions to the Goals and Objectives.

Please see Response to Comment No. GABACJ-6 for revisions to the Goals and Objectives.

Response SCWTF-67

The commenter asks why there is no mention of land use, land management, or restoration from a tribal perspective, including restoring ownership and/or co-management of the wetlands to tribal groups. LCWA would welcome proposals for involvement of Native American tribes in the management and use of the wetlands. LCWA is committed to inviting and incorporating input from Native American tribes as project-specific planning occurs, and is considering pursuing the creation of a tribal advisory group for that purpose.

Response SCWTF-68

The commenter asks why the LCWA did not include any tribal experts, organizations, or state actors on the Technical Advisory Committee designing the PEIR. The LCWA did consult with representatives of six Native American tribal groups during preparation of the PEIR. The number of meetings, dates of meetings, and concerns expressed are described in the PEIR's Tribal Cultural Resources Section. The LCWA will invite Native American tribal participation in project-specific planning. The PEIR requires ongoing consultation with Native American representatives in the mitigation measures which is discussed in Chapter 2 Project Description, Section 2.5 Project Objectives, and Chapter 3.4 Cultural Resources Section 3.5.5 Project Impacts and Mitigation Measures.

Response SCWTF-69

The commenter asks why the LCWA did not commission a technical report to provide baseline information as to Traditional Tribal Landscape management and restoration requirements. The LCWA will commission additional studies of cultural resources beyond the studies reviewed in the PEIR. The LCWA determined that it would be more appropriate to commission technical studies at the project-level planning stage because these studies can be focused to address potential ground-disturbance areas when those areas are known with greater certainty than they are at the current time when planning is still conceptual. The PEIR includes mitigation measures

in Chapter 3.4 Cultural Resources, Section 3.4.5 Project Impacts and Mitigation Measures of the Draft PEIR, to this effect:

- Mitigation Measures CUL1, CUL4 through CUL6, and CUL8 require that qualified cultural resources personnel conduct future project-specific studies to identify archaeological resources and develop appropriate treatment for resources that contribute to the significance of the tribal cultural landscape.
- Mitigation Measure CUL7 requires consideration of avoidance and preservation in place of archaeological resources, including those that contribute to the landscape's significance, to ensure that destructive treatment measures are a last resort.
- Mitigation Measures CUL9 through CUL11, CUL14, and CUL15 require establishment of a plan and procedures for avoidance and discoveries measures during construction, training construction personnel on the significance of the area and procedures to follow in the event of discoveries, monitoring of ground disturbance by archaeologists, and proper curation/disposition of recovered archaeological materials. These measures would ensure the protection, identification, and appropriate handling and treatment of archaeological resources that contribute to the landscape's significance.
- Mitigation Measures CUL12 and CUL13 require that LCWA consult with Native American representatives during the preparation of all cultural resources-related documents and that Native American groups are included in monitoring of ground disturbance. These measures would ensure that tribal values are considered in identification, evaluation, and treatment of archaeological resources that contribute to the landscape's significance.

Response SCWTF-70

The commenter asks why the Spanish name for Gabrielino is used exclusively. The commenter also asks why the PEIR fails to identify other tribes with historic and cultural connections to the Los Cerritos Wetlands, such as the Acjachemen, Payomkawichum, and Yuhaaviatam. LCWA acknowledges that the tribe prefers to use indigenous terms when referring to tribal groups. The PEIR has been revised to indicate that the terms Tongva, Kizh, and Acjachemen are preferred by many descendant groups over the Spanish words that have historically been used to describe them. With regards to the failure to identify other tribes with a cultural connection to the program area, Chapter 3.15 Tribal Cultural Resources, Section 3.15.2.3 Identification of Tribal Cultural Resources, lists all the tribes who were contacted as part of the AB 52 process for the PEIR. A total of 26 tribes were contacted, including those who are Acjachemen, Payomkawichum, and Yuhaaviatam, in addition to Tongva and Kizh. The only tribal groups who requested consultation are Tongva, Kizh, and Acjachemen tribes, and these are the tribes who were included in the ethnographic section. However, the LCWA sees that LCW as a regional resource and will not limit future coordination and consultation to just those tribal groups that responded to AB52. The LCWA would welcome other regional tribal representatives to participate in the forthcoming tribal advisory group.

Response SCWTF-71

The commenter states that a number of tribal representatives who are on the required contact list may not have been contacted by the LCWA regarding the PEIR, and asks how the LCWA can address this problem. The LCWA attempted to contact all the tribal representatives on the

required contact list. The LCWA contacted 26 representatives via email on June 17, 2019. Six tribes requested consultation, six tribes declined consultation, and the remaining tribes did not respond to LCWA's inquiry. A record of the dates and responses for those contacts is included in the Tribal Cultural Resources Section of the PEIR in **Table 3.15-1**, *California Native American Tribes Notified Pursuant to AB52*. The LCWA will continue to reach out to Native American tribes during the project-specific planning stage. If additional tribes would like to participate in planning, LCWA welcomes that participation in the next phase of planning.

Response SCWTF-72

The commenter asks why only one tribal group, the Kizh, are referenced as providing tribal cultural consultants and monitors on the project. Native American monitoring is addressed in Mitigation Measure CUL13 in Chapter 3.4 Cultural Resources, Section 3.4.5 Project Impacts and Mitigation Measures of the Draft PEIR, which states "LCWA shall retain a Native American monitor(s) from a California Native American Tribe that is culturally and geographically affiliated with the program area (according to the California Native American Heritage Commission) to conduct the monitoring. If more than one Tribe is interested in monitoring, LCWA shall contract with each Tribe that expresses interest and prepare a monitoring rotation schedule. LCWA shall rotate monitors on an equal and regular basis to ensure that each Tribal group has the same opportunity to participate in the monitoring program." Mitigation Measure CUL13 does not name a specific Tribe.

Response SCWTF-73

The commenter is inquiring as to why the first meeting at the Seal Beach Library was not identified in the PEIR and is asking if public comments at that meeting are part of the record. The meeting at the Seal Beach Library was the LCWA's first public workshop and it was held on March 28, 2018, prior to the initiation of the CEQA process. Comments made at that meeting were used to inform the creation of the proposed program, and will be part of the record.

Response SCWTF-74

The commenter provides a general statement that asks what the historical wetlands habitat was converted to throughout Los Cerritos Wetlands but does not raise any specific issues regarding the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response SCWTF-75

The commenter identifies the following sentence from Chapter 2 Project Description, Section 2.4.4: "No new information of substantial importance or change in circumstance with the Los Cerritos Wetlands Oil Consolidation and Restoration Project requires re-evaluation of the analysis in that EIR." The commenter suggests the new perimeter berms are of substantial importance and not analyzed in the Los Cerritos Wetlands Oil Consolidation and Restoration Project. This is correct, the berms were not analyzed previously. They are analyzed in the current PEIR and described in Chapter 2 Project Description, Section 2.7.5.3. Because construction of the berms is considered a long-term program feature, the berms are conceptual and are not analyzed in as much detail as some of the near- and mid-term program features, as is appropriate at the program-level. Further analysis of the berms will be conducted as the design for the North Area is

progressed, including additional CEQA analysis closer to implementation of that phase of the program.

Response SCWTF-76

The commenter provides language from the Draft PEIR regarding new oil drilling and does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response SCWTF-77

The commenter asks why the cumulative effects of the BOMP proposed oil operations were not discussed in the PEIR. The potential for the Los Cerritos Wetlands Oil Consolidation and Restoration Project to contribute to cumulative impacts has been evaluated in the PEIR and is included in Chapter 3 Environmental Setting, **Table 3-1,** *List of Cumulative Projects*.

Response SCWTF-78

The commenter asks whether the PEIR mentioned potential impacts on sensitive habitats and species due to flooding, bulldozing, trenching, grading, soil storage and treatment, removing plants, installing irrigation systems, building and paving new roadways, constructing new buildings, fences, and berms. The PEIR analyzed potential impacts on sensitive habitats and species from all proposed construction and operation activities in the Biological Resources Chapter 3.3. Mitigation Measures BIO1 through BIO11 in Section 3.3.5 are included in the PEIR to avoid, minimize, and mitigate potential impacts to sensitive habitats and species.

Response SCWTF-79

The commenter asks why preservation of existing habitat and wildlife is not considered by the program's proposed success criteria. The performance criteria will capture not only the new or enhanced ecological structures and functions but will also capture those that were preserved or conserved by the restoration program.

Response SCWTF-80

The commenter asks why the loss of existing habitat and wildlife is discounted by the PEIR. The PEIR does not discount potential impacts to existing habitat and wildlife. The PEIR analyzed potential impacts on sensitive habitats and species from all proposed construction and operation activities in the Biological Resources Section. Mitigation Measures BIO1 through BIO11 in Chapter 3.3 Biological Resources, Section 3.3.5 Project Impacts and Mitigation Measures, of the Draft PEIR are included in the PEIR to avoid, minimize, and mitigate potential impacts to sensitive habitats and species. CEQA does not require an analysis of impacts to species and habitats that are not considered sensitive or otherwise protected. LCWA's restoration goals include the maintenance of habitat that supports important life history phases of species of special concern, essential fish habitat, and migratory birds.

Response SCWTF-81

The commenter asks whether the LCWA will consider the impacts of public access on wildlife which tend to avoid areas where humans are present. LCWA will take those impacts into account during project-level planning of public access. LCWA will attempt to minimize impacts from public access on wildlife through the siting of trails and other facilities, as well as the type and frequency of access (opening hours, docent-led vs. self-guided), while also providing appropriate access to the public in an area where access to natural open space and environmental educational opportunities are rare and valuable.

Response SCWTF-82

The commenter asks if the total number of acres of "managed vegetation" includes the trails and roads or if these are categorized as developed acreage. These are considered developed and included in the totals for that category.

Response SCWTF-83

The commenter asks for the total acreage of land that is covered by new berms/levees, oil drilling pads, and new roadways. In the near-term phase of the proposed program, the new levees and well pads would cover 15.1 acres. In the long-term phase of the program, an additional 9.2 acres would be covered by the new levees. The total area for flood protection (24.3 acres) is less than the total existing developed area (31.8 acres) and would provide habitat benefit through vegetation on the levees and well pad slopes, in addition to providing the flood protection needed in order to reconnect the San Gabriel River to the marshplain.

The proposed berm in the South Area would cover 3.9 acres. The raised 1st Street footprint would be 2.2 acres. The total area for flood protection (6.1 acres) is substantially less than the total existing developed area (29.1 acres) and would provide habitat benefit through vegetation on the berms and road slopes, in addition to providing the flood protection needed in order to improve the tidal connection to the marshplain.

Response SCWTF-84

The commenter asks how many acres will be covered by the raised 1st Street footprint. The raised 1st Street footprint would be 2.2 acres.

Response SCWTF-85

The commenter asks what the acreage of a berm that could be constructed on the Isthmus would be. No berm is planned for the Isthmus area. It appears that the commenter has misunderstood the statement "Acreages presented here assume the construction of an earthen berm which has a slightly larger footprint than a flood wall" as referring to the Isthmus. This statement is in **Table 2-6**, *Post-Restoration Habitats and Acreages in South Area*, and refers to the South Area, which is discussed in Response SCWTF-83 above.

Response SCWTF-86

The commenter asks whether the 11.1 acres of berms on the North Area include the sheetrock berm, and, if not, how many acres the sheetrock berm includes. LCWA understands this question to be regarding the sheet pile wall. The 11.1 acres of berms do not include the sheet pile wall. The sheet pile wall is projected to include 0.10 acres. In the long term (20 years), the sheet pile will be removed as required by the Coastal Development Permit to facilitate restoration of tidal marsh.

Response SCWTF-87

The commenter asks where the temporary access route described in Section 2.7.8.5 would be located. This Section has been revised as follows: "A temporary access route, 35-ft. wide, would be created to access any areas of sediment build up within the channels using mats to provide equipment access. Since the channels will be sized based on their proposed tidal conveyance, sediment build up in the channels is not expected."

Response SCWTF-88

The commenter asks about the location of the fence referred to in the description of operations for the Northern Area. The fencing that is referred to is located along the perimeter of the Northern Area. This fence is already present and will be maintained as part of the program.

Response SCWTF-89

The commenter repeated comment SCWTF-88 above. Please see above response.

Response SCWTF-90

The commenter asks questions regarding the proposed levees and oil operations in the Central Area but does not make a comment with respect to the content and adequacy of the Draft PEIR. As such, it is recommended that the commenter review the details provided in the project description, otherwise no further response is warranted.

Response SCWTF-91

The commenter asks questions regarding the final proposed habitat distribution of the North Area, but does not make a comment with respect to the content and adequacy of the Draft PEIR. The commenter's assumptions can be confirmed by reviewing the details provided in the project description, otherwise no further response is warranted.

Response SCWTF-92

The commenter asks what measures are planned to prevent street runoff from polluting the wetlands. Currently, under existing conditions, there are BMPs in place that prevent impacts fp urban run-off. The Program proposes to include vegetated bioswales along the perimeter levees in the Central Area. These bioswales will be designed to collect, retain and filter urban run-off before it comes into contact with tidal wetlands habitat.

Response SCWTF-93

The commenter asks what measures will be taken to control trash during storm events in the Central Area. As described in Section 2.7.8.2, a trash boom/net could be installed upstream of the Central Area across the San Gabriel River. Alternatively, a trash net could be installed across the breach into the Central Area.

Response SCWTF-94

The commenter asks what a backwater area is. A backwater area is where there is little or no current compared to the river. Text has been added in Chapter 2 Project Description, Section 2.7.4.3 Levees to clarify this.

The commenter also asks if water is coming in only from the river or also from storm drains and roadways and what pollution controls are in place. As discussed in Section 2.7.4.3 Stormwater Management, construction of the proposed levees will reduce the storage volume of overflow drainage from the roads. The proposed program would replace that storage area by creating low areas (e.g., basins or swales) between the road the proposed levee. These basins would also function as water quality treatment measures to protect wetland plants, fish, and wildlife from the stormwater runoff coming from the roads.

Response SCWTF-95

The commenter asks what is meant by the term "non-native" when referring to an area, but does not raise any specific issues regarding the content and adequacy of the Draft PEIR. This terminology is based on the definitions provided by the widely accepted vegetation alliances defined in the Second Edition of A Manual of California Vegetation which provides a standardized, systematic classification and description of vegetation in the State.

Response SCWTF-96

The commenter asks what is meant by the term "transitional zone" when referring to an area, but does not raise any specific issues regarding the content and adequacy of the Draft PEIR. The PEIR uses this terminology to refer to a supratidal landscape that is composed of a mixture of high marsh vegetation and upland vegetation. This habitat area will provide high tide refugia for terrestrial wildlife that use the tidal marsh during low tides. It is also a location when specialized plant species exist that have some salt tolerance but cannot survive inundations from the tides. A diverse assemblage of wildlife and vegetation utilize this ecotone.

Response SCWTF-97

The commenter asserts that "disturbed habitat" is not a biological term and asks what kind of habitats are disturbed. The concept of habitat disturbance is a widely accept ecological phenomenon. Habitat disturbance can happen in any type of naturally occurring ecosystem and is especially prevalent where urban edge effects are present.

Response SCWTF-98

The commenter asks for definitions for a "high-functioning wetland" vs. a "low-functioning wetland but does not raise any specific issues regarding the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response SCWTF-99

See Response to Comment No. SCWTF-9

Response SCWTF-100

The commenter asks why there is no reference to brackish or freshwater wetlands. **Table 2-10**, *Post-Restoration Habitats and Acreages in Central Area*, of the Draft PEIR indicates the presence of brackish wetlands and ponds.

Response SCWTF-101

The commenter asks how the PEIR addresses the potential impacts to special status species. The PEIR analyzed potential impacts on sensitive habitats and species from all proposed construction and operation activities in Chapter 3.3 Biological Resources and Mitigation Measures in Section 3.3.5 BIO1 through BIO11 are included in the PEIR to avoid, minimize, and mitigate potential impacts to sensitive habitats and species.

Response SCWTF-102

The commenter expresses concern as to what is included within the project boundary and the associated calculations of existing and restored habitats along with which aspect of the Los Cerritos Wetlands Oil Consolidation and Restoration Project are included. The two areas proposed for oil exploration by the Los Cerritos Wetlands Oil Consolidation and Restoration Project are not included within the program boundary and therefore they are not analyzed and no land uses are proposed for those locations. The proposed restoration of the North Synergy Site is included in all calculations for habitat types in the program's project description.

Response SCWTF-103

See Responses to Comments Nos. SCWTF-9 and SCWTF-22

Response SCWTF-104

The commenter expresses concern that wetland areas would be used to provide flood control measures for roadways and private commercial and industrial operations in response to sea-level rise. In order to restore a tidal connection from the San Gabriel River to the Central Area, the existing flood protection would need to be replaced. State guidance requires consideration of sea-level rise for projects in the coastal zone, so in order to get the permits needed to do the wetland restoration for this program, consideration of sea-level rise and flood protection would be required. In future phases of the design, the levee heights would be refined based on coordination with the US Army Corps of Engineers and the exact amount of sea-level rise needed for consideration would be determined.

Response SCWTF-105

The commenter expresses concern for the protection of special status plants and wildlife from impacts caused by the restoration program. Impact BIO1 is determined to be less than significant with the implementation of Mitigation Measures BIO1, BIO2, BIO3, BIO4, BIO5, BIO6, BIO7 and BIO8. See Chapter 3.3 Biological Resources, Section 3.3.5 Project Impacts and Mitigation Measures of the Draft PEIR.

Response SCWTF-106

The commenter suggests that **Figure 2-2**, *Program Area and Local Vicinity*, is unclear and incorrect, does not identify the property on 2nd Street and Studebaker and that the plans for the Pumpkin Patch site should be described in the EIR. Figure 2-2 in Section 2.2.3 of the Draft PEIR applies naming conventions to areas within the program boundary for purposes of organizing the environmental analysis and discussion. Section 2.2.3 of the Draft PEIR identifies the individual property owners and assessor parcel numbers for all parcels within the program area, including the owner for the Pumpkin Patch site. Section 2.4.4.1 *Outside the Program Boundary* of the Draft PEIR describes the activities proposed for the Pumpkin Patch site as part of the Los Cerritos Wetlands Oil Consolidation and Restoration Project. The property at the northeast corner of 2nd Street and Studebaker is not part of the program boundary.

Response SCWTF-107

The commenter suggests that LCWA has misled the public that the conditions of the Los Cerritos Wetlands Oil Consolidation and Restoration Project are final and legal irrespective of a lawsuit that has been filed against the California Coastal Commission for approving the project. See Response to Comment No. SCWTF6. A discussion of the relationship of the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR and this PEIR is described in Section 2.4.4 of the Draft PEIR.

Response SCWTF-108

The commenter asserts that the program will not enhance habitat and instead will damage and destroy existing biological resources. It also asserts that there is value in maintaining non-native species populations. Impact BIO1 is determined to be less than significant with the implementation of Mitigation Measures BIO1, BIO2, BIO3, BIO4, BIO5, BIO6, BIO7 and BIO8. See Section 3.5.5 of the Draft PEIR.

Response SCWTF-109

The commenter expresses opposition to the proposed program based on a desire for no public access through the wetlands. While this comment is noted, as it does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted

Response SCWTF-110

The commenter notes that the Cultural Resources Section is disrespectful to tribal peoples, excludes tribal peoples from participating in the NOP, distorts and omits tribal history, denies the proven existence of tribal cultural resources in the project area, and fails to describe the Los

Cerritos Wetlands as a Tribal Traditional Cultural Property and Sacred Site. Please see Responses to Comments Nos. SCWTF-120 and SCWTF-121.

Response SCWTF-111

The commenter expresses opposition to the proposed program and believes that this is not the correct time for a program EIR. While this comment is noted, as it does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted

Response SCWTF-112

Responses to the referenced letter are provided in Responses to Comments Nos. SWCTF-1 to SCWTF-111, and SCWTF-113 to SCWTF-130.

Response SCWTF-113

The commenter expresses concern that the NOP was prepared without including tribal perspectives and that there is no evidence of consultation with any tribal entity or tribal representative. See response to Comment Nos. SCWTF-120 and SCWTF-121.

Response SCWTF-114

The commenter notes that the NOP fails to include tribal cultural information from the 2015 Final Los Cerritos Wetlands Restoration Plan. The Conceptual Restoration Plan was the guiding document for the development of the PEIR project description. The Conceptual Restoration Plan includes extensive detail on a variety of topics including information regarding preliminary conversations with tribal representatives. This information was used to inform the Draft PEIR.

Response SCWTF-115

The commenter states that the cultural resources section of the Initial Study ignores tribal cultural resources and current laws recognizing California Indian peoples as sovereign living nations capable of planning and engaging in cultural resources management. Tribal cultural resources are addressed in the "Tribal Cultural Resources" section of the Initial Study, which indicates that LCWA will conduct consultation with Native Americans who are traditionally and cultural affiliated with the geographic area of the program area.

Response SCWTF-116

The commenter states that the Cultural Resources section of the Initial Study only identifies one tribe by name, and there are others who are affiliated with the Los Cerritos Wetlands. The commenter also states that the term Gabrielino was used by the Spanish and is not in current use. With respect to the first part of the comment, LCWA acknowledges that only one tribe, the Gabrielino, were mentioned by name in the Initial Study. However, as part of the AB 52 consultation conducted for the Draft PEIR, LCWA contacted a total of 26 tribes from a multitude of different groups (including Tongva, Kizh, Acjachemen, Payomkawichum, Yuhaaviatam, Tataviam, Kumeyaay). The tribal groups who requested consultation include the Tongva, Kizh, and Acjachemen, and these tribes were described in the ethnographic setting in the PEIR. With respect to the second part of the comment, LCWA acknowledges that tribes prefer to use

indigenous terms when referring to tribal groups. The PEIR has been revised to indicate that the terms Tongva, Kizh, and Acjachemen are preferred by many descendant groups over the Spanish words that have historically been used to describe them.

Response SCWTF-117

The commenter states that the Cultural Resources section of the Initial Study omits tribal history and place names. The Initial Study provides a very brief overview of the history of the program area. A more detailed history of the program area, including tribal history and place names, can be found in Draft PEIR Chapter 3.4 Cultural Resources and Chapter 3.15 Tribal Cultural Resources.

Response SCWTF-118

The commenter states that the Cultural Resources section of the Initial Study improperly questions whether tribal cultural resources exist within the project area and that cultural resources are described as being nearby and not within the program area. The Initial Study was prepared prior to the initiation of the cultural resources technical studies, and while it was known that there were archaeological sites in the vicinity, the specific locations of archaeological resources were not identified until archival research was completed. Draft PEIR Chapter 3.4 Cultural Resources discloses that there is one known Native American archaeological site within the program area and an additional four sites that appear to overlap or partially overlap the program area, as well as seven other sites within 150 feet of the program area. The sections further acknowledge that there could be as yet unidentified sites on the surface or subsurface in the program area. The Tribal Cultural Resources section of the Initial Study states that tribal consultation conducted as part of another project within the Los Cerritos Wetlands identified a potential Tribal Cultural Landscape that may be eligible for the National Register as a Tribal Cultural Property, and that the proposed program's potential to cause a substantial adverse change in the significance of a tribal cultural resource will be evaluated in the PEIR. As part of the CEQA analysis in the PEIR, LCWA determined that the landscape is a tribal cultural resource pursuant to Public Resources Code section 21074(a)(2).

Response SCWTF-119

The commenter states that tribal interests are assumed to be limited to their connection to archaeological sites and cultural resources, including burial sites. The commenter further states that tribes are not acknowledged as living communities and governing bodies, nor are their efforts to protect and use the wetlands for spiritual, cultural, and recreational purposes acknowledged. LCWA recognizes that California Indian Tribes are living communities with a connection to the Los Cerritos Wetlands and that this connection extends beyond archaeology and burial sites. The Draft PEIR acknowledges that tribes consider the wetlands and surrounding area to be culturally and biologically connected, that the natural resources are as important to the tribes as the archaeological sites. LCWA also acknowledges that the tribes are living communities who are interested in protecting and using the wetlands for spiritual, cultural, and recreational purposes. In response to this comment and other comments, Chapter 3.4 Cultural Resources, Section 3.4.2.2 Ethnographic Setting, of the Draft PEIR was revised.

Additionally, impacts associated with temporary loss of wetlands and associated natural resources to which tribes ascribe value and use for spiritual, cultural, and recreational purposes have been added to the analysis of impacts to the tribal cultural landscape in the Draft PEIR.

Response SCWTF-120

The commenter states that the NOP fails to acknowledge that the Tongva and the Acjachemen recognize the Los Cerritos Wetlands as both a Tribal Cultural Landscape and Sacred Site eligible to be listed as such by the NAHC and SHPO. The Tribal Cultural Resources section of the Initial Study states that tribal consultation conducted as part of another project within the Los Cerritos Wetlands identified a potential Tribal Cultural Landscape that may be eligible for the National Register as a Tribal Cultural Property, that LCWA will conduct consultation with Native Americans who are traditionally and cultural affiliated with the geographic area of the program area (which includes the Tongva and Acjachemen), and that proposed program's potential to cause a substantial adverse change in the significance of a tribal cultural resource will be evaluated in the PEIR. As part of the PEIR, LCWA consulted with California Native American Tribes, including those who are Tongva and Acjachemen, and determined that the landscape is a tribal cultural resource pursuant to Public Resources Code section 21074(a)(2).

Response SCWTF-121

The commenter states that the NOP ignores tribal cultural perspectives and tribal connections to the Los Cerritos Wetlands, and that the NOP fails to identify potentially significant impacts to the Los Cerritos Wetlands and to the tribal peoples who have a physical and cultural connection to the area. The commenter further states that the proposed mitigation measures fail to acknowledge the continued and consistent comments by numerous tribal leaders that any and all disruption of natural areas does harm and should be avoided. The Tribal Cultural Resources section of the Initial Study states that tribal consultation conducted as part of another project within the Los Cerritos Wetlands identified a potential Tribal Cultural Landscape that may be eligible for the National Register as a Tribal Cultural Property, that LCWA will conduct consultation with Native Americans who are traditionally and cultural affiliated with the geographic area of the program area (which includes the Tongva and Acjachemen), that proposed program's potential to cause a substantial adverse change in the significance of a tribal cultural resource will be evaluated in the PEIR, and that mitigation measures will be recommended to reduce potential significant impacts to tribal resources. As part of the Draft PEIR, LCWA consulted with tribes, determined that the Los Cerritos Wetlands are part of a tribal cultural landscape that meets the definition of tribal cultural resource, determined that the program would have a significant effect on the landscape, developed mitigation with tribal input to reduce the impact to the degree feasible, and concluded that even with mitigation impacts to the landscape would be significant and unavoidable at the program level.

Response SCWTF-122

The commenter asserts that the proposed program does not appreciate the natural work and the original peoples of the land. This comment is noted and the LCWA looks forward to discussing these perspectives with the commenter, however, this comment does not raise any specific issues

with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response SCWTF-123

The commenter provides an attachment entitled "Salt Flats in Southern California Coastal Wetlands" and does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response SCWTF-124

The commenter provides an attachment entitled "Bermzerk" and does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response SCWTF-125

The commenter provides an attachment of a map of the Los Cerritos Wetlands Complex from the Conceptual Restoration Plan and does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response SCWTF-126

The commenter provides an attachment of Draft PEIR **Figure 2-2**, *Program Area and Local Vicinity*, of the Draft PEIR and does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted

Response SCWTF-127

The commenter provides an attachment which includes comments submitted for the "Upper Los Cerritos Wetlands Mitigation Bank" and does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response SCWTF-128

Responses to the referenced letter are provided above in Responses to Comments Nos. SCWTF-1 to SCWTF-127.

Response SCWTF-129

Responses to the referenced letter are provided above in Responses to Comments Nos. SCWTF-1 to SCWTF-127.

Response SCWTF-130

Responses to the referenced letter are provided above in Responses to Comments Nos. SCWTF-1 to SCWTF-127.

Comment Letter Husting

From: K Husting
To: Sally Gee
Subject: Los Cerritos Wetland Authority Draft EIR
Date: Sunday, June 7, 2020 3:21:33 PM

Hello Ms. Gee,

Thank you for the opportunity to comment on the draft EIR. I am a supporter of the wetland restoration project and live adjacent to the southern portion of the project boundary in Heron Pointe, Seal Beach. I only have a few comments: Husting-1

1. With the future grading and brush clearance, please set aside funds for exterminators for the residents within a few hundred yards of the project boundaries. When a similar development happened in Cerritos for the Town Center, rodents and insects fled to the nearby households requiring exterminators for many of the residents up to a 1/4 mile away. Husting-2
2. Please have a noise mitigation fund created for neighbors that would be subject to excessive noise from the construction equipment. Husting-3
3. Once the EIR is passed, reach out to the Port of Los Angeles for funding. The Port is looking to earn environmental credits and would be willing to fund part or all of this project. Husting-4

Thank you and good luck with the project. Husting-5

Ken Husting
924 Blue Heron
Seal Beach, CA 90740

Ken Husting, June 7, 2020

Comment Letter Husting

Response Husting-1

The commenter expresses support for the proposed program and is noted for the record. However, the comment does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response Husting-2

The commenter requests funds to be set aside for exterminators for residents near the program area. However, the comment does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response Husting-3

The comment requests a noise mitigation fund for neighbors subject to excessive construction noise. As described in Chapter 3.11 Noise, of the Draft PEIR, a mix of construction equipment would be used depending on the construction stage and activity. The noise level from the equipment would depend on the distance to the receptor with a 6 dBA reduction in noise level per doubling of distance. Construction activities would comply with and be limited to daytime hours in accordance with the City of Long Beach and City of Seal Beach's noise ordinances. Furthermore, construction traffic noise resulting from on-road truck and worker vehicles was concluded to result in a negligible, non-perceptible traffic noise increase, as the increase would be less than 3 dBA. Because the program impacts from noise were determined to be less than significant, no mitigation measures are required by CEQA. However, in consideration of potential noise sensitivities at off-site residences, to reduce and minimize the construction noise generated on the program area and attenuated at the nearest off-site residences, the Draft PEIR included construction, noise reduction measures, NOISE1 and NOISE3. Noise reduction measures NOISE1 includes requirements for staging areas away from residences and the use of equipment mufflers; NOISE3 includes noise barrier requirements for construction occurring near off-site residences. These control measures would minimize noise to off-site residents.

Response Husting-4

The commenter expresses that the Port of Los Angeles could be a potential future funder for the project and that is noted for the record. The comment does not raise any specific issues regarding the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response Husting-5

The commenter provides a general conclusion statement but does not raise any specific issues regarding the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Comment Letter Napier

DATE 6-18-20

From, William Napier phone 562-240 9345
NEW 538 Ranchwood Dr.
Los Banos Cal. 93635

RECEIVED
IW20-00079
JUN 20 2020
Los Cerritos Wetlands Authority

OLD - 5465 E. 2nd. ST. APT. 10
Long Beach, CAL. 90803

TO Los Cerritos Salt Marsh wetlands. Authority.

Napier-1 THE wetlands are very, very, SMALL SMALL, SMALL, , THE punkin patch LAND is part of it. STOP CHEATING. give THE people of Long Beach THEir WETLANDS, WITH THE punkin PATCH LAND, give THE people of Long Beach SOMETHING. INSTEAD OF NOTHING. THIS LAND is your LANDS. THIS LAND is our LANDS.

Napier-2 ALSO, DONT Clean THE wetlands, Leave it alone.

THANK you,

William Napier

William Napier, June 20, 2020

Comment Letter Napier

Response Napier-1

The commenter expresses opposition to the proposed program. While this comment is noted, as it does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response Napier-2

The commenter provides a general statement that opposes any projects on the wetlands. While this comment is noted, it does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Comment Letter Sinclair

From: Melanie Sinclair
To: Sally Gee
Subject: No to Los Cerritos Wetlands Restoration Project
Date: Tuesday, June 30, 2020 5:39:06 PM

Dear Ms. Gee,

Sinclair-1 | I am writing to let you know that I oppose building flood control berms or digging trenches and flooding seasonal wetlands to create new salt water marshes.

Sinclair-2 | I oppose spraying herbicides on existing wildlife habitat.

Sinclair-3 | There are tribal cultural remains on Puvungna East and Motuucheyngna, and this Traditional Tribal Landscape should not be altered in any way by any civil restoration project. Any desecration of tribal cultural remains is a travesty that is rooted in White Supremacy and cannot stand.

Sinclair-4 | Where can I go to be informed of the result of the public comments that you are now gathering?

sincerely,

Melanie Sinclair
Long Beach, CA

Melanie Sinclair, June 30, 2020

Comment Letter Sinclair

Response Sinclair-1

The commenter expresses opposition to the building of flood control berms, development of tidal channels, and restoring salt marsh habitat in the proposed program. While this comment is noted, as it does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted. Please see Response to Comment No. SCWTF-22.

Response Sinclair-2

The commenter expresses opposition to the use of herbicides. This comment is noted, as it does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response Sinclair-3

The commenter expresses concern for impacts to Cultural and Tribal Cultural Resources, and opposes alteration of the landscape in any way. Impacts to Cultural Resources and Tribal Cultural Resources were analyzed in Chapters 3.4 and 3.15 respectively, and impacts were identified as significant and unavoidable even with implementation of the mitigation measures identified in those Sections. The LCWA recognizes the importance of the Los Cerritos Wetlands to Tribes and will continue to consult with Tribes as the project moves forward.

Response Sinclair-4

The commenter asks how to be informed of the results of submitted public comments. Responses to public comments received about this Draft PEIR and any changes to the Draft PEIR are noted in the Final PEIR. The LCWA has noticed the release of the Final PEIR through several mediums, and the document is posted on the LCWA website at intoloscerritoswetlands.org and on the State Clearinghouse website at https://ceqanet.opr.ca.gov/Project/2019039050. LCWA Project Manager, Sally Gee, can be contacted at sgee@rmc.ca.gov or at 626-815-1019 x 104 for any additional questions or for accommodations to view the Draft and Final EIR document.

Comment Letter Soundstrom

From: Dianne Sundstrom
To: Sally Gee
Subject: PEIR for the Los Cerritos Wetlands Restoration in Long Beach and Seal Beach
Date: Monday, July 6, 2020 2:36:09 PM

Dear Ms. Gee,

Sundstrom-1 I am writing to provide feedback on the PEIR for the Los Cerritos Wetlands Restoration Plan.

I am very supportive of restoring the wetlands and understand that there are many complex issues that need to be considered when developing restoration plans. With that said, I was truly surprised and a bit alarmed about the levees and berms proposed in the plan as a method of managing sea level rise and flooding. From my perspective, these levees and berms will essentially create a visual wall around the wetlands. This was not a component of the early plans presented to the community.

Sundstrom-2 Understanding that flood control is a major issue particularly as sea level rises, are there not other alternatives than those identified in the PEIR that would address this issue? Has the LCWA and its partners looked outside of the United States for potential solutions? Have all other alternatives been thoroughly investigated and considered?

As Henk Ovink, a Dutch expert on rising water and climate change, said in a NY Times article, “We can’t just keep building higher levees, because we will end up living behind 10-meter walls,”……..“We need to give the rivers more places to flow.”

Are we certain that levees and berms are the ONLY way to manage flood control in the Wetlands?

Regards,

Dianne Sundstrom
4507 E Barker Way
Long Beach, CA 90814

Dianne Sundstrom, July 6, 2020

Comment Letter Sundstrom

Response Sundstrom-1

The commenter is providing feedback on the Draft PEIR. Specific comments regarding the Draft PEIR are provided and responded to below.

Response Sundstrom-2

The commenter expresses concern about the aesthetics of the proposed flood control levees and berms, and asks if other flood control strategies have been explored. The commenter also provides a quote from Dutch expert Henk Ovink that argues for alternatives to higher levees. The LCWA has analyzed the maximum impacts of the implementation of levees, berms, and flood walls for flood protection as part of the proposed program. The LCWA will make every effort to minimize the impacts of the proposed flood control structures on the landscape and assess where other approaches may be taken. LCWA is supportive of exploring other forms of flood control strategies in the future for restoration of the LCW.

Comment Letter Zeiser

From: Mary Zeiser
To: Sally Gee
Subject: Oppose
Date: Monday, July 6, 2020 4:17:19 PM

Zeiser-1

NO Building flood control berms on the wetlands to protect oil wells, commercial and industrial properties from sea rise
NO digging trenches and flooding seasonal wetlands to create new salt water marshes
NO bulldozing, burying, spraying herbicides on existing wildlife habitat
NO destroying tribal cultural remains on Puvungna East and Motuucheyngna, a Traditional Tribal Landscape
NO new buildings, roads, visitor centers, oil wells and pipelines on wetlands
WETLANDS NOT WALLS! LEAVE OIL AND ANCESTORS IN THE GROUND!

This project is overt environmental racism, and the immediate need to start phasing California off of developing on the ancestral lands of the Tongva is dire. I urge you to stop permitting any new developments on these lands, starting with denying this permit. As long as California has been a state, industrial development has disproportionately damaged Indigenous communities and environmental justice communities.
--

Zeiser
Climate Campaigner
They/Them/Theirs
C: 510.778.5670
Occupied Miwok and Nisenan Territory

Stand is an advocacy organization that brings people together to demand that corporations and governments put people and the environment first.

Mary Zeiser, July 6, 2020

Comment Letter Zeiser

Response Zeiser-1

The commenter expresses opposition to the proposed program based on flood control berms, herbicide use, destroying tribal cultural remains, oil drilling, and environmental racism. While this comment is noted, as it does not raise any issues with respect to the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Comment Letter Grisworld

Date: July 7, 2020

Subject: Comments on Draft Program EIR Los Cerritos Wetlands Program Long Beach

Ms. Sally Gee
Los Cerritos Wetlands Authority
100 North Old San Gabriel Canyon Road Azusa, CA 91702
Transmitted by email: sgee@rmc.ca.gov

Dear Ms. Gee,

Griswold-1

On behalf of myself and the remaining habitat at Los Cerritos Wetlands Complex, I am providing these comments on the Draft Program Environmental Impact Report Los Cerritos Wetlands (DPIER). I have been a practicing restoration ecologist for the past 27 years, mainly within southern California.

"Adopted by the LCWA Board of Directors in August 2015, the CRP [Conceptual Restoration Plan] identifies goals and objectives (see Section 2.5, Los Cerritos Wetlands Restoration Plan Goals and Objectives) and three restoration design alternatives (minimum alteration, moderate alteration, and maximum alteration) with varying degrees of alterations to existing site conditions under a range of sea-level rise scenarios." DPEIR 2020

I offer these definitions for clarification of your DPEIR and your CRP with respect to the term 'restoration':

Restoration is the process of intentionally altering a site to establish a defined, indigenous, historic ecosystem. The goal of restoration is to emulate the structure, function, diversity, and dynamics of the specified ecosystem. (from California Society for Ecological Restoration)

Griswold-2

According to the Army Corps of Engineers:
Restoration can be divided into two activities: re-establishment and rehabilitation. Re-establishment returns historic/natural functions to a site as previously existed. Rehabilitation improves the general suite of functions of a degraded site. Usually, rehabilitation results in less disturbance to a site than re-establishment.

Habitat creation establishes a historical ecosystem on lands that did not previously support that ecosystem. (from California Society for Ecological Restoration)

I have one general comment concerning the program described in the DPEIR and the supporting documents. The proposed program suffers from the same lack of historical basis for which to describe habitat 'restoration' of the wetlands as other regional coastal wetland 'restoration' projects that have ignored not only historical conditions based on published information, but also conditions that currently exist, in an effort to force presumptive improvements. With respect to to the Los Cerritos Wetlands Complex, there is the lack of reference to the *Historical Ecology and Landscape Change of the San Gabriel River and Floodplain* (Stein et al. 2007. This historical ecology report gives a basis for how the current conditions can be viewed and what habitats might be considered in a historical context in formulating goals and objectives for the program.

Griswold-2 Cont.

An historical ecological basis viewed within the current conditions might offer a range of alternatives from habitat re-establishment to enhancement/rehabilitation, otherwise defined as habitat restoration, that are more ecologically efficient to implement. As it is, most of the plan calls for revegetation and/or reclamation, and habitat creation. The later, habitat creation, is an effort by humans to force a particular assemblage of plants onto an area and soils that never supported the desired habitat. Habitat creation, in my experience, is the least desirable method to attempt the improvement of the Los Cerritos Wetlands Complex. The program should avoid habitat creation, and efforts should be made to utilize existing conditions of soil, hydrology, and vegetation in the most ecologically efficient way to achieve the goals of the program.

The three identified project alternatives, called out as minimum alteration, moderate alteration, and maximum alteration contain little to no restoration and/or revegetation of alkali meadow habitat, even though it is described that this habitat was once the most common type of habitat in the area (Stein et al. 2007). The DPEIR does not consider this plant community as a major habitat in any of the project alternatives, I assume, because no comprehensive historical review of habitats was performed for the area. This alkali meadow habitat likely could be efficiently restored across large parts of the program area as it is supported by seasonal rainfall. This meadow habitat is lacking on a regional scale and might be very important for coastal wetlands. This meadow habitat might more accurately be called restoration than some of the plans for the three alternatives. Therefore, the project description of the DPEIR has not adequately considered all feasible alternatives for the program, even conceptually.

Griswold-3

The idea of habitat creation brings me to a point that pops out at me in reading over some of the specific aspects of the program. The DPEIR identifies a 10-acre area that is required to be restored to grassland for raptor foraging, per another development project's mitigation. Based on reading the DPEIR and reviewing the map for this area, I have two comments; first, I am dismayed by the number of trails that are recommended for a raptor foraging area. The potential for disruption by human intrusion into the relatively small raptor foraging area might be great, and I do not see that impact sufficiently analyzed in the impact section. This point of impact analysis is complicated because the 10-acre raptor foraging area is for another project, and therefore, any significant impact on raptor foraging and the mitigation for those significant impacts becomes somewhat akin to an Escher print with a lack of clarity on perspective of the re-viewer/viewer or agency oversight. I would suggest a clearer analysis of impact for this aspect of the project or the DPEIR is likely considered inadequate.

Furthermore, the idea of 'restoring' a native perennial grassland in this 10-acre area is misguided, especially given the species described in the DPEIR. The most difficult habitat to restore, in the true sense of the word, are native perennial grasslands, based on my experience and based on observation of the failed efforts of others in southern California. What is described in the DPEIR might be better termed habitat revegetation, at best, or habitat creation, at worst. Regardless, the soils and existing vegetation indicate that trying to establish a native grassland dominated by alkali sacaton (*Sporobolus airoides*), purple needlegrass (*Stipa pulchra*), and alkali ryegrass (*Elymus triticoides*) may result in an alkali sacaton dominated area, as it is unlikely that purple needlegrass would establish successfully in the area if the soils are at all saline in nature. But even an alkali sacaton type of grassland maybe difficult to establish. The area appears to have been part of an old landfill. Based on my experience establishing

Griswold-3 Cont.

native habitat in the long-term (mainly coastal sage scrub) on landfills in southern California, I have not observed successful establishment of native perennial grasslands as their soils and water requirements are not compatible with most landfill soil covers. The County of Orange seeded purple needlegrass over part of Coyote Canyon Landfill some 24 years ago, and the area is now dominated by non-native ruderal species and non-native Acacia shrubs, whereas areas that were specifically seeded with coastal sage scrub species have established and continue to support breeding pairs of California gnatcatchers, the target avian species for the scrub habitat. Revegetation of landfills requires a knowledge of the soils used to cover the landfill, as well as the depth of the soil cover, and rainfall patterns in order to plan for a successful outcome. Therefore, rather than revegetation of this area, further analysis for the raptor foraging area might include simply management of the existing vegetation and leave trails for the public on the edge of one side of the area to the have least human disturbance possible.

Griswold-4

"In 2017, LCWA received funding to further the design of the alternatives identified in the CRP with the development of a program-level restoration design, to prepare a PEIR, and to prepare a Los Cerritos Wetlands Optimized Restoration Plan (expected to be completed in 2020). The purpose of the Los Cerritos Wetlands Optimized Restoration Plan is to provide a conceptual basis of design for the restoration of the Los Cerritos Wetlands Complex, and to provide guidance for future phases of the restoration process. Future phases of the restoration would involve identifying individual projects, and developing more detailed, project-level designs (i.e., engineering designs, grading plans) and analysis (i.e., wetland delineation reports)." DPEIR 2020

Overall, I would urge you to look for the most ecologically efficient alternatives to 'restore' habitat, that is, to rehabilitate and reestablish native habitat at the Los Cerritos Wetlands Complex based on historically ecology of the area.

Sincerely,



Margot Griswold, Ph.D.
Senior Restoration Ecologist

Literature Cited

Stein, E. D., S. Dark, T. Longcore, N. Hall, M. Beland, R. Grossinger, J. Casanova and M. Sutula. 2007. *Historical ecology and landscape change of the San Gabriel River and floodplain*. Tech. Rpt. 499. So. Calif. Coastal Water Rsrch. Proj. 101 pp. + append. www.rmc.ca.gov/grants/resources/499_historical_ecology.pdf

Comment Letter Grisworld

Griswold-5

From: Margot Griswold
To: Sally Gee
Subject: Comment Letter Los Cerritos DPEIR
Date: Tuesday, July 7, 2020 12:56:45 PM
Attachments: CommentLetter_DPEIR_Los Cerritos Wetlands.pdf

Dear Ms. Gee,

I realize I am half a day late in getting you this comment letter, but I also understand that it still is part of the official record.

Thank you,

Margot Griswold
Restoration Ecologist

Margot Griswold, July 7, 2020

Comment Letter Griswold

Response Griswold-1

The commenter provides a general introductory statement and offers personal credentials but does not raise any specific issues regarding the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response Griswold-2

See Responses to Comments Nos. EDAUD-2 and EDAUD-6

Response Griswold-3

See Responses to Comments Nos. EDAUD-5, EDAUD-6, and EDAUD-7.

Response Griswold-4

The commenter provides a general statement that urges LCWA to rehabilitate and reestablish native habitat at the Los Cerritos Wetlands Complex based on historically ecology of the area but does not raise any specific issues regarding the content and adequacy of the Draft PEIR. As such, no further response is warranted.

Response Griswold-5

Responses to the referenced letter are provided above in Responses to Comments Nos. Griswold-1 to Griswold-4.

CHAPTER 3
Draft EIR Revisions

This section references revisions to the Draft EIR based upon (1) clarifications required to prepare a response to a specific comment and/or (2) typographical errors. LCWA has determined that none of this material constitutes significant new information that requires recirculation of the Draft EIR for further public comment under CEQA Guidelines Section 15088.5. The additional material clarifies existing information prepared in the Draft EIR and does not present any new substantive information. None of this new material indicates that the project would result in a significant new environmental impact not previously disclosed in the Draft EIR. Additionally, none of this material indicates that there would be a substantial increase in the severity of a previously identified environmental impact that would not be mitigated, nor that there would be any of the other circumstances requiring recirculation described in Section 15088.5. Changes made to the Draft EIR are referenced here and can be viewed in the individual Draft EIR sections in ~~strikeout text~~ to indicate deletions and in <u>single-underlined text</u> to signify additions in Appendix A of this Final EIR.

TABLE 3-1
DRAFT EIR REVISIONS

Chapter #	Section # / Figure #
ES. Executive Summary	Section ES.5.2 Cultural History of the Los Cerritos Wetlands Complex
ES. Executive Summary	Section ES.6.0 Los Cerritos Wetlands Restoration Plan Goals and Objectives
ES. Executive Summary	Section ES.7.1 Overview of Common Program Feature
ES. Executive Summary	Section ES.7.2 South Area
ES. Executive Summary	Section ES.7.8.5 Water-Control Structures
ES. Executive Summary	Section ES.10.4 Summary of Significant Impacts That Can Be Mitigated
ES. Executive Summary	Table ES-8 Summary of Environmental Effects and Mitigation Measures
Chapter 1 Introduction	Section 1.3.4 Draft PEIR
Chapter 1 Introduction	Section 1.4 Approach to this PEIR
Chapter 2 Project Description	Section 2.1.2 Los Cerritos Wetlands Restoration Plan Planning Process
Chapter 2 Project Description	Section 2.3.2.1 South Area, 7th Paragraph
Chapter 2 Project Description	Figure 2-2 Project Vicinity
Chapter 2 Project Description	Section 2.4.2 Cultural History of Los Cerritos Wetlands Complex
Chapter 2 Project Description	Section 2.5 Los Cerritos Wetlands Restoration Plan Goals and Objectives, 1d. 3d, and 3e.

Chapter #	Section # / Figure #
Chapter 2 Project Description	Section 2.6 Land Use and Zoning Designations, 4th paragraph
Chapter 2 Project Description	Figure 2-9 General Plan Land Use Designations
Chapter 2 Project Description	Section 2.7.1.2 Ecosystem Restoration, 1st paragraph
Chapter 2 Project Description	Section 2.7.1.3 Flood Risk and Stormwater Management, 1st paragraph
Chapter 2 Project Description	Section 2.7.2.1 South Area Phasing
Chapter 2 Project Description	Figure 2-12 Proposed South Area Near-Term
Chapter 2 Project Description	Figure 2-13 Proposed South Area Mid-Term Restoration
Chapter 2 Project Description	Section 2.7.2.2 South Area Restored Habitats
Chapter 2 Project Description	Figure 2-14 Proposed South Area Long-Term Restoration
Chapter 2 Project Description	Table 26: Post-Restoration Habitats and Acreage in South Area
Chapter 2 Project Description	Section 2.7.2.4 South Area Trails and Overlooks, 1st paragraph
Chapter 2 Project Description	Figure 2-16 Proposed South Area Near-Term Public Access
Chapter 2 Project Description	Figure 2-17 Proposed South Area Long-Term Public Access
Chapter 2 Project Description	Section 2.7.4.3 Central Area Levees, 2nd paragraph
Chapter 2 Project Description	Table 2-18: Required Permits and Approvals
Chapter 3.2 Air Quality	Section 3.2.3.3 Regulations and Rules, Regulation XIV and Rule 1466
Chapter 3.3 Biological Resources	Table 3.3-2 Special-Status Plants with Potential to Occur (Vernal Barley)
Chapter 3.3 Biological Resources	Section 3.3.2.4 Special-Status Plants Documented (Vernal Barley)
Chapter 3.3 Biological Resources	Table 3.3-5 Special-Status Wildlife with Potential to Occur (Red diamond rattlesnake, Ridgway's rail, Tri-colored blackbird)
Chapter 3.3 Biological Resources	Section 3.3.2.5 Special-Status Wildlife Documented (Tri-colored Blackbird)
Chapter 3.3 Biological Resources	Section 3.3.2.5 Special-Status Wildlife with Potential to Occur (Amphibians, Ridgway's Rail)
Chapter 3.3 Biological Resources	Table 3.3-6 Special-Status Wildlife with Potential to Occur within the Program Area
Chapter 3.3 Biological Resources	Table 3.3-7 Common Birds Observed Within the Los Cerritos Wetlands Program Area
Chapter 3.3 Biological Resources	3.3.2.6 Common Wildlife (Marine Fish)
Chapter 3.3 Biological Resources	3.3.2.10 Potential Jurisdictional Resources, 1st and 2nd paragraphs
Chapter 3.3 Biological Resources	Table 3.3-10 Potential Jurisdictional Waters Within the Program Area
Chapter 3.3 Biological Resources	Section 3.3.2.10 Potential Federal Jurisdictional Waters, 2nd paragraph
Chapter 3.3 Biological Resources	Figure 3.3-4b Potential State Jurisdictional Waters South Area
Chapter 3.3 Biological Resources	Figure 3.3-5b Potential State Jurisdictional Waters Isthmus Area
Chapter 3.3 Biological Resources	Figure 3.3-6b Potential State Jurisdictional Waters Central Area
Chapter 3.3 Biological Resources	Figure 3.3-7b Potential State Jurisdictional Waters North Area
Chapter 3.3 Biological Resources	Section 3.3.2.10 Potential State Jurisdictional Waters
Chapter 3.3 Biological Resources	Section 3.3.2.10 Potential CCC Jurisdictional Waters
Chapter 3.3 Biological Resources	Section 3.3.3.2 Porter-Cologne Water Quality Control Act

Chapter #	Section # / Figure #
Chapter 3.3 Biological Resources	Section 3.3.3.2 California Coastal Act (Section 30233)
Chapter 3.3 Biological Resources	Section 3.3.5 Impact Bio-1 Non-Special-Status Invertebrates
Chapter 3.3 Biological Resources	Section 3.3.5 Impact BIO-1, Coast Horned Lizard, Coastal whiptail, Red Diamond Rattlesnake, and Southern California Legless Lizard, 1st paragraph
Chapter 3.3 Biological Resources	Section 3.3.5 Impact BIO-1 Loggerhead Shrike
Chapter 3.3 Biological Resources	Section 3.3.5 Impact BIO-1 Merlin
Chapter 3.3 Biological Resources	Section 3.3.5 Impact BIO-1 Northern Harrier (Nesting)
Chapter 3.3 Biological Resources	Section 3.3.5 Impact BIO-1 Tri-Colored Blackbird
Chapter 3.3 Biological Resources	Section 3.3.5 Impact BIO-1, Mitigation Measure BIO-1: Avoidance of Special-Status Plants
Chapter 3.3 Biological Resources	Section 3.3.5 Impact BIO-1, Mitigation Measure BIO-2: Environmental Awareness Training and Biological Monitoring
Chapter 3.3 Biological Resources	Section 3.3.5 Impact BIO-1, Mitigation Measure BIO-3: Belding's Savannah Sparrow Breeding Habitat
Chapter 3.3 Biological Resources	Section 3.3.5 Impact BIO-1, Mitigation Measure BIO-5: Habitat Assessment and Pre-Construction Surveys for Burrowing Owl
Chapter 3.3 Biological Resources	Section 3.3.5 Impact BIO-1, Mitigation Measure BIO-7: Pre-Construction Bat Surveys
Chapter 3.3 Biological Resources	Section 3.3.5 Impact BIO-1, Mitigation Measure BIO-8: focused Surveys for Special-Status Wildlife Species
Chapter 3.3 Biological Resources	Section 3.3.5 Impact BIO-2, Mitigation Measure BIO-9: Revegetation of Sensitive Natural Communities
Chapter 3.3 Biological Resources	Section 3.3.5 Impact BIO-4 Construction
Chapter 3.3 Biological Resources	Section 3.3.5 Impact BIO-5 Construction (ESHA)
Chapter 3.3 Biological Resources	Section 3.3.5 Impact BIO-5, Operation (Tree Protection)
Chapter 3.3 Biological Resources	Section 3.3.7 References
Chapter 3.4 Cultural Resources	Section 3.4.2.2 Ethnographic Setting
Chapter 3.4 Cultural Resources	Section 3.4.2.2 Gabrielino (or Tongva and Kizh)
Chapter 3.4 Cultural Resources	Section 3.4.2.2 Juaneno (or Acjachemen)
Chapter 3.4 Cultural Resources	Section 3.4.2.3 Historic Setting, American Period (1846-present), 2nd and 3rd paragraph
Chapter 3.4 Cultural Resources	Section 3.4.2.5 Other Identified Resources, Tribal Cultural Landscape, 2nd paragraph
Chapter 3.4 Cultural Resources	Section 3.4.5 Impact CUL-1 (Construction), Tribal Cultural Landscape
Chapter 3.4 Cultural Resources	Section 3.4.5 Impact CUL-1 (Operation), 2nd paragraph
Chapter 3.4 Cultural Resources	Mitigation Measure CUL-6: Phase II Archaeological Investigations
Chapter 3.4 Cultural Resources	Mitigation Measure CUL-8 Phase III Archaeological Resources Data Recovery and Treatment Plan, e.
Chapter 3.4 Cultural Resources	Mitigation Measure CUL-9: Archaeological Resources Monitoring and Mitigation Plan
Chapter 3.4 Cultural Resources	Mitigation Measure CUL-12 Native American Coordination
Chapter 3.4 Cultural Resources	Mitigation Measure CUL-14: Archaeological Resources Discoveries
Chapter 3.4 Cultural Resources	Mitigation Measure CUL-15: Curation and Disposition of Cultural Materials

Chapter #	Section # / Figure #
Chapter 3.4 Cultural Resources	Section 3.4.6.1 Cumulative Impacts (Construction), Tribal Cultural Landscape, 1st and 4th paragraph
Chapter 3.4 Cultural Resources	Mitigation Measure CUL-17: Tribal Access Plan
Chapter 3.4 Cultural Resources	Section 3.4.7 References
Chapter 3.5 Geology, Soils and Paleontological Resources	Section 3.5.3.2 State, California Coastal Act
Chapter 3.5 Geology, Soils and Paleontological Resources	Mitigation Measure GEO-5: Paleontological Discoveries
Chapter 3.5 Geology, Soils and Paleontological Resources	Mitigation Measure GEO-6: Preparation, Identification, Cataloging, and Curation Requirements
Chapter 3.6 Greenhouse Gas Emissions and Energy	Section 3.6.2.2 Adaptation
Chapter 3.7 Hazards and Hazardous Materials	Section 3.7.3.3 Coastal Development Permit (CDP) 9-18-0395 Special Condition
Chapter 3.8 Hydrology and Water Quality	Section 3.8.3.1 Clean Water Act Section 401
Chapter 3.8 Hydrology and Water Quality	Section 3.8.3.1 Clean Water Act Section 404
Chapter 3.8 Hydrology and Water Quality	Section 3.8.3.2 Porter-Cologne Water Quality Control Act
Chapter 3.8 Hydrology and Water Quality	Section 3.8.5 Impact 1 (Construction), 2nd paragraph
Chapter 3.8 Hydrology and Water Quality	Section 3.8.5 Impact 2 (Construction), 3rd paragraph
Chapter 3.8 Hydrology and Water Quality	Section 3.8.5 Impact 3a (Construction), 1st paragraph
Chapter 3.9 Land Use and Planning	Section 3.9.1 Introduction, 2nd paragraph
Chapter 3.9 Land Use and Planning	Section 3.9.2.3 Land use and Zoning Designations, 3rd paragraph
Chapter 3.9 Land Use and Planning	Section 3.9.3.4 Proposed Seal Beach Local Coastal Program
Chapter 3.9 Land Use and Planning	Section 3.9.3.4 City of Long Beach General Plan, 2nd paragraph
Chapter 3.9 Land Use and Planning	Section 3.9.3.4 city of Long Beach Local Coastal Program, 3rd paragraph
Chapter 3.9 Land Use and Planning	Section 3.9.5 Impact LU-1
Chapter 3.9 Land Use and Planning	Section 3.9.5 Impact LU-2, Consistency with the Long Beach General Plan, 2nd paragraph
Chapter 3.9 Land Use and Planning	Section 3.9.5 Impact LU-2 Long Beach General Plan Land Use Designations (Isthmus Area, Central Area, North Area)
Chapter 3.9 Land Use and Planning	Section 3.9.5 Impact LU-2 Long Beach Updated General Plan Land Use Element, heading
Chapter 3.9 Land Use and Planning	Section 3.9.5 Impact LU-2 Consistency with the California Coastal Act and Long Beach Local Coastal Program, 1st paragraph
Chapter 3.9 Land Use and Planning	Table 3.9-1 Consistency Analysis with Local Land Use Plans (Section 30220)
Chapter 3.13 Recreation	Section 3.13.3.2 California Coastal Act
Chapter 3.13 Recreation	Section 3.13.3.3 Water Quality Control Plan for LA Region (Basin Plan)
Chapter 3.15 Tribal Cultural Resources	Section 3.15.2.2 Ethnographic Setting
Chapter 3.15 Tribal Cultural Resources	Section 3.15.5 Program Impacts and Mitigation Measures
Chapter 3.15 Tribal Cultural Resources	Section 3.15.6.1 Cumulative Impacts – Construction
Chapter 3.16 Utilities and Service Systems	Section 3.15.5 Project Impacts and Mitigation Measures
Chapter 4 Other CEQA Considerations	Section 4.2.2 Cultural Resources

Chapter #	Section # / Figure #
Chapter 4 Other CEQA Considerations	Section 4.2.3 Tribal Cultural Resources
Chapter 5 Alternatives	Section 5.2.2.3 Alternatives Considered for Central Area (Tidal Connection from Steamshovel Slough to Central Area)
Chapter 5 Alternatives	Section 5.2.2.3 Alternatives Considered for Central Area (Tidal Connection from Steamshovel Slough to Long Beach City Property)
Chapter 5 Alternatives	Section 5.4 Alternatives Considered and Withdrawn from Consideration, 4th paragraph
Chapter 5 Alternatives	Section 5.4.2.4 Tidal Connection from Steamshovel Slough to Central Area
Chapter 5 Alternatives	Section 5.4.2.5 Tidal Connection from Steamshovel Slough to Long Beach City Property

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CHAPTER 4
Mitigation Monitoring and Reporting Program

4.1 Introduction to the Mitigation Monitoring and Reporting Program

Pursuant to Public Resources Code (PRC) Section 21081.6 and *CEQA Guidelines* Section 15097, a lead agency is required to adopt a mitigation monitoring and reporting program (MMRP) for assessing and ensuring compliance with the required mitigation measures applied to a proposed project for which an EIR has been prepared. As stated in PRC Section 21081.6(a):

> … the public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment.

Section 21081.6 provides general guidelines for implementing mitigation monitoring programs and indicates that specific reporting and/or monitoring requirements, to be enforced during project implementation, shall be defined prior to final certification of the PEIR. The lead agency, Los Cerritos Wetlands Authority, may delegate reporting or monitoring responsibilities to another public agency or a private entity that accepts such delegation. LCWA, however, remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the program.

4.2 Mitigation Monitoring and Reporting Program Matrix

Error! Reference source not found.**,** Error! Reference source not found., lists mitigation measures and project design features that are required to reduce the significant effects of the proposed project. These measures correspond to those discussed in Draft EIR Sections 3.1 through 3.16, and those revised in this Final EIR (see Chapter 9, *Draft EIR Revisions*). To ensure that the mitigation measures are properly implemented, a monitoring program has been devised that identifies the timing and responsible entity for monitoring each measure. LCWA will have the responsibility for implementing the measures, and various public agencies will have the primary responsibility for enforcing, monitoring, and reporting the implementation of the mitigation measures.

TABLE 4-1
MITIGATION MONITORING AND REPORTING PROGRAM

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
Aesthetics			
Mitigation Measure AES-1: Lighting Plan. Prior to issuance of a grading permit for each individual site that requires construction, a Lighting Plan for the individual site shall be developed and implemented that requires all exterior lighting to be directed downward and focused away from adjacent sensitive uses and habitats to encourage wayfinding and provide security and safety for individuals walking to and from parking areas.	Written verification; visual inspection.	By LCWA prior to issuance of grading permit and continuously during construction.	City of Long Beach City of Seal Beach
Air Quality			
Mitigation Measure AQ-1: Construction NO_X Reduction Measures. The Applicant for the proposed program shall be responsible for the implementation of the following construction-related NO_X reduction measures: • Require all off-road diesel-powered construction equipment greater than 50 hp (e.g., excavators, graders, dozers, scrappers, tractors, loaders, etc.) to comply with EPA-Certified Tier IV emission controls where commercially available. Documentation of all off-road diesel equipment used for this proposed program including Tier IV certification, or lack of commercial availability if applicable, shall be maintained and made available by the contractor to the local permitting agency (City of Seal Beach and City of Long Beach) for inspection upon request. In addition, all construction equipment shall be outfitted with Best Available Control Technology (BACT) devices certified by CARB such as certified Level 3 Diesel Particulate Filter or equivalent. A copy of each unit's certified tier specification, BACT documentation, and CARB or SCAQMD operating permit shall be provided at the time of mobilization of each applicable unit of equipment. If Tier IV construction equipment is not available, LCWA shall require the contractor to implement other feasible alternative measures, such as reducing the number and/or hp rating of construction equipment, and/or limiting the number of individual construction subphases occurring simultaneously. The determination of commercial availability of Tier IV construction equipment shall be made by the City prior to issuance of grading or building permits based on applicant-provided evidence of	Included in contractor's scope of work; written verification	By LCWA continuously during construction.	City of Long Beach City of Seal Beach California Coastal Commission

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
the availability or unavailability of Tier IV equipment and/or evidence obtained by the City from expert sources such as construction contractors in the region. • Require all main engines for tugboats to comply with EPA-Certified Tier IV emission controls. • Eliminate the use of all portable generators. Require the use of electricity from power poles rather than temporary diesel or gasoline power generators. • Provide temporary traffic controls such as a flag person, during all phases of construction to maintain smooth traffic flow, including during the transportation of oversized equipment and vehicles. • Provide dedicated turn lanes for movement of construction trucks and equipment on site and off site. The location of these dedicated lanes shall be addressed in the Construction Trip Management Plan. • Reroute construction trucks away from congested streets or sensitive receptor areas. • Prohibit the idling of on-road trucks and off-road equipment in excess of 5 continuous minutes, except for trucks and equipment where idling is a necessary function of the activity, such as concrete pour trucks. The Applicant or construction contractor(s) shall post signs at the entry/exit gate(s), storage/lay down areas, and at highly visible areas throughout the active portions of the construction site of the idling limit. • On-road heavy-duty diesel haul trucks with a gross vehicle weight rating of 19,500 pounds or greater used to transport construction materials and soil to and from the program area shall be engine model year 2010 or later or shall comply with the USEPA 2007 on-road emissions standards.			

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
Biological Resources			
Mitigation Measure BIO-1: Avoidance of Special-Status Plants. Prior to LCWA's approval of project plans or publication of subsequent CEQA documents, a qualified botanist/biologist shall conduct a habitat assessment to determine the presence or absence of suitable habitat for special-status plant species. If suitable habitat is determined to be present, focused plant surveys should be conducted in accordance with Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW, March 20, 2018). Consistent with the CDFW protocol, such focused special-status plant surveys will be conducted during the appropriate blooming period for these species, with May and June likely having the highest number of species in flower. The results of focused special-status plant species will be incorporated into restoration design plans. The locations of any special-status plants within 25 feet of proposed disturbance areas shall be identified and mapped. Individual plants shall be flagged for avoidance and an avoidance buffer of at least 10 feet shall be established around the plant(s). If special-status plants cannot be avoided, they shall be incorporated into the proposed program's restoration design at a minimum ratio of 1:1 (one plant planted for every one plant removed, or 1 square foot of absolute cover planted for every 1 square foot of absolute cover removed). For special-status plant species with small population numbers (less than 50 individuals), higher mitigation ratios up to 7:1 will be incorporated, where on-site seed sources are available. Higher mitigation ratios of up to 3:1 will be incorporated where suitable habitat area can support populations of large individual numbers. Special-status plants that cannot be avoided shall be salvaged prior to impacts using species-specific propagation methods, such as transplanting, seed and cuttings. Seed collection shall occur during the appropriate time of year for each species. Seeds shall be propagated by a qualified horticulturalist or in a local nursery, and shall be incorporated into habitat-specific seed mixes that will be used for revegetation of the restoration areas. Plant transplantation of perennial species is a potential mitigation technique but must be used sparingly and only when receiving site parameters are a suitable match from the donor location. Performance standard for the success of propagated or transplanted species will be achieved with the	Written verification.	Prior to LCWA's approval of project plans or publication of subsequent CEQA documents	City of Long Beach City of Seal Beach California Coastal Commission California Department of Fish and Wildlife

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
survival of the appropriate number of individuals meeting the mitigation ratio (1:1 for most species) after five years of growth and the establishment of a self-propagating population for annual species for a minimum of three years after revegetation completion for a specific area.			
Mitigation Measure BIO-2: Environmental Awareness Training and Biological Monitoring. Prior to commencement of activities within the program area, a qualified biologist shall prepare a Worker Environmental Awareness Program (WEAP) that provides a description of potentially occurring special-status species and methods for avoiding inadvertent impacts. The WEAP training shall be provided to all construction personnel. Attendees shall be documented on a WEAP training sign-in sheet. Initial grading and vegetation removal activities shall be supervised by a qualified monitoring biologist, who will be present during all construction activities. The biologist shall ensure that impacts to special-status plants and wildlife, including wetland vegetation, are minimized to the greatest extent feasible during implementation of program activities on the South, Isthmus, Central and North Areas. If any special-status wildlife species are encountered during construction and cannot be avoided, the monitoring biologist shall have the authority to temporarily halt construction activities until a plan for avoidance has been prepared and approved by CDFW, and implemented by the monitoring biologist. Relocation of a federal- or state-listed species shall not be allowed without first obtaining take authorization from USFWS and/or CDFW.	Included in construction contractor's scope of work and agreements; written verification	Prior to commencement of construction activities	City of Long Beach City of Seal Beach California Coastal Commission California Department of Fish and Wildlife
Mitigation Measure BIO-3: Belding's Savannah Sparrow Breeding Habitat. Prior to LCWA's approval of project plans or publication of subsequent CEQA documents, a qualified biologist shall map suitable Belding's savannah sparrow habitat as the location and amount of suitable habitat is anticipated to change over time. The results of habitat mapping will be incorporated into restoration design plans Project activities shall be limited to July 16 through February 14 within suitable costal marsh habitat to avoid impacts to breeding Belding's savannah sparrow. Suitable Belding's savannah sparrow breeding habitat that will be impacted by the proposed program shall be created within the program area at a minimum ratio of 1:1 (area created:area impacted). Restored breeding habitat shall consist of a minimum 60 percent absolute cover of salt marsh vegetation, and shall consist of a hydrologic regime similar to that	Written verification	Prior to LCWA's approval of project plans or publication of subsequent CEQA documents.	City of Long Beach City of Seal Beach California Coastal Commission California Department of Fish and Wildlife

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
currently present in the North Area or South Area, respectively. Other unique conditions within coastal salt marsh communities shall exist as well, such as, similar slope, aspect, elevation, soil, and salinity. A Mitigation, Maintenance and Monitoring Program shall be prepared and approved by CDFW prior to implementation. The proposed program shall be implemented by a qualified restoration ecologist, and at a minimum, shall include success criteria and performance standards for measuring the establishment of Belding's savannah sparrow breeding habitat, responsible parties, maintenance techniques and schedule, 5-year monitoring and reporting schedule, adaptive management strategies, and contingencies. Moreover, in accordance the CESA, an Incidental Take Permit (or other mitigation options identified in accordance with Fish & Game Code, §§ 2080.1, 2081, subds. (b) and (c)) shall be obtained from CDFW if any Belding's savannah sparrow may be impacted during construction or operations of the program. The amount of potential take shall be determined prior to design approval of each restoration area based on consultation with CDFW. Lastly, take authorization shall be obtained prior to commencement of any ground disturbing activities.			
Mitigation Measure BIO-4: Nesting Bird and Raptor Avoidance. A qualified biologist shall identify areas where nesting habitat for birds and raptors is present prior to LCWA's approval of project plans or publication of subsequent CEQA documents. To ensure the avoidance of impacts to nesting avian species, the following measures shall be implemented: • Construction and maintenance activities shall be limited to the non-breeding season (September 1 through December 31) to the extent feasible. If construction or maintenance activities will occur during the avian nesting season (January 1 through August 31), a qualified biologist shall conduct pre-construction nesting avian surveys within no more than 5 days prior to the initiation of construction activities to identify any active nests. If a lapse in work of 5 days or longer occurs, another survey shall be conducted to verify if any new nests have been constructed prior to work being reinitiated. • If active nests are observed, an avoidance buffer shall be demarcated by a qualified biologist with exclusion fencing and shall be maintained until the biologist determines that the young have fledged and the nest is no longer active.	Written verification	Prior to LCWA's approval of project plans or subsequent CEQA documents.	City of Long Beach City of Seal Beach California Coastal Commission

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
Mitigation Measure BIO-5: Habitat Assessment and Pre-Construction Surveys for Burrowing Owl. A qualified biologist shall conduct a pre-construction burrowing owl survey of each restoration area (including required survey buffer areas) prior to LCWA's approval of project plans or publication of subsequent CEQA documents. If burrowing owls are detected, the habitat will be avoided ad /or enhanced by the restoration design. In addition, a Burrowing Owl Management Plan shall be prepared and approved by CDFW, and implemented, prior to commencement of construction. The Burrowing Owl Management Plan shall be prepared in accordance with the CDFW 2012 Staff Report on Burrowing Owl Mitigation and shall address specific minimization and avoidance measures for burrowing owls, such as avoidance of occupied habitat, translocation of individuals, and on site revegetation.	Written verification; submittal of Burrowing Owl Management Plan	Prior to LCWA's approval of project plans or publication of subsequent CEQA documents.	City of Long Beach City of Seal Beach California Coastal Commission California Department of Fish and Wildlife
Mitigation Measure BIO-6: Minimization of Light Spillage. A Program Lighting Plan shall be designed to minimize light trespass and glare into adjacent habitat areas prior to the commencement of activities within the program area. Nighttime lighting associated with the visitor center, parking lot, and trails shall be shielded downward and/or directed away from habitat areas to minimize impacts to nocturnal species, including breeding birds.	Submittal of Program Lighting Plan	Prior to commencement of construction activities	City of Long Beach City of Seal Beach California Coastal Commission
Mitigation Measure BIO-7: Pre-Construction Bat Surveys. A qualified biologist shall conduct a pre-construction bat survey of each restoration area prior to final approval of the area's restoration plan. If suitable bat roosting habitat is determined to be present, a presence/absence survey shall be conducted prior to commencement of construction activities. A qualified biologist shall conduct the preconstruction clearance survey of suitable bat roosting habitat, such as mature palm trees. If bats are determined to be roosting, the biologist will determine whether it is a day roost (non-breeding) or maternity roost (lactating females and dependent young). If a day roost is determined, the biologist shall ensure that direct mortality to roosting individuals will not occur by requiring that trees with roosts are not directly impacted (e.g., removed) until after the roosting period. If a maternity roost is determined to be present, the biologist shall determine a suitable buffer distance between construction activities and the roosting site. If direct disturbance to the maternity roost could occur, a Bat Exclusion Plan shall be prepared and approved by CDFW,	Written verification; submittal of Bat Exclusion Plan (if needed)	Prior to final approval of the area's restoration plan.	City of Long Beach City of Seal Beach California Coastal Commission California Department of Fish and Wildlife

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
and implemented, prior to impacting the roost. At a minimum, the Plan shall include avoidance and minimization measures to reduce potential impacts to breeding bats during construction activities and prescribed methods to safely and humanely evict bats from the roost to avoid mortality.			
Mitigation Measure BIO-8: Focused Surveys for Special-Status Wildlife Species. Should suitable habitat occur for terrestrial or aquatic special-status species, a qualified biologist shall conduct focused habitat assessments and focused surveys to determine presence, absence and/or abundance for special-status wildlife species listed in Table 3.3-5. Both habitat assessments and focused surveys shall occur prior to LCWA's approval of the project plans or the publication of subsequent CEQA documents for any project site that potentially contains special-status species. Agency-approved protocols shall be used for specific species where appropriate during the required or recommended time of year. For all other target (special-status) species, prior to initiating surveys, survey methods shall be verified and approved in writing by CDFW and USFWS or NMFS for all state- and/or federally-protected species, respectively. If special-status species are detected, the project-specific restoration plan should be designed to minimize impacts to special-status wildlife to the greatest extent feasible and a Wildlife Avoidance Plan shall be prepared and approved by CDFW and USFWS or NMFS prior to commencement of construction. The Wildlife Avoidance Plan shall include specific species minimization and avoidance measures, measures to minimize impacts to occupied habitat, such as avoidance and revegetation, as well as relocation/translocation protocols. The plan shall require that a qualified biological monitor approved by CDFW be onsite prior to and during ground and habitat disturbing activities to move special status species or other wildlife of low mobility out of harm's way that could be injured or killed by ground disturbing activities. If special-status species cannot be avoided, Incidental Take Permits from the National Marine Fisheries Service or United States Fish and Wildlife Service and California Department of Fish and Wildlife will be required. The amount of potential take shall be determined prior to design approval of each restoration area based on consultation with NMFS or USFWS and CDFW and take authorization shall be obtained prior to commencement of any ground disturbing activities. If an incidental take permit is being obtained, compensatory	Written verification; submittal of Wildlife Avoidance Plan (if needed)	Prior to LCWA's approval of the project plans or publication of subsequent CEQA documents.	City of Long Beach City of Seal Beach California Coastal Commission California Department of Fish and Wildlife United States Fish and Wildlife Service National Marine Fisheries Service

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
mitigation for the loss of occupied habitat shall be provided through purchase of credit from an existing mitigation bank, private purchase of mitigation lands, or on-site preservation, as approved by the resource agencies. Compensatory mitigation shall be provided at a minimum 1:1 ratio to reduce potential effects to less-than-significant levels.			
Mitigation Measure BIO-9: Revegetation of Sensitive Natural Communities. Sensitive natural communities located on the program area include: *Anemopsis californica – Helianthus nuttallii – Solidago spectabilis* Herbaceous Alliance, *Arthrocnemum subterminale* Herbaceous Alliance, *Baccharis salicina* Provisional Shrubland Alliance, *Cressa truxillensis – Distichlis spicata* Herbaceous Alliance, *Frankenia salina* Herbaceous Alliance, *Isocoma menziesii* Shrubland Alliance, *Leymus cinereus – Leymus triticoides* Herbaceous Alliance, *Salicornia pacifica* Herbaceous Alliance, *Salix gooddingii* Woodland Alliance, *Schoenoplectus californicus – Typha (angustifolia, domingensis, latifolia)* Herbaceous Alliance and *Spartina foliosa* Herbaceous Alliance. Prior to LCWA's approval of project plans or publication of subsequent CEQA documents, the area(s) that will be impacted shall be delineated and quantified using current Global Information System (ArcGIS) mapping software. Sensitive Natural Communities that will be impacted by the proposed program shall be created within the program area at a minimum ratio of 1:1 (area created:area impacted). A mitigation ratio of a minimum 2:1 for natural communities with a rarity ranking of S3 or higher will be incorporated into the restoration designs. Restored Sensitive Natural Communities shall consist of a minimum 60 percent absolute vegetation cover and shall include community-specific growing conditions, such as, similar slope, aspect, elevation, soil, and salinity. Moreover, soils within mudflat areas shall be salvaged (where feasible) for areas that are proposed for activities such as grading, and reintroduced in new mudflat and/or wetland areas that will be created. A Mitigation, Maintenance and Monitoring Program shall be prepared and approved by CDFW prior to implementation. The Program shall be implemented by a qualified restoration ecologist, and at a minimum, shall include success criteria and performance standards for measuring the establishment of Sensitive Natural Communities, responsible parties, maintenance techniques and schedule, 5-year monitoring and reporting schedule, adaptive management strategies, and contingencies.	Written verification; submittal of a Mitigation, Maintenance and Monitoring Program	Prior to LCWA's approval of project plans or publication of subsequent CEQA documents.	City of Long Beach City of Seal Beach California Coastal Commission California Department of Fish and Wildlife

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
Mitigation Measure BIO-10: Jurisdictional Resources Permitting. Prior to LCWA's approval of project plans or publication of subsequent CEQA documents, a jurisdictional delineation report shall be prepared that describes these jurisdictional resources and the extent of jurisdiction under the USACE, RWQCB, CDFW, and CCC. If it is determined during final siting that jurisdictional resources cannot be avoided, the project applicant shall be subject to provisions as identified below: 1. If avoidance is not feasible, prior to ground disturbance activities that could impact these aquatic features, the project applicant shall file the required documentation and receive the following. a. Nationwide Permit or equivalent permit issued from USACE; b. Water Quality Certification issued from the Los Angeles RWQCB; c. Streambed Alteration Agreement issued from CDFW; and d. Coastal Development Permit issued from CCC. 2. Compensatory mitigation for impacts to jurisdictional resources is not anticipated as the proposed program's goal is the restoration and expansion of coastal salt marsh within the proposed program. 3. The project proponent shall comply with the mitigation measures detailed in permits issued from the USACE, RWQCB, CDFW, and CCC.	Written verification	Prior to LCWA's approval of project plans or publication of subsequent CEQA documents.	City of Long Beach City of Seal Beach California Coastal Commission California Department of Fish and Wildlife United States Army Corps of Engineers Regional Water Quality Control Board
Mitigation Measure BIO-11: Monitoring and Adaptive Management Plan. In conjunction with Section 3.8, *Hydrology and Water Quality*, a Monitoring and Adaptive Management Plan (MAMP) shall be prepared and implemented prior to commencement of construction or restoration activities. The MAMP shall provide a framework for monitoring site conditions in response to the proposed program implementation. The MAMP shall include provisions for conducting a pre-construction survey to collect baseline data for existing wetland function. The MAMP shall require that monitoring focus on the functional wetland values as well as sediment quality in areas subject to the greatest deposition from storm events and that are also not subject to regular tidal flushing, (e.g., the southwestern corner of the Long	Written verification; submittal of Monitoring and Adaptive Management Plan	Prior to commencement of construction activities	City of Long Beach City of Seal Beach California Coastal Commission

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
Beach Property site). The MAMP shall identify habitat functions, such as biotic structure and hydrology, that shall be monitored as part of the proposed program's monitoring and reporting requirements. The MAMP shall identify sediment quality monitoring requirements that shall be performed at a frequency that would capture the potential build-up of contaminants in the deposited sediment before concentration are reached that would impact benthic macro-invertebrates and other sensitive species. The MAMP shall require that the findings of the monitoring efforts be used to identify any source of functional loss of wetlands and water quality impairment, and if discovered, provide measures to improve wetland function and for remediation of the sediment source area(s). Upon completion of restoration activities, the proposed program shall demonstrate a no net loss of aquatic resource functions and demonstrate an increase in wetland functions and values throughout the entire site. The MAMP shall be submitted for review and approval to responsible permitting agencies prior to commencement of construction or restoration activities.			
Cultural Resources			
Mitigation Measure CUL-1: Cultural Resources Personnel Professional Qualifications Standards. Cultural resources consulting staff shall meet, or be under the direct supervision of an individual meeting, the minimum professional qualifications standards (PQS) set forth by the Secretary of the Interior (SOI) (codified in 36 Code of Federal Regulations [CFR] Part 61; 48 FR 44738-44739).	Included in construction contractor's scope of work and agreements; written verification	By LCWA prior to the commencement of construction.	City of Long Beach City of Seal Beach California Coastal Commission
Mitigation Measure CUL-2: Historic Resources Assessment. For each near-term, mid-term, and long-term project, LCWA shall retain an SOI-qualified architectural historian (Qualified Architectural Historian) to conduct a historic resources assessment including: a records search at the South Central Coastal Information Center; a review of pertinent archives and sources; a pedestrian field survey; recordation of all identified historic resources on California Department of Parks and Recreation 523 forms; and preparation of a technical report documenting the methods and results of the assessment. The report(s) shall be submitted to LCWA for review and approval prior to LCWA's approval of project plans or publication of subsequent CEQA documents. The Qualified Architectural Historian shall file a copy of the final report(s) with the South Central Coastal	Written verification, submittal of assessment	By LCWA prior to approval of project plans or preparation of subsequent CEQA documents.	City of Long Beach City of Seal Beach California Coastal Commission

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
Information Center within 30 days of its completion. A Historic Resources Assessment shall not be required for any project site that has already undergone the same or similar assessment as part of the program as long as the assessment is deemed adequate by the Qualified Architectural Historian for the purposes of the project currently under consideration.			
Mitigation Measure CUL-3: Historic Resources Evaluation. Prior to LCWA's approval of project plans or the publication of subsequent CEQA documents for any project site containing unevaluated historic resources, a Qualified Architectural Historian shall determine if the project has the potential to result in adverse impacts to identified historic resources. For any historic resource that may be adversely impacted, the Qualified Architectural Historian shall evaluate the resource for listing in the California Register under Criteria 1-4 in order to determine if the resource qualifies as a historical resource. If a historic resource is found eligible, the Qualified Architectural Historian shall determine if the project would cause a substantial adverse change in the significance of the resource. If a substantial adverse change would occur (i.e., the project would demolish the resource or materially alter it in an adverse manner), the Qualified Architectural Historian shall develop appropriate mitigation measures to be incorporated into subsequent CEQA documents. These measures may include, but would not be limited to, relocation, HABS/HAER/HALS documentation, development and implementation of an interpretative and commemorative program, or development and implementation of a salvage plan. All evaluations and resulting technical reports shall be completed and approved by LWCA prior to LCWA's approval of project plans or publication of subsequent CEQA documents. The Qualified Architectural Historian shall file a copy of the final report(s) with the South Central Coastal Information Center within 30 days of its acceptance by LCWA.	Written verification, submittal of evaluation	By the LCWA prior to approval of project plans or preparation of subsequent CEQA documents.	City of Long Beach City of Seal Beach California Coastal Commission
Mitigation Measure CUL-4: Archaeological Resources Assessment. For each near-term, mid-term, and long-term project that involves ground disturbance, LCWA shall retain an SOI-qualified archaeologist (Qualified Archaeologist) to conduct an archaeological resources assessment including: a records search at the South Central Coastal Information Center; a Sacred Lands File search at the Native American Heritage Commission; updated geoarchaeological review incorporating previously unavailable data (such as	Written verification, submittal of report	By LCWA, prior to approval of project plans or preparation of subsequent CEQA documents.	City of Long Beach City of Seal Beach California Coastal Commission

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
geotechnical studies); a pedestrian field survey; recordation of all identified archaeological resources on California Department of Parks and Recreation 523 forms; and preparation of a technical report. The technical report shall: document the methods and results of the study; provide an assessment of the project's potential to encounter subsurface archaeological resources and human remains based on a review of the project plans, depth of proposed ground disturbance, and available project-specific geotechnical reports; and provide recommendations as to whether additional studies are warranted (i.e., Extended Phase I presence/absence testing or resource boundary delineation, Phase II testing and evaluation). The report(s) shall be submitted to LCWA for review and approval prior to approval of project plans or publication of subsequent CEQA documents. The Qualified Archaeologist shall file a copy of the final report(s) with the South Central Coastal Information Center within 30 days of its completion. An Archaeological Resources Assessment shall not be required for any project site that has already undergone the same or similar assessment as part of the program as long as the assessment is deemed adequate by the Qualified Archaeologist for the purposes of the project currently under consideration.			
Mitigation Measure CUL-5: Extended Phase I Archaeological Investigation. Prior to LCWA's approval of project plans or the publication of subsequent CEQA documents for any project with a high potential to encounter subsurface archaeological resources as determined by the project-specific archaeological resources assessment conducted under Mitigation Measure CUL-4: Archaeological Resources Assessment, a Qualified Archaeologist shall conduct an Extended Phase I investigation to identify the presence/absence of subsurface archaeological resources. Prior to the initiation of field work for any Extended Phase I investigation, the Qualified Archaeologist shall prepare a work plan outlining the investigation's objectives, goals, and methodology (e.g., field and lab procedures, collection protocols, curation and reporting requirements, Native American input/monitoring, schedule, security measures). For investigations related to Native American archaeological resources, monitoring shall be required in accordance with Mitigation Measures CUL-13: Native American Monitoring. All work plans shall outline the protocols and procedures to be followed in the event that human remains and associated funerary objects or grave goods (i.e., artifacts associated with	Written verification, submittal of report	By LCWA, prior to approval of project plans or preparation of subsequent CEQA documents.	City of Long Beach City of Seal Beach California Coastal Commission

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
human remains) are encountered in accordance with Mitigation Measure CUL-18: Human Remains Discoveries. Disposition of archaeological materials recovered during Extended Phase I investigations shall be in accordance with Mitigation Measure CUL-15: Curation and Disposition of Cultural Materials. Disposition of human remains and any associated funerary objects or grave goods shall be in accordance with Mitigation Measure CUL-18: Human Remains Discoveries. Projects occurring within the same timeframe may be covered by one overarching work plan. All investigations and resulting technical reports shall be completed and approved by LCWA prior to LCWA's approval of project plans or publication of subsequent CEQA documents. The Qualified Archaeologist shall file a copy of the final report(s) with the South Central Coastal Information Center within 30 days of its acceptance by LCWA. An Extended Phase I investigation shall not be required for any project site or resource that has already undergone the same or similar investigation as part of the program as long as the investigation is deemed adequate by the Qualified Archaeologist for the purposes of the project currently under consideration.			
Mitigation Measure CUL-6: Phase II Archaeological Investigation. Prior to LCWA's approval of project plans or the publication of subsequent CEQA documents for any project site containing known unevaluated archaeological resources as identified by the project-specific archaeological resources assessment conducted under Mitigation Measure CUL-4: Archaeological Resources Assessment, a Qualified Archaeologist shall determine if the project has the potential to result in adverse impacts to identified archaeological resources (this may include initial Extended Phase I testing to identify the boundaries of resources, if necessary to properly assess potential impacts, following the procedures outlined under Mitigation Measure CUL-5: Extended Phase I Archaeological Investigation). For any archaeological resource that may be adversely impacted, the Qualified Archaeologist shall conduct Phase II testing and shall evaluate the resource for listing in the California Register under Criteria 1-4 in order to determine if the resource qualifies as a historical resource. LCWA shall consider the significance of the resource to Native American groups prior to requiring any Phase II subsurface testing. If the resource does not qualify as a historical resource, it shall then be considered for qualification as a unique archaeological resource. Native American or prehistoric archaeological	Written verification, submittal of report	By LCWA, prior to approval of project plans or preparation of subsequent CEQA documents.	City of Long Beach City of Seal Beach California Coastal Commission

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
resources shall also be considered as contributors to the tribal landscape to determine if they contribute to the significance of the landscape. Prior to the initiation of field work for any Phase II investigation, the Qualified Archaeologist shall prepare a work plan outlining the investigation's objectives, goals, and methodology (e.g., research design, field and lab procedures, collection protocols, data requirements/thresholds, evaluation criteria, curation and reporting requirements, Native American input/monitoring, schedule, security measures). The Qualified Archaeologist and LCWA shall coordinate with participating Native American Tribes during preparation of Phase II work plans related to Native American archaeological resources to ensure cultural values ascribed to the resources, beyond those that are scientifically important, are considered in the evaluation, including those related to the tribal cultural landscape. For investigations related to Native American archaeological resources, Native American Tribal coordination and monitoring shall be required in accordance with Mitigation Measures CUL-12: Native American Coordination and CUL-13: Native American Monitoring. All work plans shall outline the protocols and procedures to be followed in the event that human remains and associated funerary objects or grave goods (i.e., artifacts associated with human remains) are encountered in accordance with Mitigation Measure CUL-18: Human Remains Discoveries. Disposition of archaeological materials recovered during Extended Phase I or Phase II investigations shall be in accordance with Mitigation Measure CUL-15: Curation and Disposition of Cultural Materials. Disposition of human remains and any associated funerary objects or grave goods shall be in accordance with Mitigation Measure CUL-18: Human Remains Discoveries. Projects occurring within the same timeframe may be covered by one overarching work plan. All investigations and resulting technical reports shall be completed and approved by LWCA prior to LCWA's approval of project plans or publication of subsequent CEQA documents. The Qualified Archaeologist shall file a copy of the final report(s) with the South Central Coastal Information Center within 30 days of its acceptance by LCWA.			

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
Mitigation Measure CUL-7: Avoidance and Preservation in Place of Archaeological Resources. In the event historical resources or unique archaeological resources or resources that contribute to the significance of the tribal cultural landscape are identified, avoidance and preservation in place shall be the preferred manner of mitigating impacts to such resources. Preservation in place maintains the important relationship between artifacts and their archaeological context and also serves to avoid conflict with traditional and religious values of groups who may ascribe meaning to the resource. Preservation in place may be accomplished by, but is not limited to, avoidance, incorporating the resource into open space, capping, or deeding the site into a permanent conservation easement. If avoidance is determined by the LCWA to be infeasible in light of factors such as the nature of the find, proposed project design, costs, and other considerations, then that resource shall be subject to Mitigation Measure CUL-8: Phase III Archaeological Resources Data Recovery and Treatment Plan**.** If avoidance and preservation in place of a resource is determined by LCWA to be feasible, then that resource shall be subject to Mitigation Measure CUL-9: Archaeological Resources Monitoring and Mitigation Plan.	Field verification, written report	By LCWA continuously throughout construction	City of Long Beach City of Seal Beach California Coastal Commission
Mitigation Measure CUL-8: Phase III Archaeological Resources Data Recovery and Treatment Plan. A Qualified Archaeologist shall prepare a Phase III Archaeological Resources Data Recovery and Treatment Plan for significant archaeological resources (i.e., resources that qualify as historical resources or unique archaeological resources or that contribute to the significance of the tribal cultural landscape) that will be adversely impacted by a project. Consistent with *CEQA Guidelines* Section 15126.4, data recovery shall not be required for a historical resource if LCWA determines that testing or studies already completed have adequately recovered the scientifically consequential information for resources eligible under California Register Criterion 4. The Qualified Archaeologist and LCWA shall consult with interested Native American Tribes for recovery/treatment of Native American archaeological resources during preparation of the plan(s) to ensure cultural values ascribed to the resources, beyond those that are scientifically important, are considered in assessing treatment, including those related to the tribal cultural landscape. Projects occurring within the same timeframe may be covered by one overarching plan. The plan(s) shall be	Written verification, submittal of plan	By LCWA, prior to the start of field work for data recovery efforts for resources that are eligible under California Register Criterion 4 (data potential).	City of Long Beach City of Seal Beach California Coastal Commission

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
submitted to LCWA for review and approval prior to the start of field work for data recovery efforts for resources that are eligible under California Register Criterion 4 (data potential). Data recovery field work shall be completed prior to the start of any project-related ground disturbance. Treatment for archaeological resources that are eligible under California Register Criterion 1 (events), Criterion 2 (persons), or Criterion 3 (design/workmanship) shall be completed within 3 years of completion of the project. Each plan shall include: a. *Research Design.* The plan shall outline the applicable cultural context(s) for the region, identify research goals and questions that are applicable to each resource or class of resources, and list the data needs (types, quantities, quality) required to answer each research question. The research design shall address all four California Register Criteria (1–4) and identify the methods that will be required to inform treatment, such as subsurface investigation, documentary/archival research, and/or oral history, depending on the nature of the resource. The research design shall also include consideration of Native American or prehistoric archaeological resources as contributors to the tribal cultural landscape. b. *Data Recovery for Resources Eligible under Criterion 4.* The plan shall outline the field and laboratory methods to be employed, and any specialized studies that will be conducted, as part of the data recovery effort for resources that are eligible under California Register Criterion 4 (data potential). If a resource is eligible under additional criteria, treatment beyond data recovery shall be implemented (see CUL-6c). c. *Treatment for Resources Eligible under Criteria 1, 2, or 3.* In the event a resource is eligible under California Register Criterion 1 (events), Criterion 2 (persons), or Criterion 3 (design/workmanship), then resource-specific treatment shall be developed to mitigate project-related impacts to the degree feasible. This could include forms of documentation, interpretation, public outreach, ethnographic and language studies, publications, and educational programs, depending on the nature of the resource, and may require the retention of additional technical specialists. Treatment measures shall be generally outlined in the plan based on existing information on the resource. Once data recovery is			

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
completed and the results are available to better inform resource-specific treatment, the treatment measures shall be formalized and implemented. Treatment shall be developed by the Qualified Archaeologist in consultation with LCWA and Native American Tribal representatives for resources that are Native American in origin, including those related to the tribal cultural landscape. d. *Security Measures.* The plan shall include recommended security measures to protect archaeological resources from vandalism, looting, and non-intentionally damaging activities during field work. e. *Procedures for Discovery of Human Remains and Associated Funerary Objects or Grave Goods.* The plan shall outline the protocols and procedures to be followed in the event *that* human remains and associated funerary objects or grave goods are uncovered. Protocols and procedures shall be in accordance with Mitigation Measure CUL-18: Human Remains Discoveries. f. *Reporting Requirements.* Upon completion of data recovery for resources eligible under Criterion 4, the Qualified Archaeologist shall document the findings in an Archaeological Data Recovery Report. The draft Archaeological Data Recovery Report shall be submitted to the LCWA within 360 days after completion of data recovery, and the final Archaeological Data Recovery Report shall be submitted to LCWA within 60 days after the receipt of LCWA comments. The Qualified Archaeologist shall submit the final Archaeological Data Recovery Report to the South Central Coastal Information Center within 30 days of its acceptance by LCWA. Upon completion of all other treatment for resources eligible under Criteria 1, 2, or 3, the Qualified Archaeologist shall document the resource-specific treatment that was implemented for each resource and verification that treatment has been completed in a technical document (report or memorandum). The document shall be provided to LCWA within 30 days after completion of treatment. g. *Curation or Disposition of Cultural Materials.* The plan shall outline the requirements for final *disposition* of all cultural materials collected during data recovery. Disposition of all archaeological materials shall be in accordance with Mitigation Measure CUL-15: Curation and			

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
Disposition of Cultural Materials**.** Disposition of human remains and any associated funerary objects or grave goods shall be in accordance with Mitigation Measure CUL-18: Human Remains Discoveries**.** h. *Protocols for Native American Coordination and Monitoring.* The plan shall outline the role and responsibilities of Native American Tribal representatives in *accordance* with Mitigation Measure CUL-12: Native American Coordination**.** It shall outline communication protocols, timelines for review of archaeological resources documents, and provisions for Native American monitoring. The plan shall include provisions for full-time Native American monitoring of all data recovery field work for resources that are Native American in origin, including those related to the tribal cultural landscape, in accordance with Mitigation Measure CUL-13: Native American Monitoring**.**			
Mitigation Measure CUL-9: Archaeological Resources Monitoring and Mitigation Plan. For each near-term, mid-term, and long-term project that involves ground disturbance, a Qualified Archaeologist shall prepare an Archaeological Resources Mitigation and Monitoring Plan taking into account the final LCWA-approved project design plans, depths/locations of ground disturbance, proximity to known archaeological resources, and potential to encounter subsurface archaeological resources. Projects occurring within the same timeframe may be covered by one overarching plan. The Qualified Archaeologist and LCWA shall coordinate with participating Native American Tribes during preparation of the plan(s). Each plan shall include: a. *Establishment of Environmentally Sensitive Areas.* The plan shall outline areas that will be designated Environmentally Sensitive Areas (including maps), if needed. Significant or unevaluated *archaeological* resources that are being avoided and are within 50 feet of the construction zone shall be designated as Environmentally Sensitive Areas. The resources shall be *delineated* with exclusion markers to ensure avoidance. These areas shall not be marked as archaeological resources, but shall be designated as “exclusion zones” on project plans and protective fencing in order to discourage unauthorized disturbance or collection of artifacts.	Written verification, submittal of plan	By the LCWA, prior to approval of project plans or preparation of subsequent CEQA documents.	City of Long Beach City of Seal Beach California Coastal Commission

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
b. *Provisions for Archaeological Monitoring.* The plan shall outline requirements for archaeological monitoring and the archaeological monitor(s) role and responsibilities in accordance with Mitigation Measure CUL-11: Archaeological Resources Monitoring. Ground disturbance in locations/depths that have been previously monitored as part of the program shall not be subject to additional monitoring. c. *Procedures for Discovery of Archaeological Resources.* Procedures to be implemented in the event of an archaeological discovery shall be fully defined in the plan and shall be in accordance with Mitigation Measure CUL-14: Archaeological Resources Discoveries. Procedures outlined shall include stop-work and protective measures, notification protocols, procedures for significance assessments, and appropriate treatment measures. The plan shall state avoidance or preservation in place is the preferred manner of mitigating impacts to historical resources, unique archaeological resources, and contributors to the significance of the tribal cultural landscape, but shall provide procedures to follow should avoidance be infeasible in light of factors such as the nature of the find, project design, costs, and other considerations. If, based on the recommendation of a Qualified Archaeologist, it is determined that a discovered archaeological resource constitutes a historical resource or unique archaeological resource or is a contributor to the significance of the tribal cultural *landscape*, then *avoidance* and preservation in place shall be the preferred manner of mitigating impacts to such a resource in accordance with Mitigation Measure CUL-7: Avoidance and Preservation in Place of Archaeological Resources. In the event that preservation in place is determined to be infeasible and data recovery through excavation is the only feasible mitigation available, an Archaeological Resources Data Recovery and Treatment Plan shall be prepared and implemented following the procedures outlined in Mitigation Measure CUL-8: Phase III Archaeological Resources Data Recovery and Treatment Plan. LCWA shall consult with appropriate Native American representatives in determining treatment of resources that are Native American in origin to ensure cultural values ascribed to the resources, beyond those			

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
that are scientifically important, are considered, including those related to the tribal cultural landscape. d. *Procedures for Discovery of Human Remains and Associated Funerary Objects or Grave Goods.* The plan shall outline the protocols *and* procedures to be followed in the event that *human* remains and associated funerary objects or grave goods are uncovered. Protocols and procedures shall be in accordance with Mitigation Measure CUL-18: Human Remains Discoveries. e. *Reporting Requirements.* The plan shall outline provisions for weekly and final reporting. The Qualified Archaeologist shall prepare weekly status reports detailing activities and locations observed (including maps) and summarizing any discoveries for the duration of monitoring to be submitted to LCWA via email for each week in which monitoring activities occur. The Qualified Archaeologist shall prepare a draft Archaeological Resources Monitoring Report and submit it to LCWA within 180 days after completion of the monitoring program or treatment for significant discoveries should treatment extend *beyond* the cessation of monitoring. The final Archaeological Resources Monitoring Report shall be submitted to LCWA within 60 days after receipt of LCWA comments. The Qualified Archaeologist shall also submit the final Archaeological Resources Monitoring Report to the South Central Coastal Information Center. f. *Curation or Disposition of Cultural Materials.* The plan shall outline the requirements for final disposition of all cultural materials collected during data recovery. Disposition of all archaeological materials shall be in accordance with Mitigation Measure CUL-15: Curation and Disposition of Cultural Materials. Disposition of human remains and any associated funerary objects or grave goods shall be in accordance with Mitigation Measure CUL-18: Human Remains Discoveries. g. *Protocols for Native American Coordination and Monitoring.* The plan shall outline requirements for Native American coordination and monitoring, and the Native American monitor(s) role and responsibilities in accordance with Mitigation Measures CUL-12: Native American Coordination and CUL-13: Native American Monitoring**.**			

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
Mitigation Measure CUL-10: Construction Worker Cultural Resources Sensitivity Training. For each near-term, mid-term, and long-term project that involves ground disturbance, LCWA shall retain a Qualified Archaeologist to implement a cultural resources sensitivity training program. The Qualified Archaeologist, or their designee, and a Native American representative shall instruct all construction personnel of the importance and significance of the area as a tribal cultural landscape, the types of archaeological resources that may be encountered, the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains, confidentiality of discoveries, and safety precautions to be taken when working with cultural resources monitors. In the event that construction crews are phased, additional trainings shall be conducted for new construction personnel. LCWA or their contractors shall ensure construction personnel are made available for and attend the training. LCWA shall retain documentation demonstrating attendance.	Included in construction contractor's scope of work; written verification	By LCWA continuously throughout construction	City of Long Beach City of Seal Beach California Coastal Commission
Mitigation Measure CUL-11: Archaeological Resources Monitoring. For each near-term, mid-term, and long-term project, full-time archaeological monitoring of ground disturbance (i.e., demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil) shall be conducted in areas and at depths where there is a potential to encounter archaeological materials or human remains, including excavations into existing artificial fill and native soils, based on the project-specific archaeological resources assessment prepared under Mitigation Measure CUL-4: Archaeological Resources Assessment. Ground disturbance in locations/depths that have been previously monitored as part of the program shall not be subject to additional monitoring. The archaeological monitor(s) shall be familiar with the types of resources that could be encountered and shall work under the direct supervision of a Qualified Archaeologist. The number of archaeological monitors required to be on site during ground-disturbing activities is dependent on the construction scenario, specifically the number of pieces of equipment operating at the same time, the distance between these pieces of equipment, and the pace at which equipment is working, with the goal of monitors being able to effectively observe soils as they are exposed. Generally, work areas more than 500 feet from one another	Field verification	By LCWA continuously throughout construction	City of Long Beach City of Seal Beach California Coastal Commission

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
will require additional monitors. The archaeological monitor(s) shall keep daily logs detailing the types of activities and soils observed, and any discoveries. Archaeological monitor(s) shall have the authority to halt and re-direct ground disturbing activities in the event of a discovery until it has been assessed for significance and treatment implemented, if necessary, based on the recommendations of the Qualified Archaeologist in coordination with LCWA, and the Native American representatives in the event the resource is Native American in origin, and in accordance with the protocols and procedures outlined in Mitigation Measure CUL-8: Phase III Archaeological Resources Data Recovery and Treatment Plan**.** Reporting of archaeological monitoring shall be conducted in accordance with the provisions outlined in Mitigation Measure CUL-9: Archaeological Resources Monitoring and Mitigation Plan.			
Mitigation Measure CUL-12: Native American Coordination. LCWA shall seek input from participating Native American Tribes during the preparation of documents required under Mitigation Measures CUL-5: Extended Phase I Archaeological Investigation**,** CUL-6: Phase II Archaeological Investigation**,** CUL-8: Phase III Archaeological Resources Data Recovery and Treatment Plan**,** Mitigation Measure CUL 9: Archaeological Resources Monitoring and Mitigation Plan, and CUL-14: Archaeological Resources Discoveries**,** including but not limited to work plans, research designs, treatment plans, and associated technical reports. LCWA shall provide participating Native American Tribes with electronic copies of draft documents and afford them 30 days from receipt of a document to review and comment on the document. Native American comments will be provided in writing for consideration by LCWA. LCWA shall document comments and how the comments were/were not addressed in a tracking log.	Written verification	By LCWA continuously throughout construction	City of Long Beach City of Seal Beach California Coastal Commission
Mitigation Measure CUL-13: Native American Monitoring. For each near-term, mid-term, and long-term project, full-time Native American monitoring of ground disturbance (i.e., demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil) shall be conducted in areas and at depths where there is a potential to encounter archaeological materials or human remains, including excavations into existing artificial fill and native soils, based on the project-specific study prepared under Mitigation	Written verification, field verification	By LCWA continuously throughout construction	City of Long Beach City of Seal Beach California Coastal Commission

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
Measure CUL-4: Archaeological Resources Assessment. LCWA shall retain a Native American monitor(s) from a California Native American Tribe that is culturally and geographically affiliated with the program area (according to the California Native American Heritage Commission) to conduct the monitoring. If more than one Tribe is interested in monitoring, LCWA shall contract with each Tribe that expresses interest and prepare a monitoring rotation schedule. LCWA shall rotate monitors on an equal and regular basis to ensure that each Tribal group has the same opportunity to participate in the monitoring program. If a Tribe cannot participate when their rotation comes up, they shall forfeit that rotation unless LCWA can make other arrangements to accommodate their schedule. The number of Native American monitors required to be on site during ground disturbing activities is dependent on the construction scenario, specifically the number of pieces of equipment operating at the same time, the distance between these pieces of equipment, and the pace at which equipment is working, with the goal of monitors being able to effectively observe soils as they are exposed. Generally, work areas more than 500 feet from one another require additional monitors. Native American monitors shall have the authority to halt and re-direct ground disturbing activities in the event of a discovery until it has been assessed for significance. The Native American monitor(s) shall also monitor all ground disturbance related to subsurface investigations and data recovery efforts conducted under Mitigation Measures CUL-5: Extended Phase I Archaeological Investigation**,** CUL-6: Phase II Archaeological Investigation**,** and CUL-8: Phase III Archaeological Resources Data Recovery and Treatment Plan for any resources that are Native American in origin, according to the rotation schedule, including those related to the tribal cultural landscape.			
Mitigation Measure CUL-14: Archaeological Resources Discoveries. In the event archaeological resources are encountered during construction of the proposed program, all activity in the vicinity of the find shall cease (within 100 feet), and the protocols and procedures for discoveries outlined in Mitigation Measure CUL-9: Archaeological Resources Monitoring and Mitigation Plan shall be implemented. The discovery shall be evaluated for potential significance by the Qualified Archaeologist. If the Qualified Archaeologist determines that the resource may be significant (i.e., meets the definition for historical resource in *CEQA Guidelines*	Field verification	By LCWA continuously throughout construction	City of Long Beach City of Seal Beach California Coastal Commission

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
subdivision 15064.5(a) or for unique archaeological resource in PRC subdivision 21083.2(g) or is a contributor to the tribal cultural landscape), the Qualified Archaeologist shall develop an Archaeological Resources Data Recovery and Treatment Plan for the resource following the procedures outlined in Mitigation Measure CUL-8: Phase III Archaeological Resources Data Recovery and Treatment Plan**.** When assessing significance and developing treatment for resources that are Native American in origin, including those related to the tribal cultural landscape, the Qualified Archaeologist and LCWA shall consult with the appropriate Native American representatives. The Qualified Archaeologist shall also determine if work may proceed in other parts of the project site while data recovery and treatment is being carried out. LCWA shall consult with the State Lands Commission Staff Attorney regarding any cultural resources discoveries on state lands.			
Mitigation Measure CUL 15: Curation and Disposition of Cultural Materials. LCWA shall curate all Native American archaeological materials, with the exception of funerary objects or grave goods (i.e., artifacts associated with Native American human remains). LCWA shall consult with Native American representatives regarding the final disposition of Native American archaeological materials and on the selection of the curation facility, with preference given to tribal museums. LCWA shall first consider repositories that are accredited by the American Association of Museums and that meet the standards outlined in 36 CFR 79.9. If a suitable accredited repository is not identified, then LCWA shall consider non-accredited repositories as long as they meet the minimum standards set forth by 36 CFR 79.9. If a suitable non-accredited repository is not identified, then LCWA shall donate the collection to a local California Native American Tribe(s) (Gabrielino or Juañeno) for educational purposes. Disposition of Native American human remains and associated funerary objects or grave goods shall be determined by the landowner in consultation with LCWA and the Most Likely Descendant in accordance with Mitigation Measure CUL 18: Human Remains Discoveries. LCWA shall curate all historic-period archaeological materials that are not Native American in origin at a repository accredited by the American Association of Museums that meets the standards outlined in 36 CFR 79.9. If no accredited repository accepts the collection, then LCWA may curate it at a non-accredited repository as long as it meets the minimum	Written verification, submittal of curation agreement	By LCWA prior to the start of each project	City of Long Beach City of Seal Beach California Coastal Commission California State Lands Commission

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
standards set forth by 36 CFR 79.9. If neither an accredited nor a non-accredited repository accepts the collection, then LCWA shall offer the collection to a public, non-profit institution with a research interest in the materials, or to a local school or historical society in the area for educational purposes. If no institution, school, or historical society accepts the collection, LCWA may retain it for on-site display as part of its interpretation and educational elements. The final disposition of cultural resources recovered on state lands under the jurisdiction of the California State Lands Commission must be approved by the Commission. Prior to start of each project, LCWA shall obtain a curation agreement and shall be responsible for payment of fees associated with curation for the duration of the program.			
Mitigation Measure CUL16: Future Native American Input. LCWA shall consult with participating California Native American Tribes, to the extent that they wish to participate, during future design of project-level components, plant and native plant selections or palettes, and development of content for educational and interpretative elements, such as signage and Visitors Center displays.	Written verification	By LCWA prior to approval of project plans or preparation of subsequent CEQA documents.	City of Long Beach City of Seal Beach California Coastal Commission
Mitigation Measure CUL17: Tribal Access Plan. Prior to the start of construction, LCWA shall develop a written access plan to preserve and enhance tribal members' access to, and use of, the restoration project area for religious, spiritual, or other cultural purposes. This plan will allow access to the extent LCWA has the authority to facilitate such access, and be consistent with existing laws, regulations, and agreements governing property within the program area. The access plan may place restrictions on access into certain areas, such as oil operations and other exclusive easements the LCWA does not have access rights to. This access plan shall be developed in coordination with participating California Native American Tribes, to the extent that they wish to participate.	Written verification, submittal of access plan	By LCWA prior to approval of project plans or preparation of subsequent CEQA documents.	City of Long Beach City of Seal Beach California Coastal Commission
Mitigation Measure CUL-18: Human Remains Discoveries: If human remains are encountered, then LCWA or its contractor shall halt work in the vicinity (within 100 feet) of the discovery and contact the appropriate County Coroner in accordance with Public Resources Code Section 5097.98 and Health and Safety Code Section 7050.5, which requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section	Field verification; written verification	By LCWA continuously throughout construction	City of Long Beach City of Seal Beach California Coastal Commission

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
5097.98. If the County Coroner determines the remains are Native American, then the Coroner will notify the California Native American Heritage Commission (NAHC) within 24 hours in accordance with Health and Safety Code subdivision 7050.5(c), and Public Resources Code Section 5097.98. The California Native American Heritage Commission shall then identify the person(s) thought to be the Most Likely Descendant (MLD). The MLD may, with the permission of the land owner, or his or her authorized representative, inspect the site of the discovery of the Native American remains and may recommend to the owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The MLD shall complete their inspection and make their recommendation within 48 hours of being granted access by the landowner to inspect the discovery. The recommendation may include the scientific removal and nondestructive analysis of human remains and items associated with Native American burials. LCWA and the landowner shall discuss and confer with the MLD on all reasonable options regarding the MLD's preferences for treatment. Until LCWA and the landowner have conferred with the MLD, the contractor shall ensure that the immediate vicinity where the discovery occurred is not disturbed by further activity and is adequately protected according to generally accepted cultural or archaeological standards or practices, and that further activities take into account the possibility of multiple burials. If the NAHC is unable to identify an MLD, or the MLD identified fails to make a recommendation, or the landowner rejects the recommendation of the MLD and the mediation provided for in Subdivision (k) of Section 5097.94, if invoked, fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall inter the human remains and items associated with Native American human remains with appropriate dignity on the facility property in a location not subject to further and future subsurface disturbance.			

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
Geology and Soils			
Mitigation Measure GEO-1: Retention of a Qualified Professional Paleontologist. Prior to the start of construction of any near-term, mid-term, or long-term project, LCWA shall retain a Qualified Professional Paleontologist as defined by the Society of Vertebrate Paleontology to carry out all mitigation related to paleontological resources including: project-level review (Mitigation Measure GEO-2); paleontological resources sensitivity training (GEO-3); oversight of paleontological resources monitoring (Mitigation Measure GEO-4); and recovery, treatment, analysis, curation, and reporting (Mitigation Measures GEO-5**,** GEO-6**,** and GEO-7).	Included in construction contractor's scope of work; written verification	By LCWA prior to the commencement of construction.	City of Long Beach City of Seal Beach California Coastal Commission
Mitigation Measure GEO-2: Project-Level Paleontological Resources Review and Monitoring Recommendations. Prior to LCWA approval of any near-term, mid-term, and long-term project, the Qualified Professional Paleontologist shall review the *Los Cerritos Wetlands Program Paleontological Resources Assessment* (ESA, 2019), grading plans, and any available geotechnical reports/data to determine the potential for ground disturbance to occur within older alluvium and old shallow marine deposits. If available data is sufficient to accurately determine the depth of older alluvium and old shallow marine deposits within a project site, monitoring shall be required beginning at or just above that depth. If available data is insufficient to determine the depth of older alluvium and old shallow marine deposits, monitoring shall be required beginning at 5 feet below surface (consistent with the accepted depth at which high sensitivity sediments could occur based on regional evidence). The results of the reviews shall be documented in technical memoranda to be submitted to LCWA prior to the start of ground disturbance, along with recommendations specifying the locations, depths, duration, and timing of any required monitoring. The technical memoranda shall include map figures that outline where monitoring is required and at what depths, and shall stipulate whether screen washing is necessary to recover small specimens. Any required screen washing shall follow SVP Guidelines.	Written verification, submittal of technical memoranda	By LCWA, prior to approval of project plans or preparation of subsequent CEQA documents.	City of Long Beach City of Seal Beach California Coastal Commission

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
Mitigation Measure GEO-3: Paleontological Resources Sensitivity Training. Prior to the start of ground disturbance for any near-term, mid-term, or long-term project, the Qualified Professional Paleontologist shall conduct paleontological resources sensitivity training. The training shall focus on the recognition of the types of paleontological resources that could be encountered within the program area, the procedures to be followed if they are found, confidentiality of discoveries, and safety precautions to be taken when working with paleontological monitors. LCWA shall ensure that construction personnel are made available for and attend the training, and retain documentation demonstrating attendance. The training should be repeated as necessary for incoming construction personnel.	Written verification	By LCWA prior to commencement of ground disturbance and continuously during construction.	City of Long Beach City of Seal Beach and/or California Coastal Commission
Mitigation Measure GEO-4: Paleontological Resources Monitoring. A qualified paleontological monitor, as defined by the Society of Vertebrate Paleontology, shall monitor all ground-disturbing activities occurring in the older alluvium and old shallow marine deposits for each near term, mid-term, or long-term project. Monitoring shall be implemented consistent with the locations, depths, duration, and timing recommendations specified in the technical memorandum for the project. Monitors shall work under the direction of the Qualified Professional Paleontologist. The number of monitors required to be on site during ground-disturbing activities shall be determined by the Qualified Professional Paleontologist and shall be based on the construction scenario – specifically the number of pieces of equipment operating at the same time, the distance between these pieces of equipment, and the pace at which equipment is working – with the goal of monitors being able to effectively observe sediments as they are exposed. Monitors shall have the authority to temporarily halt or divert work away from exposed fossils in order to recover the fossil specimens, and to request assistance from construction equipment operators to recover samples for screen washing as necessary. Monitors shall prepare daily logs detailing the types of activities and soils observed, and any discoveries. The Qualified Professional Paleontologist, in consultation with LCWA, shall have the ability to modify (i.e., increase, reduce, or discontinue) monitoring requirements based on observations of soil types and frequency of discoveries. Requests for modifications shall be submitted in writing to LCWA for approval prior to implementation.	Written verification	By LCWA, prior to the commencement of ground disturbing activities and continuously during construction.	City of Long Beach City of Seal Beach California Coastal Commission

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
Mitigation Measure GEO-5: Paleontological Discoveries. If any potential fossils are discovered by paleontological resources monitors or construction personnel, all work shall cease at that location (within 100 feet) until the Qualified Professional Paleontologist has assessed the discovery and made recommendations as to the appropriate treatment. The paleontological resources monitor (if one is present) or construction personnel (if a monitor is not present) shall flag the fossiliferous area for avoidance until the Qualified Professional Paleontologist can evaluate the discovery and develop plans for avoidance or removal/salvage of the specimen(s), if deemed significant. Significant discoveries shall be salvaged following SVP Guidelines. LCWA shall consult with the State Lands Commission Staff Attorney regarding any paleontological resources discoveries on state lands.	Field verification; written verification	By LCWA continuously throughout construction	City of Long Beach City of Seal Beach California Coastal Commission California State Lands Commission
Mitigation Measure GEO-6: Preparation, Identification, Cataloging, and Curation Requirements. All significant fossil discoveries shall be prepared to the point of identification to the lowest taxonomic level possible, cataloged, and curated into a certified repository with retrievable storage (such as a museum or university). All GPS data, field notes, photographs, locality forms, stratigraphic sections, and other data associated with the recovery of the specimens shall be deposited with the institution receiving the specimens. The Qualified Professional Paleontologist shall be responsible for obtaining a signed curation agreement from a certified repository in southern California prior to the start of the program. Given the length of the program, multiple agreements may be necessary due to changing capacities of repositories. The final disposition of paleontological resources recovered on state lands under the jurisdiction of the California State Lands Commission must be approved by the Commission.	Field verification; written verification, signed curation agreement	By LCWA continuously throughout construction	City of Long Beach City of Seal Beach California Coastal Commission California State Lands Commission
Mitigation Measure GEO-7: Reporting Requirements. The Qualified Professional Paleontologist shall prepare weekly status reports detailing activities and locations observed (with maps) and summarizing any discoveries to be submitted to LCWA via email for each week in which monitoring activities occur. Monthly progress reports summarizing monitoring efforts shall be prepared and submitted to LCWA for the duration of monitored ground disturbance. Reports detailing the results of monitoring for any near-term, mid-term, or long-term project and treatment of significant discoveries shall be submitted to LCWA within 120 days of completion of	Written verification, submittal of weekly reports	By LCWA throughout the construction period in which monitoring is required.	City of Long Beach City of Seal Beach California Coastal Commission

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
treatment, or within 30 days of completion of monitoring if no significant discoveries occurred. If significant fossils are recovered, the Qualified Professional Paleontologist shall file the final report with the Natural History Museum of Los Angeles County and the certified repository.			
Hazards and Hazardous Materials			
Mitigation Measure HAZ-1: Health and Safety Plan. The contractor(s) shall prepare and implement site-specific Health and Safety Plans as required by and in accordance with 29 CFR 1910.120 to protect construction workers and the public during all excavation and grading activities. This Plan shall be submitted to LCWA, the Orange County Environmental Health Division (the CUPA for the City of Seal Beach area), or Long Beach/Signal Hill Joint Powers Authority (the CUPA for the Long Beach area), for review prior to commencement of construction. The Health and Safety Plans shall include, but are not limited to, the following elements: • Designation of a trained, experienced site safety and health supervisor who has the responsibility and authority to develop and implement the site Health and Safety Plan; • A summary of all potential risks to construction workers and maximum exposure limits for all known and reasonably foreseeable site chemicals; • Specified personal protective equipment and decontamination procedures, if needed; • Emergency procedures, including route to the nearest hospital; and Procedures to be followed in the event that evidence of potential soil or groundwater contamination (such as soil staining, noxious odors, debris or buried storage containers) is encountered. These procedures shall be in accordance with hazardous waste operations regulations and specifically include, but are not limited to, the following: immediately stopping work in the vicinity of the unknown hazardous materials release, notifying the LCWA, and the Orange County Environmental Health Division (the CUPA for the City of Seal Beach area), or the Long Beach/Signal Hill Joint Powers Authority (the CUPA for the Long Beach area), the LARWQCB, or CalGEM, as appropriate, and retaining a qualified environmental firm to perform sampling and remediation.	Written verification, submittal of plans.	Prior to the issuance of a grading permit	City of Long Beach City of Seal Beach Orange County Environmental Health Division Long Beach/Signal Hill Joint Powers Authority

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
Mitigation Measure HAZ-2: Soil, Landfill Materials, and Groundwater Management Plan. In support of the Health and Safety Plan described in Mitigation Measure HAZ-1, the contractor(s) shall develop and implement a Soil, Landfilled Materials, and Groundwater Management Plan that includes a materials disposal plan specifying how the contractor will remove, handle, transport, and dispose of all excavated material in a safe, appropriate, and lawful manner. The Plan shall identify protocols for soil and landfilled materials testing and disposal, identify the approved disposal site, and include written documentation that the disposal site can accept the waste. Contract specifications shall mandate full compliance with all applicable federal, state, and local regulations related to the identification, transportation, and disposal of hazardous materials, including those encountered in excavated soil, landfilled materials, or dewatering effluent. As part of the Soil, Landfill Materials, and Groundwater Management Plan, the contractor shall develop a groundwater dewatering control and disposal plan specifying how groundwater (dewatering effluent), if encountered, will be handled and disposed of in a safe, appropriate and lawful manner. The Plan shall identify the locations at which groundwater dewatering is likely to be required, the test methods to analyze groundwater for hazardous materials, the appropriate treatment and/or disposal methods, and approved disposal site(s), including written documentation that the disposal site can accept the waste. The contractor may also discharge the effluent under an approved permit to a publicly owned treatment works, in accordance with any requirements the treatment works may have. This Plan shall be submitted to the LCWA, and the Orange County Environmental Health Division (the CUPA for the City of Seal Beach area), or the Long Beach/Signal Hill Joint Powers Authority (the CUPA for the Long Beach area), or the Orange County Environmental Health Division (the CUPA for the City of Seal Beach area) for review and approval prior to commencement of construction.	Written verification, submittal of report	By the LCWA prior to the issuance of a grading permit	City of Long Beach City of Seal Beach Orange County Environmental Health Division Long Beach/Signal Hill Joint Powers Authority

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
Hydrology and Water Quality			
Mitigation Measure HYD-1: A Monitoring and Adaptive Management Plan (MAMP) shall be prepared and implemented prior to commencement of construction or restoration activities. The MAMP shall provide a framework for monitoring site conditions in response to the program implementation. The monitoring shall focus on sediment quality in areas subject to the greatest deposition from storm events and that are also not subject to regular tidal flushing, (e.g., the southwestern corner of the Long Beach Property site). The sediment quality monitoring shall be performed at a frequency that would capture the potential build-up of contaminants in the deposited sediment before concentration are reached that would impact benthic macro-invertebrates and other sensitive species. The findings of the monitoring efforts shall be used to identify any source of impairment, and if discovered, provide measures for remediation of the sediment source area(s). The MAMP shall be submitted for review and approval to permitting agencies prior to commencement of construction or restoration activities.	Written verification, submittal of report	By the LCWA prior to the commencement of construction	City of Long Beach City of Seal Beach California Coastal Commission
Noise			
Noise Reduction Measure NOISE-1: Staging Areas and Mufflers. Staging areas for construction shall be located away from existing off-site residences. All construction equipment shall use properly operating mufflers. These requirements shall be included in construction contracts.	Included in construction contractor's agreements	By the LCWA prior to the commencement of construction	City of Long Beach City of Seal Beach California Coastal Commission
Noise Reduction Measure NOISE-2: Limit Grading. All grading activities shall be conducted outside of the nesting season for sensitive bird species. The nesting season has been identified as extending from March 1 to August 15. (Refer to Section 3.3 Biological Resources for more information on potential impacts to bird species and the corresponding mitigation).	Included in construction contractor's agreements	By the LCWA prior to the commencement of construction	City of Long Beach City of Seal Beach California Coastal Commission
Noise Reduction Measure NOISE-3: Noise Barriers. Where feasible, grading plans and specifications shall include temporary noise barriers for all grading, hauling, and other heavy equipment operations that would occur within 300 feet of sensitive off-site receptors and occur for more than 20 working days. The noise barriers shall be 12-feet high, but may be shorter if the top of the barrier is at least one foot above the line	Written verification, submittal of plans	By the LCWA prior to the issuance of a grading permit.	City of Long Beach City of Seal Beach California Coastal Commission

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
of sight between the equipment and the receptors. The barriers shall be solid from the ground to the top of the barrier, and have a weight of at least 2.5 pounds per square foot, which is equivalent to ¾ inch thick plywood. The barrier design shall optimize the following requirements: (1) the barrier shall be located to maximize the interruption of line-of-sight between the equipment and the receptor, which is normally at the top-of-slope when the grading area and receptor are at different elevations. However, a top-of-slope location may not be feasible if the top-of-slope is not on the project site; (2) the length and height of the barrier shall be selected to block the line-of-sight between the grading area and the receptors; (3) the barrier shall be located as close as feasible to the receptor or as close as feasible to the grading area; a barrier is least effective when it is at the midpoint between noise source and receptor.			
Public Services			
Mitigation Measure PS-1: Fire Prevention and Protection Training. Prior to the start of construction activities, the Applicant shall prepare and conduct a fire prevention and protection training for all construction personnel associated with the proposed program. Topics shall include general fire prevention practices such as avoiding smoking on the program area as well as specific preventative measures pertaining to high-fire-risk activities including handling of oil and welding and cutting. Personal protection measures including the locations of fire extinguishers on the program area and site exit routes should also be disclosed to ensure construction worker safety in the event of a fire. The material for the training shall be obtained in consultation with the Orange County Fire Authority and the Long Beach Fire Department.	Written verification	By the LCWA prior to the commencement of construction activities.	City of Long Beach City of Seal Beach California Coastal Commission
Transportation			
Mitigation Measure TRA-1: Prior to the start of construction of the program component(s) that require a full or partial roadway closure, LCWA shall require the construction contractor(s) to prepare a traffic control plan. The traffic control plan will show all signage, striping, delineated detours, flagging operations and any other devices that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the cities of Seal Beach and Long Beach and Orange and Los	Written verification, submittal of plan	By the LCWA construction contractor prior to the commencement of construction.	City of Long Beach City of Seal Beach California Coastal Commission

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
Angeles Counties, as applicable. The traffic control plan shall be prepared in accordance with the applicable jurisdiction's traffic control guidelines and will be prepared to ensure that access will be maintained to individual properties, and that emergency access will not be restricted. Additionally, the traffic control plan will ensure that congestion and traffic delays are not substantially increased as a result of the construction activities. Furthermore, the traffic control plan will include detours or alternative routes for bicyclists using on-street bicycle lanes as well as for pedestrians using adjacent sidewalks. LCWA shall provide written notice at least two weeks prior to the start of construction to owners/occupants along streets to be affected during construction. During construction, LCWA will maintain continuous vehicular and pedestrian access to any affected residential driveways from the public street to the private property line, except where necessary construction precludes such continuous access for reasonable periods of time. Access will be reestablished at the end of the workday. If a driveway needs to be closed or interfered with as described above, LCWA shall notify the owner or occupant of the closure of the driveway at least five working days prior to the closure. The traffic control plan shall include provisions to ensure that the construction of the proposed program does not interfere unnecessarily with the work of other agencies such as mail delivery, school buses, and municipal waste services. LCWA shall also notify local emergency responders of any planned partial or full lane closures or blocked access to roadways or driveways required for program construction. Emergency responders include fire departments, police departments, and ambulances that have jurisdiction within the program area. Written notification and disclosure of lane closure location must be provided at least 30 days prior to the planned closure to allow emergency response providers adequate time to prepare for lane closures.			
Utilities and Service Systems			
Mitigation Measure UTL-1: Water Will Serve Letter. Prior to issuance of a certificate of occupancy of the visitor center, a will serve letter will be obtained to verify that the water mains surrounding the program boundary have the capacity to serve the visitor center.	Written verification.	By the LCWA prior to issuance of a certificate of occupancy.	City of Seal Beach

Mitigation Measure	Method of Verification	Responsibility/Timing of Implementation	Enforcement Agency
Mitigation Measure UTL-2: Sewer Capacity Study. Prior to issuance of a certificate of occupancy of the visitor center, a sewer capacity study will be performed to verify that the sewer lines surrounding the program boundary have the capacity to serve the visitor center.	Written verification.	By the LCWA prior to issuance of a certificate of occupancy.	City of Seal Beach

Appendix A
Revised Draft PEIR

LOS CERRITOS WETLANDS RESTORATION PLAN

Revised Draft Program Environmental Impact Report
State Clearinghouse Number: 2019039050

Prepared for
Los Cerritos Wetlands Authority

September 2020



LOS CERRITOS WETLANDS RESTORATION PLAN

Revised Draft Program Environmental Impact Report
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September 2020

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COVER PHOTO CREDIT: Tidal Influence, Looking east at Steamshovel Slough

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EXECUTIVE SUMMARY

Los Cerritos Wetlands Restoration Plan Draft Program Environmental Impact Report

ES.1 Introduction

In accordance with California Environmental Quality Act Guidelines (*CEQA Guidelines*) Section 15123, this section of this Program Environmental Impact Report (PEIR) contains a summary of the Los Cerritos Wetlands Restoration Plan (proposed program) and its environmental effects. More detailed information regarding the proposed program and its potential environmental effects is provided in Chapter 2, *Project Description*, Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*, Chapter 4, *Other CEQA Considerations*, and Chapter 5, *Alternatives*, of this PEIR. This PEIR has been prepared by the Los Cerritos Wetlands Authority (LCWA) as the Lead Agency in conformance with the provisions of the *CEQA Guidelines*. Included in this summary is an overview of the purpose and organization of the EIR, a summary of the proposed program and its location, a description of the program objectives and characteristics, an overview of alternatives, a general description of the terminology used in the PEIR, a summary of the proposed program's impacts and proposed mitigation measures.

ES.1.1 Purpose of the Draft PEIR and Environmental Review Process

In accordance with Public Resources Code (PRC) Section 21002.1, the purpose of this PEIR is to identify the significant environmental impacts of the proposed program, to identify alternatives to the proposed program, and to indicate the manner in which those significant effects could be mitigated or avoided. The Draft PEIR is being provided to the public for review and comment. After public review and comment, a Final PEIR will be prepared that would include responses to comments on the Draft PEIR received from agencies, organizations, and individuals. The Final PEIR would then provide the basis for decision-making by the Lead Agency and other agencies. Other agencies (state, regional, and local), as described in Chapter 1, *Introduction*, that have jurisdiction over an element of the proposed program or a resource area affected by the proposed program are expected to use this Draft PEIR as part of their approval or permitting process. This Draft PEIR would support permit applications, construction contracts, and other actions required to implement the proposed program and to adopt mitigation measures that are intended to reduce or eliminate significant environmental impacts.

This PEIR serves as a first-tier environmental document that focuses on the overall effects of implementing the activities that make up the proposed program. As a first-tier environmental

document, this PEIR will serve as the foundation for subsequent CEQA analysis (e.g., Project-level EIRs, addendums) which may be conducted for project-specific restoration designs.

ES.2 Draft PEIR Organization

The PEIR is organized into chapters as identified and briefly described below. The chapters are further divided into sections (e.g., Section 3.2, *Air Quality*):

- **Executive Summary:** This chapter presents a summary of the proposed program and the identified environmental impacts. It describes mitigation measures that would be implemented and the level of significance both before and after mitigation (as fully analyzed in Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*). It also provides a summary of alternatives to the proposed program.
- **Chapter 1, *Introduction*:** This chapter presents a program overview; a discussion of the purpose and use of this PEIR; a discussion of the environmental process; and the organization of this PEIR. It also provides a summary of known controversial issues and a summary of issues to be resolved.
- **Chapter 2, *Project Description*:** This chapter provides a detailed description of the proposed program and its location. It also identifies the existing land management and site conditions, background, goals and objectives of the proposed program, land use and zoning designations, program characteristics for each program area, the proposed construction schedule for the proposed program, and the intended uses of the PEIR, including permits and approvals that would be required to implement the proposed program.
- **Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*:** For each environmental issue, this chapter describes the existing environmental and regulatory settings, evaluates and reaches significance conclusions for program-level and cumulative impacts associated with the proposed program, identifies mitigation for impacts determined to be significant, and discusses the level of significance after implementation of those mitigation measures.
- **Chapter 4, *Other CEQA Considerations*:** This chapter identifies impacts considered to be significant and unavoidable. In addition, the growth-inducing effects and significant irreversible environmental changes associated with construction or operations of the proposed program are also identified.
- **Chapter 5, *Alternatives*:** This chapter provides information regarding alternatives to be considered by decision makers in compliance with *CEQA Guidelines* Section 15126.6. The alternatives analysis evaluates a range of reasonable alternatives to the proposed program or to the location of the proposed program that would feasibly attain most of the basic objectives of the proposed program but would avoid or substantially lessen any of the significant effects of the proposed program. In addition, this chapter summarizes the alternatives that were considered and withdrawn from consideration because they did not meet program objectives, were determined to be infeasible, or did not avoid or substantially lessen any of the significant effects of the proposed program.
- **Chapter 6, *Report Preparers*:** This chapter lists the individuals, firms, and lead agency that were involved in preparing this PEIR.
- **Appendices:** This PEIR includes appendices that provide either background information or additional technical support for the analysis.

ES.3 Project Summary

The Los Cerritos Wetlands Authority (LCWA), as the Lead Agency pursuant to CEQA, is proposing to implement a restoration program for the Los Cerritos Wetlands Complex. The proposed program identifies conceptual restoration designs for approximately 503 acres of land located on the border of Orange County and Los Angeles County in the cities of Seal Beach and Long Beach. The program area consists of the South, Isthmus, Central and North areas. The proposed program would restore wetland, transition, and upland habitats throughout the program area. This would involve remediation of contaminated soil and groundwater, grading, revegetation, construction of new public access opportunities (including trails, visitor center, parking lots, and viewpoints), construction of flood management facilities (including earthen levees and berms, and walls), and modification of existing infrastructure and utilities.

ES.4 Project Location

The proposed program is located within the cities of Seal Beach and Long Beach. The City of Seal Beach is within the northwestern portion of Orange County, California. The City of Long Beach is within the southeastern portion of Los Angeles County, California.

The City of Seal Beach is bounded by the City of Long Beach to the west; the City of Los Alamitos and the neighborhood of Rossmoor to the north; and the cities of Huntington Beach, Westminster, and Garden Grove to the east. The Pacific Ocean borders the City of Seal Beach to the south. The U.S. Navy Naval Weapons Station Seal Beach is located within Seal Beach city boundaries to the southeast of the program area.

The City of Long Beach is bounded by the cities of Carson and Los Angeles, the neighborhood of Wilmington, and the Port of Los Angeles to the west; the cities of Compton, Paramount, and Lakewood to the north; and the cities of Hawaiian Gardens, Cypress, Los Alamitos, and Seal Beach to the east. The Pacific Ocean borders the City of Long Beach to the south.

Figure ES-1, *Regional Location*, shows the regional location of the proposed program.

The program area is located in the West Seal Beach and East Long Beach, straddling the border of Orange County and Los Angeles County in southern California. **Figure ES-2**, *Project Site and Local Vicinity*, illustrates the program area relative to its immediate surroundings. Three major channels are present in the program area: Los Cerritos Channel, San Gabriel River, and the Haynes Cooling Channel. A remnant historic tidal channel, called Steamshovel Slough, is also present, and drains to the Los Cerritos Channel. For purposes of organizing the environmental analysis and discussion, the proposed program has been separated into 4 areas (South, Isthmus, Central, and North) and 17 individual sites.



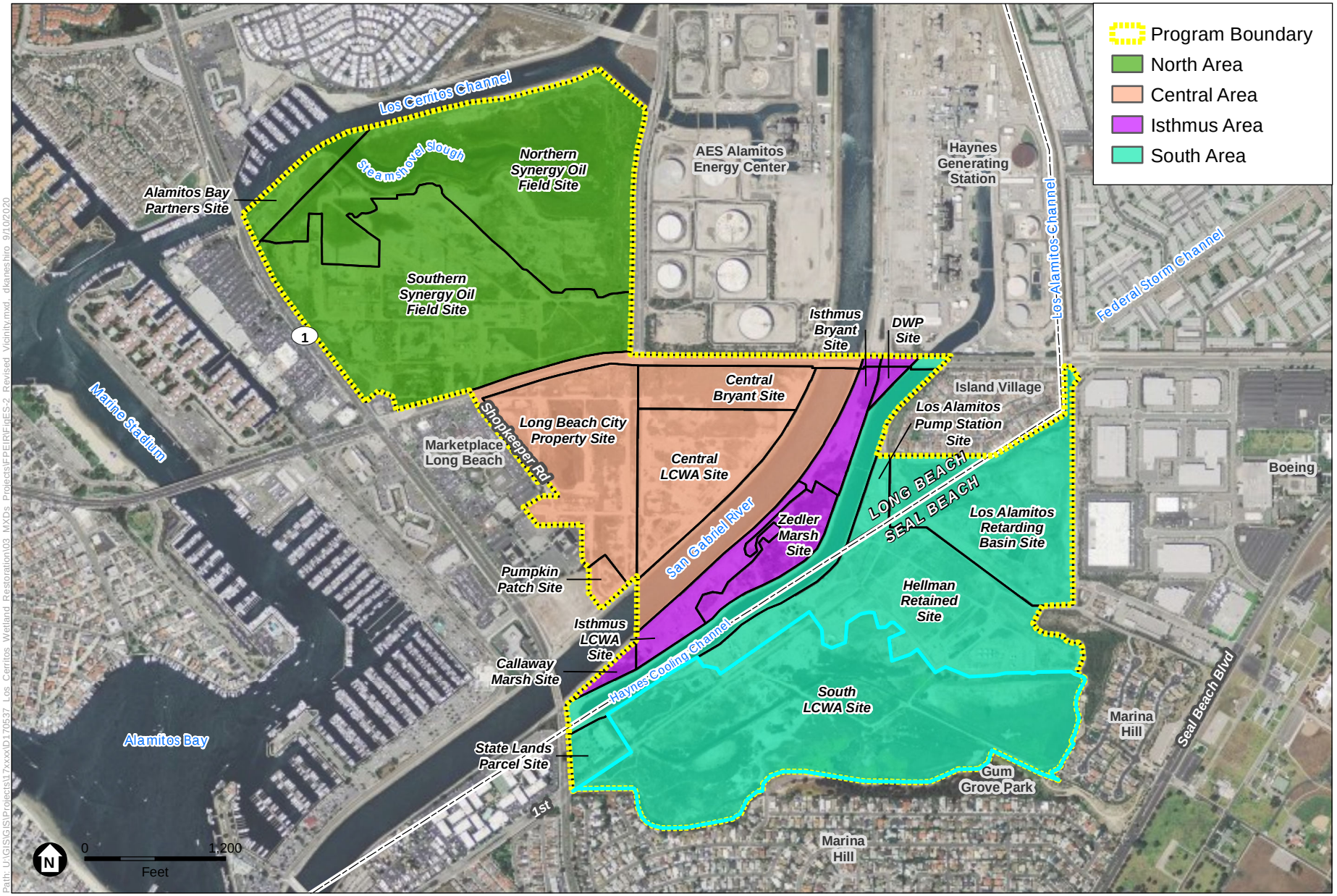
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SOURCE: ESRI

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure ES-1
Regional Location

ESA



SOURCE: Mapbox, LCWA

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure ES-2

Revised Project Site and Local Vicinity

ESA

ES.5 Background

ES.5.1 History of the Los Cerritos Wetlands Complex

Until the late 1800s, the wetlands within and beyond the program area, collectively known as the Los Cerritos Wetlands Complex, spanned approximately 2,400 acres and consisted of a network of tidal channels, vegetated wetlands, and upland areas. The Los Cerritos Wetlands Complex was almost entirely tidal wetland, with a few natural streams and intertidal flat channels.

Beginning in the late 1800s, the Los Cerritos Wetlands Complex began to undergo significant alterations due to cattle and beet farming, the demands of a growing population, and oil extraction. Oil was first discovered at the Seal Beach Oil Field in 1926. The development of oil production operations, paired with channelization of the San Gabriel River, resulted in substantial dredge and fill of the Los Cerritos Wetlands Complex. Today, nearly all of the program area has been converted from its historic wetland habitat, though a few remnant and degraded historic habitats remain. The most notable example of remaining historic habitat within the program area is the Steamshovel Slough, a fully tidal marsh connected to the Los Cerritos Channel that maintains high plant diversity and estuarine ecological communities.

ES.5.2 Cultural History of the Los Cerritos Wetlands Complex

Archaeological evidence from the Channel Islands indicates that the first people migrated down the California Coast as early as 12,000 years ago (Cassidy et al. 2004; Erlandson et al. 2007), with permanent settlements established between 8,000 and 3,000 years ago (Douglass et al. 2015; Glassow et al. 1988; Grenda and Altschul 2002; Koerper et al. 2002; Macko 1998). From 1,000 years before present to approximately 1542 C.E., Los Angeles County and Northern Orange County were occupied by the Gabrielino (Tongva and Kizh) and Juaneño (or Acjachemen) peoples (named after the Spanish Mission where many of them were baptized). The terms Tongva, Kizh, and Acjachemen are preferred by many descendant groups over the Spanish words that have historically been used to describe them. Approximately 50 major villages were located along the coast and inland prairies. These groups have in past and current times ~~The Gabrielino~~ used the local wetlands and its natural resources, including biological, water, and mineral resources, for food, shelter, and trade ~~, rivers, and streams to hunt and fish, to gather reeds and willows to build homes, and as a reliable water source~~ (McCawley, 1996). ~~Nearby~~ Native American sites are known to be located at California State University Long Beach, Rancho Los Alamitos Historic Ranch, and Heron Point (California Coastal Commission, 2018).

The Los Cerritos Wetlands Complex has been identified by California Native American tribal members as a Tribal Cultural Landscape as part of government-to-government consultation with LCWA regarding the proposed program and as part of consultations related to the Los Cerritos Wetland Oil Consolidation and Restoration Project. Tribal members consulted identified ~~believe~~ the Tribal Cultural Landscape ~~is~~ as eligible for listing in the National Register of Historic Places as a Tribal (or Traditional) Cultural Property (or TCP) – a type of significance that is often related to religious or ceremonial values because of unique landscape features, such as a mountain or bluff top, places with significant or special natural views, rivers and estuaries, or vegetation and

wildlife, or areas with burials or religious artifacts/monuments. The wetlands are within ~~walking distance to both~~the *Puvungna* and *Motuucheyngna* village sites community and served as an important resource to native peoples and was used both historically and in current times by native peoples. The California Coastal Commission has acknowledged the significance of this area as part of the Los Cerritos Wetland Oil Consolidation and Restoration Project (State Clearinghouse Number 2016041083) (California Coastal Commission, 2018). LCWA, in its discretion and as supported by substantial evidence provided by tribal groups, determined that the landscape is a historical resource (CEQA Guidelines Section 15064.5(a)(4) and a tribal cultural resource (Public Resource Code Section 21074(a)(2)) for the purposes of the program PEIR.

ES.5.3 Los Cerritos Wetlands Stewardship Program

The Los Cerritos Wetlands Stewardship Program[1] was created in 2009 by the LCWA to engage the public and allow volunteers to help the LCWA with managing and enhancing habitat that exists on LCWA property. The Los Cerritos Wetlands Stewardship Program Vision Plan prepared by the LCWA in 2018 identifies future restoration projects, including opportunities for improved public access.

ES.5.4 Los Cerritos Wetlands Oil Consolidation and Restoration Project

A project-level EIR was prepared for the City of Long Beach to evaluate the environmental effects associated with the Los Cerritos Wetlands Oil Consolidation and Restoration Project (State Clearinghouse Number 2016041083). The project applicant, Beach Oil Minerals Partners (BOMP), proposes to consolidate existing oil operations and implement a wetlands habitat restoration project in portions of the North and Central Areas within the program area and on property that fall completely outside the program area. The EIR was certified by the City of Long Beach City Council on January 16, 2018. The Local Coastal Program Amendment associated with the Los Cerritos Wetlands Oil Consolidation and Restoration Project was approved by the California Coastal Commission (CCC) on August 8, 2018, with modifications to the amendment approved on October 2, 2018. The Coastal Development Permit was conditionally approved by the CCC on December 13, 2018. This PEIR relies on the technical analysis, impact discussion, and mitigation measures documented in the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse Number 2016041083) for a portion of the program area. No new information of substantial importance or change in circumstance with the Los Cerritos Wetlands Oil Consolidation and Restoration Project requires re-evaluation of the analysis in that EIR.

The Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse Number 2016041083) contains more detailed and quantitative analysis than this program-level EIR because this EIR is evaluating the impacts associated with implementing the Los Cerritos Wetlands Restoration Plan, not a specifically designed project as is the case for the Los Cerritos Wetlands Oil Consolidation and Restoration Project. The Los Cerritos Wetlands Oil

[1] http://intoloscerritoswetlands.org/wp-content/uploads/2015/12/LCWA-Stewardship-Program-Vision-Plan.pdf

Consolidation and Restoration Project was designed to be consistent with the goals and objectives of the Los Cerritos Wetlands Final Conceptual Restoration Plan.

ES.5.4.1 Project Characteristics Not Evaluated in this PEIR

The environmental effects associated with the following project characteristics of the Los Cerritos Wetlands Oil Consolidation and Restoration Project are evaluated in the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse Number 2016041083) and will not be further evaluated in this PEIR.

North Area

The Los Cerritos Wetlands Oil Consolidation and Restoration Project would involve removing the existing oil operations and associated facilities and implementing a wetlands habitat restoration project on the Northern and Southern Synergy Oil Field sites.

The first phase of the project would be focused on the 76.52-acre Northern Synergy Oil Field site, and provide the conditions necessary for the reestablishment of coastal salt marsh habitat and associated hydrologic, biogeochemical, and habitat functions, including:

- Remediating any contaminated areas identified through sampling, and as required by permit, and restoring a natural wetland area that would be operated as a wetlands mitigation bank.[2]
- Constructing a new barrier consisting of sheet piles and earthen berms along the southern limits of the Northern Synergy Oil Field site;
- Establishing tidal channels, by means of grading, to convey tidal water from the Los Cerritos Channel/Steamshovel Slough to areas that currently lack tidal flows; and
- Removing segments of the existing berm and roads that currently separate Steamshovel Slough from non-tidal portions of the Northern Synergy Oil Field site.

The first phase of the project would also include work on the Southern Synergy Oil Field site, including relocating the existing office building on site to house the Long Beach Visitor Center, and construction of a parking lot, trail, overlook, sidewalk enhancements, and bikeway improvements.

The first phase of the project is expected to be implemented within 4 years of obtaining construction permits.

Within 20 years after obtaining Certificate of Occupancy for the new office on the Pumpkin Patch site, in the second phase of the project, all remaining oil operations would be removed and the 73.07-acre Southern Synergy Oil Field site may be restored to tidal salt marsh by breaching or lowering the earthen berm and removing the sheet pile wall.

[2] Mitigation banking is the sale of credits for the preservation, enhancement, restoration or creation of a wetland, stream, or habitat conservation area which offsets, or compensates for, expected adverse impacts to similar nearby ecosystems. The approval and establishment of the mitigation bank, including the wetlands restoration plan that may be implemented, is subject to a separate regulatory process overseen by the interagency review team (IRT) consisting of State and federal resources agencies, and led by the U.S. Army Corps of Engineers.

Central Area

An aboveground pipeline system and underground utility corridor would be constructed in the first phase of the project, along 2nd Street from Studebaker Road down to, and along, Shopkeeper Road on the Long Beach City Property site to the Pumpkin Patch site. On the Long Beach City Property, the tanks and 95 percent of all pipelines would be removed. Up to 95 percent of oil production infrastructure within the program area would be removed from the Pumpkin Patch site in the near-term to allow for restoration. Sidewalks could be constructed along all parcel frontages. Construction on the Pumpkin Patch site is expected to take 3 to 4 years, while construction of the pipeline system on the Long Beach City Property is expected to take 2 to 3 years.

Within 20 years from the New Occupancy Date, in the second phase of the project, oil operations would be removed from the Long Beach City Property site and contaminated areas would be remediated.

Outside the Program Boundary

Outside the program boundary, on LCWA-owned property on the northeast corner of Studebaker Road and 2nd Street, oil processing facilities would be constructed after the site is remediated and graded. The facilities would include an elevated pipe rack, tank storage, well cellars, and an emergency flaring system. The Pumpkin Patch site outside the program area would be graded and new oil facilities would be constructed at the site. Oil facilities would include a tank storage area, well cellars, a water treatment system, and oil separation system. Additionally, a new office building and warehouse would be constructed on the Pumpkin Patch site. A bike station would be constructed adjacent to the Pumpkin Patch site. The first phase of the project is expected to be implemented within 2 years of obtaining construction permits. Potential environmental impacts to this activity are not analyzed under this PEIR, except to the extent these activities are reasonably anticipated future activities that may have a cumulative effect on activities within the program area (see Table 3-1 in Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*, which includes the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse No. 2016041083), which is included as Cumulative Project No. 24).

ES.6 Los Cerritos Wetlands Restoration Plan Goals and Objectives

The goals and objectives of the proposed program are presented below and are identical to the goals and objectives identified in the CRP (Moffatt & Nichol, 2015):

1. Restore tidal wetland processes and functions to the maximum extent possible.
    a. Increase estuarine habitat with a mix of tidal channels, mudflat, salt marsh, and brackish/ freshwater marsh and ponds.
    b. Provide adequate area for wetland-upland ecotone and upland habitat to support wetlands.
    c. Restore and maintain habitat that supports important life history phases for species of special concern (e.g., federal and state listed species), essential fish habitat, and migratory birds as appropriate.

~~c.~~d. Solicit and address feedback on restoration design from members of the community, Native American tribes, and other interested parties.

2. Maximize contiguous habitat areas and maximize the buffer between habitat and sources of human disturbance.
    a. Maximize wildlife corridors within the Los Cerritos Wetlands Complex and between the Los Cerritos Wetlands Complex and adjacent natural areas within the region.
    b. Incorporate native upland vegetation buffers between habitat areas and human development to mitigate urban impacts (e.g., noise, light, unauthorized human encroachment, domestic animals, wastewater runoff) and reduce invasion by non-native organisms.
    c. Design the edges of the Los Cerritos Wetlands Complex to be respectful and compatible with current neighboring land uses.
3. Create a public access and interpretive program that is practical, protective of sensitive habitat and ongoing oil operations, economically feasible, and will ensure a memorable visitor experience.
    a. Build upon existing beneficial uses.
    b. Minimize public impacts on habitat/wildlife use of the Los Cerritos Wetlands Complex.
    c. Design interpretive concepts that promote environmental stewardship and the connection between the wetlands and the surrounding community.
    d. Solicit and address feedback from members of the ~~surrounding~~ community, Native American tribes, and other interested parties.
    ~~d.~~e. Encourage equitable access of the LCW as a regional resource
4. Incorporate phasing of implementation to accommodate existing and future potential changes in land ownership and usage, and as funding becomes available.
    a. Include projects that can be implemented as industrial operations are phased out and other properties are acquired over the near-, mid- and long-term (next 10 years, 10-20 years, and 20+ years).
    b. Investigate opportunities to restore levels of tidal influence that are compatible with current oil leases and neighboring private land holdings.
    c. Remove/realign/consolidate existing infrastructure (roads, pipelines, etc.) and accommodate future potential changes in infrastructure, to the maximum extent feasible.
5. Strive for long-term restoration success.
    a. Implement an adaptive management framework that is sustainable.
    b. Restore habitats in appropriate areas to minimize the need for long-term maintenance activities that are extensive and disruptive to wildlife.
    c. Design habitats that will accommodate climate changes, e.g., incorporate topographic and habitat diversity and natural buffers and transition zones to accommodate migration of wetlands with rising sea levels.
    d. Provide economic benefit to the region.

6. Integrate experimental actions and research into the project, where appropriate, to inform restoration and management actions for this project.
    a. Include opportunities for potential experiments and pilot projects to address gaps in information (e.g., effect of warm river water on salt marsh ecosystem) that are protective of sensitive habitat and wildlife and that can be used to adaptively manage the restoration project.
    b. Include areas on the site, where appropriate, that prioritize research opportunities (such as those for adaptive management) over habitat sensitivities.

ES.7 Program Characteristics

As described above, the program area consists of the South, Isthmus, Central and North areas. The proposed program would restore wetland, transition, and upland habitats throughout the program area. This would involve remediation or containment of contaminated soil and groundwater, grading, revegetation, construction of new public access opportunities (including trails, visitor center, parking lots, and viewpoints), construction of flood management facilities (including earthen levees and berms, and walls), and modification of existing infrastructure and utilities.

ES.7.1 Overview of Common Program Features

The description of each of the program areas is broken down into the following elements: phasing, ecosystem restoration, flood risk and stormwater management, public access and visitor facilities, and infrastructure and utility modification. An overview of each of these elements is provided below.

Phasing

One of the Los Cerritos Wetlands Restoration Plan objectives (Section ES.4, Objective #4) is to incorporate phasing of implementation to accommodate existing and future potential changes in land ownership and usage, and as funding becomes available. The restoration activities would be phased over time as properties become available for acquisition by LCWA. The timing of construction at each site is dependent on multiple variables, including property transfers, removal of oil infrastructure, and related facilities, availability of funding, and permit approvals. Each phase of the proposed program will take multiple years to complete construction activities and with multiple years anticipated between each phase.

Construction on properties currently under the ownership of LCWA or in the process of being transferred to the LCWA is expected to occur in the **near term** (within approximately 10 years). Construction on properties that would be connected to or are associated with the decommissioning of the Haynes Cooling Channel or that may require more time than the near-term time frame is expected to occur in the **mid-term** (between approximately 10-20 years). The timing of the **long-term** phase depends on decommissioning of existing oil operations and could vary from around 20 years (where agreements are already in place) to much longer time frames. For oil operations that do not have agreements in place with LCWA, it is expected that overall level of oil and natural gas production would continue until oil operators decide to stop production.

What is described in this PEIR is an approximation of the sequence of restoration that could occur; however, it is possible that a property identified as available for restoration in the mid-term may not be restored until the long-term, or a property identified as available for restoration in the mid-term is available to be restored in the near-term, etc. Restoration will not begin until a variety of actions are taken, including: preparation of project level restoration designs, completion of studies and analysis in support of design and permit approvals, acquiring project-level funding, acquiring permit approvals and associated CEQA clearance documents, amendments made with easement holders, and property transfers.

Ecosystem Restoration

Ecosystem restoration includes actions that will restore more natural ecosystem processes (physical and biological) from disturbed habitats within the program area. Restoration of more natural ecosystem processes through actions like grading, altering tidal connections, and revegetation, will lead to more extensive and higher functioning wetland, transition, and upland habitats. Habitat types that would be restored or enhanced within the program area include subtidal channels, intertidal salt marsh, salt marsh-upland transition zone, brackish marsh, native grassland, coastal sage scrub, and riparian scrub. Restored habitat distribution and acreages vary by program area and are described in more detail below.

Excavation of tidal channels to enhance tidal connection would require a balancing of temporary impacts to existing resources, which in most instances are moderately to substantially degraded wetlands, with maximizing the long-term functions of the areas receiving tidal exchange. To the extent feasible, tidal channels would avoid existing areas of pickleweed mats, Parish's glasswort patches and saltgrass flats and instead would be located in unvegetated flats and low elevation areas. In some areas it would not be possible to fully avoid existing vegetation while establishing the necessary elevations for the tidal channels.

The restored salt marsh areas would be re-vegetated through a combination of seeding and installation of nursery container stock. Restoration would include soil amendments (to enhance soil texture and nutrients), irrigation, and weed control. The salt marsh would support a mix of species including Parish's glasswort, shoregrass, saltgrass, Pacific pickleweed, alkali heath, and Pacific cordgrass.

Revegetation activities in non-tidal areas would include removing or controlling invasive plant species and seeding/planting native plant species. Appropriate conditions will need to be restored in order to support target plant communities. A few important factors to consider will be hydrology, salinity, soil texture, and slope aspect.

Intertidal areas with unrestricted connections to fully tidal waters will, over time with sea-level rise, experience an upward elevation shift in vegetation communities. In the shorter term, subtidal and low salt marsh areas would expand, and mid and high salt marsh areas would shrink. In the longer term, elevations that support intertidal communities at current sea level will be converted entirely to subtidal habitats. Gently sloped transition zone and low-lying upland habitats adjacent to today's salt marsh could support intertidal communities in the longer term.

Potential disturbances to sensitive habitats and species during operation of the proposed program would be minimized through effective design of public access areas to keep people on trails and out of habitat areas. The success of restoration efforts would be measured based on established performance criteria focusing on the abundance and diversity of native vegetation and the wildlife that use the Los Cerritos Wetlands Complex.

Flood Risk and Stormwater Management

Improving connection of wetlands to tidal flows to allow for habitat restoration would require changes to existing flood risk and stormwater management elements, and construction of new flood risk and stormwater management elements. Creating and expanding these tidal connections also requires consideration of future climate change, including sea-level rise. As the restoration project designs are refined, the LCWA will consider the best available science in order to reduce potential climate-related impacts, including impacts resulting from sea-level rise.

The proposed program would include modifications to Los Angeles County Drainage Area project structures within the program area by modifying the existing levee along the San Gabriel River, constructing new flood risk management structures (e.g., earthen levees and berms, or flood walls), restoring the wetland floodplain, constructing new water-control structures that allow for increased tidal connections, and constructing new stormwater management features (e.g., bioswales). The proposed program would also include modifications to existing operations and maintenance practices for flood risk and stormwater management structures.

The existing Los Angeles County Drainage Area project structures and facilities are maintained in such a manner and operated at such times and for such periods as necessary to obtain the maximum flood protection benefits (33 C.F.R. §208.10). The implementation of the proposed program would require revisions to the U.S. Army Corps of Engineers' OMRR&R Manual to reflect changes made to the existing Los Angeles County Drainage Area project structures and facilities within the program area.

Public Access and Visitor Facilities

Potential public access improvements and visitor amenities would include construction of new pedestrian trails, elevated perimeter pedestrian walkways, educational or interpretive features, viewing areas with overlooks, new and improved parking facilities, and visitor center. These improvements would develop and enhance public access, recreation, and educational opportunities within the program area, while balancing the need for protection of sensitive habitats.

Infrastructure and Utility Modification

Infrastructure and utility modifications include oil well and associated pipeline abandonment and relocation, and electric and water line relocation. These modifications would allow for increased connectivity of habitat restoration within the program area and protection of existing utilities that are not otherwise abandoned or relocated.

ES.7.2 South Area

Ecosystem restoration in the South Area would occur in three phases based on land and oil lease ownership. The near- and mid-term phases of the program in the South Area would be mostly focused on the South LCWA and State Lands Parcel sites and would provide the conditions necessary for the expansion of coastal salt marsh habitat and associated hydrologic, biogeochemical, and habitat functions. Long-term phases of the program would be focused on the Hellman Retained site. The operations on the Los Alamitos Retarding Basin are proposed to be modified in the mid-term and no changes are proposed for the Los Alamitos Pump Station site, which was formerly restored as part of a mitigation project.

Near-term activities would include:

- Remediating soils (e.g., on-site treatment, excavation and removal, or cap in place) that have been impacted by oil operations;
- Grading the South LCWA site, including excavation to create channels and revegetation of native plants to support a diversity of marsh, transitional, and upland habitats;
- Constructing a new earthen berm or flood wall along the Hellman property boundary on the South LCWA site to protect the Hellman site from flooding;
- Raising 1st Street on the South LCWA site out of the floodplain by placing it on fill;
- Building a Seal Beach Visitor Center and associated parking on an existing raised building pad on the State Lands Parcel site;
- Removing the gate on the existing culvert connecting the South LCWA site to the San Gabriel River and removing the culverts under the former access roads. The existing culvert under 1st Street would either be improved or replaced with a bridge; and
- Restoring native upland, transitional, and freshwater/brackish ~~grassland for raptor foraging~~ habitat on South LCWA site over the former landfill.

Mid-term activities would include:

- Excavating a channel connecting the Hellman Channel directly to the Haynes Cooling Channel and lowering the berm along the Haynes Cooling Channel to increase the tidal range in the South LCWA site; and
- Modifying the Los Alamitos Retarding Basin operations to enhance the habitat value in the basin (e.g., change pumping operations to maintain ponding for shorter or longer time).

Long-term activities would include:

- Phasing out or consolidating oil operations on the Hellman Retained site to allow for restoration;
- Lowering, breaching, or removing the earthen berm or flood wall separating the South LCWA site and the Hellman Retained site;
- Removing 1st Street (through the South LCWA site) and removing, lowering, or breaching the berm under the road.

Table ES-1, *South Area Phasing*, summarizes the activities associated with each phase.

TABLE ES-1
SOUTH AREA PHASING

	Near Term (0–10 years)	Mid Term (10–20 years)	Long Term (20+ years)
Los Alamitos Pump Station Site	• Previously restored	n/a	n/a
South LCWA Site	• Remediation of soils • Grading of site to support habitat restoration • Constructing an earthen berm or flood wall to protect Hellman Retained site • Raising 1st Street • Removing the gate on the Hellman Channel culvert to the San Gabriel River	• Excavating a channel to connect the Haynes Cooling Channel to the site • Lower berm separating the Haynes Cooling Channel from the site	• Lower or breach earthen berm or remove flood wall to connect to Hellman Retained site • Remove 1st Street and lower or breach berm
State Lands Parcel Site	• Building a Seal Beach Visitor Center and associated parking facilities	n/a	n/a
Haynes Cooling Channel	n/a	• Channel is decommissioned	n/a
Los Alamitos Retarding Basin Site	n/a	• Operations of retarding basin are modified to enhance habitat	n/a
Hellman Retained Site	n/a	n/a	• Oil operations removed or consolidated to allow for restoration • Remediation of soils • Grading of site to support habitat restoration • New tidal channel excavated to connect the Haynes Cooling Channel to the site

ES.7.3 Isthmus Area

In the near-term, the proposed program would extend the restoration currently present on the Zedler Marsh site north into the Isthmus Bryant site and the portion of the DWP site west of the gas access road. The Callaway Marsh site and the rest of the DWP site would be enhanced in the mid-term, once the Haynes Cooling Channel is decommissioned by LADWP and no longer in use for the Haynes Generating Station. In the long-term, the oil operations on the Isthmus LCWA site would be phased out or consolidated off site to allow for restoration once the operations are no longer active. **Table ES-2**, *Isthmus Area Phasing*, summarizes the activities associated with each phase.

TABLE ES-2
ISTHMUS AREA PHASING

	Near Term (0–10 years)	Mid Term (10–20 years)	Long Term (20+ years)
Zedler Marsh Site	• Previously restored with ongoing restoration activities per the Stewardship Vision Plan	n/a	n/a
Isthmus Bryant Site	• Limited grading of site to support habitat restoration and provide tidal connection to Zedler Marsh • Removal of invasive species and planting of native vegetation	n/a	• Removal of access road and culverts to allow better tidal flow to the north
DWP Site	• Removal of invasive species and planting of native vegetation west of the gas access road	• Removal of invasive species and planting of native vegetation east of the gas access road	• Removal of access road to reduce habitat fragmentation
Callaway Marsh Site	n/a	• Limited grading of site to support habitat restoration • Removal of flap gate on culvert connecting site to San Gabriel River • Removal of invasive species and planting of native vegetation	n/a
Isthmus LCWA Site	n/a	n/a	• Oil operations removed or consolidated to allow for restoration • Remediation of soils • Limited grading of site to support habitat restoration • Removal of invasive species and planting of native vegetation

ES.7.4 Central Area

Ecosystem restoration in the Central Area would occur in two phases based on land and oil lease ownership. The Central LCWA site is available for restoration immediately, and discussions between Bryant Dakin, LLC and the LCWA on acquisition of the Central Bryant site for restoration are on-going. The program assumes that both of these properties would be available for restoration in the near-term and the existing oil operations on the Central LCWA site operated by Signal Hill Petroleum, Inc. would be protected in place by proposing to raise the wells out of the floodplain. The Long Beach City Property site and the Pumpkin Patch site are part of the Los Cerritos Wetlands Oil Consolidation and Restoration Project (State Clearinghouse Number 2016041083) and would be available for restoration in the long-term.

The near-term phase of the program would be focused on the Central LCWA and Central Bryant sites and would provide the conditions necessary for the reestablishment of coastal salt marsh habitat and associated hydrologic, biogeochemical, and habitat functions. Near-term activities would include:

- Relocating or modifying oil infrastructure and remediation of soils on the Central LCWA site;

- Grading of the sites, including channels, and revegetation of native plants to support a diversity of salt marsh species;
- Removing segments of the existing levee (e.g., breaching the levee and/or lowering a segment) that currently separates the San Gabriel River from non-tidal portions of the Central LCWA and Central Bryant sites;
- Constructing a new earthen levee (Perimeter Levee) along 2nd Street from the San Gabriel River to the intersection with Studebaker Road to protect areas to the north from flooding;
- Constructing a new interim earthen levee (Interim Levee) along the western boundary of the Central LCWA site to protect the areas to the west from flooding and to provide continued access to the wells on the Central LCWA site;
- Providing flood protection for the existing wells on the Central LCWA site by raising the well pads out of the floodplain; and
- Constructing public trails on levees, including accessible ramps, and viewpoints.

In the long-term, the Long Beach City Property site and the Pumpkin Patch site would be restored to tidal salt marsh, including:

- Grading the Long Beach City Property site, including channels, to support a diversity of salt marsh species;
- Removing the northern segment of the Interim Levee on the Central LCWA site to connect the restored habitats on the Central LCWA site to the non-tidal portions of the Long Beach City Property site;
- Constructing a new earthen levee (Perimeter Levee) along 2nd Street between the intersection with Studebaker Road to Shopkeeper Road on the Long Beach City Property site and then along Shopkeeper Road to the existing San Gabriel River levee on the Long Beach City Property and Pumpkin Patch sites to protect areas to the north and west from flooding; and
- Constructing public trails on levees, accessible ramps, stairs, and viewpoints.

Table ES-3, *Central Area Phasing*, summarizes the activities associated with each phase.

Impacts associated with habitat restoration on the Long Beach City Property and Pumpkin Patch sites will be evaluated under this PEIR. See the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse Number 2016041083) and CCC Staff Report conditions for impacts associated with soil remediation, oil consolidation, and construction of the new pipeline system and utility corridor.

TABLE ES-3
CENTRAL AREA PHASING

	Near Term (0–10 ears)	Mid Term (10–20 years)	Long Term (20+ years)
Central LCWA Site and Central Bryant Site	• Remediation of soils and relocation or modifying oil infrastructure • Grading of site to support habitat restoration • Construction of earthen levee to protect Long Beach City Property site (Interim Levee) and 2nd Street (Perimeter Levee) • Raising existing wells to protect them • Breaching the San Gabriel River Levee and reconnecting the river to the restored marsh • Construction of public trails on levees and accessible ramps • Construction of viewpoints	n/a	• Removal of the Interim Levee and excavation of a tidal channel from the Central LCWA/Central Bryant site to the Long Beach City Property site
Long Beach City Property Site	• Construction of an aboveground pipeline system and underground utility corridor along 2nd Street from Studebaker Road down to and along Shopkeeper Road • Removal of tank farm and 95% of pipelines	n/a	• Removal of oil operations and remediation of soils to allow for restoration • Grading of site to support habitat restoration • Construction of earthen levee to protect 2nd Street and Shopkeeper Road (Perimeter Levee) • Excavation of a tidal channel from the Central LCWA/Central Bryant site to the Long Beach City Property site • Construction of public trails on levees, accessible ramps, and stairs • Construction of viewpoints
Pumpkin Patch Site	n/a	n/a	• Removal of oil operations, including 95% of pipelines and remediation of soils to allow for restoration of the site • Construction of earthen levee to protect the western portion of the Pumpkin Patch site (Perimeter Levee)

Grey text represents project features that interact with this program, but that are evaluated as part of the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR

ES.7.5 North Area

Ecosystem restoration on the Alamitos Bay Partners site and South Synergy Oil Field site would occur in the long-term phase based on land and oil lease ownership. The North Synergy Oil Field site is part of the Los Cerritos Wetlands Oil Consolidation and Restoration Project (State Clearinghouse Number 2016041083) and would be restored in the near-term phase.

Long-term activities would include:

- Remediating soils (e.g., on-site treatment, excavation and removal, or cap in place) that have been impacted by oil operations on the Alamitos Bay Partners site;
- Grading the Alamitos Bay Partners site and the South Synergy Oil Field site, including excavation to create channels, and revegetation to support a diversity of marsh, transitional, and upland habitats;
- Constructing a new earthen levee or flood wall along the South Synergy Oil Field and Alamitos Bay Partners sites to protect 2nd Street and Pacific Coast Highway from flooding;
- Excavating a tidal channel from the North Synergy Oil Field site to the South Synergy Oil Field site to increase tidal connection in the South Synergy Oil Field site; and
- Removing the sheet pile wall along the Alamitos Bay Partners site.

Table ES-4, *North Area Phasing*, summarizes the activities associated with each phase.

TABLE ES-4
NORTH AREA PHASING

	Near Term (0–10 years)	Mid Term (10–20 years)	Long Term (20+ years)
Northern Synergy Oil Field Site	• Remediation of soils and relocation of oil infrastructure • Construction of a new berm and sheet pile wall barrier along the southern limits of the site • Grading tidal channels to support habitat restoration • Removal of segments of the existing berm separating Steamshovel Slough from the site	n/a	n/a
Southern Synergy Oil Field Site	• Development of the Long Beach Visitor Center and parking lot from existing office building • Construction of trail, sidewalk enhancements, and bikeway improvements	n/a	• Remediation of soils and relocation oil infrastructure • Removal of the sheet pile wall barrier constructed in the near term • Grading of site to support habitat restoration • Construction of earthen levee or flood wall to protect 2nd Street and Pacific Coast Highway • Excavation of a tidal channel from the Northern Synergy Oil Field site to the Southern Synergy Oil Field site
Alamitos Bay Partners Site	n/a	n/a	• Remediation of soils and relocation oil infrastructure • Grading of site to support habitat restoration

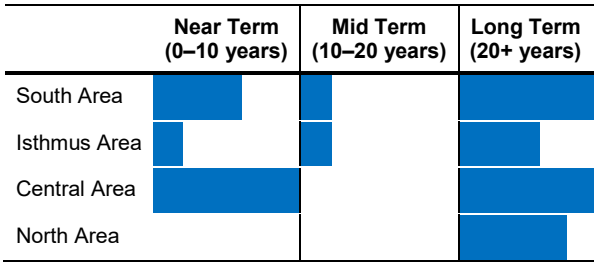
Grey text represents project features that interact with this project, but that were evaluated as part of the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR

ES.7.6 Construction Information

ES.7.6.1 Schedule

Table ES-5, *Restoration Schedule*, shows the proposed construction schedule for the program. Each phase of the Restoration Program will take multiple years to complete construction activities and with multiple years anticipated between each phase.

TABLE ES-5
RESTORATION SCHEDULE



ES.7.6.2 Earthwork Quantity Estimates

Table ES-6, *Approximate Earthwork Soil Volume for Near Term*, summarizes the earthwork quantity estimates for the program in the near-term. **Table ES-7**, *Approximate Earthwork Soil Volume for Long Term*, summarizes the earthwork quantity estimates for the program in the long-term, by area. Levee dimensions would be refined during final design as needed to meet Corps requirements, including Section 14 of the Rivers and Harbors Act and Section 408 requirements for modifications to Corps-approved flood risk management systems. The final volume of fill placement for levee construction would depend on the final design and the actual conditions during restoration (e.g., the compatibility of excavated soils). High estimates of potential fill volumes are analyzed in this document; actual fill volumes.

TABLE ES-6
APPROXIMATE EARTHWORK SOIL VOLUME FOR NEAR TERM

Feature/Action	Cut Quantity (cy)	Fill Quantity (cy)
Central Area		
Central Area Perimeter Levee, near term	0	78,000–86,000
Interim Levee	0	74,000–82,000
Raising Wells and Access Roads	0	108,000
Central LCWA and Central Bryant Marsh Grading	44,000–82,000	0
Total	**44,000–82,000**	**260,000–276,000**
South LCWA Perimeter Berm	0	18,000
South LCWA Marsh Grading (avoiding high-functioning marsh habitat)	315,000–412,000	assume no fill needed
Total	**358,000–494,000**	**278,000–294,000**
Total cut/fill balance	**64,000–216,000 cy excess material**	

TABLE ES-7
APPROXIMATE EARTHWORK SOIL VOLUME FOR LONG TERM

Feature/Action	Cut Quantity (cy)	Fill Quantity (cy)
North Area		
North Area Berm	0	155,000
Southern Synergy Oil Field and Alamitos Bay Partners Sites Marsh Grading		100–135,000
Total	**0**	**155,000–290,000**
Total cut/fill balance	**155,000–290,000 cy material needed**	
Central Area		
Central Area Perimeter Levee, long term		190,000–216,000
Interim Levee Removal (northern portion)	17,000–19,000	
Long Beach City Property Site Marsh Grading		1,000–47,000
Total	**17,000–19,000**	**191,000–263,000**
Total cut/fill balance	**172,000–246,000 cy material needed**	
South Area		
Hellman Retained Site Marsh Grading	0–88,000	0–2,000
Total cut/fill balance	**2,000 cy material needed–88,000 cy material cut**	

This table does not include the excess fill from Table ES-6, which could be used to offset the needed material in the long term.

Excavation in the South LCWA site to lower the area to marshplain is expected to generate between 315,000 to 412,000 cubic yards of soil, depending on final marshplain grading. In the near-term, approximately 178,000 to 232,000 cubic yards of soil would be needed in the Central LCWA site, depending on final levee design, levee compaction, and final marshplain grading. The extra material generated from the South LCWA site could be stockpiled for the long-term, when the Central Area would need 172,000 to 246,000 cubic yards of material. Based on these estimate ranges, there could be 62,000 cubic yards of excess material to export or a need to import 163,000 cubic yards of material. The future design should seek to balance cut and fill as much as possible on site.

In the long-term, approximately 155,000 to 290,000 cubic yards of material would be needed to raise the Southern Synergy Oil Field and Alamitos Bay Partners sites and to construct the North Area berm. Based on the final marshplain grading design, the Hellman Retained site could generate 88,000 cubic yards of material or require 2,000 cubic yards of fill. The future designs of these sites should seek to balance cut and fill as much as possible on site.

Although quantities for cut and fill have been estimated for the conceptual design, exact calculations of how much excess fill would be generated by the excavation of wetlands areas will be determined in the final levee design process in cooperation with LACFCD and the Corps.

ES.7.7 Monitoring and Adaptive Management

The complexity of a large-scale restoration, with ecological and funding objectives, constraints, and the presence of sensitive habitats and species, necessitates careful implementation of restoration within a monitoring and adaptive management program.

Adaptive management is an iterative process of decision making in the face of uncertainty, with the aim of reducing uncertainty over time through monitoring. Since ecological restoration involves many variables, especially in systems as large and complex as the Los Cerritos Wetlands, there is uncertainty in how the project would perform. Designing and implementing this project using an adaptive management approach would lead to better outcomes and help the project meet its goals.

The adaptive management approach relies on monitoring data to regularly assess progress of the site towards achieving the project goals. If the data shows the project is off-track, certain actions are taken (e.g., tweaking techniques and/or later designs) to achieve the project goals.

Small-scale experiments and pilot projects will be implemented that seek to address gaps in scientific knowledge regarding habitat, wildlife, and restoration and enhancement activities. Results of these experiments will be used to inform adaptive management for the restoration program and potentially for other restoration sites in the region and beyond.

ES.7.7.1 Monitoring Program

The goal of monitoring is to inform the adaptive management process and assess progress toward meeting performance criteria. Careful restoration planning, including identification of important data gaps and collection of pre-project data, would help in setting appropriate performance criteria. Performance criteria for the project may be set in a variety of ways, but typically include input from regulatory and permitting agencies. Suitable reference sites, such as Seal Beach National Wildlife Refuge, may also be appropriate for informing performance criteria.

Restoration sites evolve and mature over timelines that are longer than typical monitoring periods. Monitoring of the site into the future would inform adaptive management, provide important data for informing future phases of restoration at the site, and contribute to a better understanding of restoration trajectories for practitioners throughout southern California. Furthermore, opportunities to partner with local universities and other research institutions will be identified to implement research activities in suitable areas of the program.

Monitoring would focus on the major biotic and abiotic factors that drive habitat development and ecosystem function—in particular, those factors that can be manipulated and managed or those parameters that can be used to gauge habitat development and ecosystem function (Thom et al. 2010). Protocols for collection and analyses of monitoring data would be developed for the level of accuracy necessary to assess achievement of performance criteria and inform adaptive management.

ES.7.7.2 Adaptive Management

Successful adaptive management would first require baseline monitoring in order to fill data gaps and refine the restoration design. Consistent with the U.S. Department of Interior Technical Guide for Adaptive Management (2009), an adaptive management plan would be prepared prior to program implementation to track restoration success relative to performance criteria and determine when criteria have been met, and then restoration would proceed to its next phase. Performance criteria would be set for both biotic (e.g., native and non-native plant cover, wildlife use, etc.) and abiotic (e.g., hydrology, soil conditions, etc.) factors, and monitoring data related to these factors would inform adaptive management.

Triggers for any remedial adaptive management actions would be based on significant deviation from, or a lack of progress toward, achieving the performance criteria outlined for each monitoring parameter, coupled with an evaluation of the trajectories of habitat development or directions of change. For many aspects of biotic community development, it may take several years for trends to become apparent, and changes in management should allow for sufficient time for trends to become apparent. If it is determined that progress toward performance criteria is not measurable, or that the habitat appears to be progressing toward an alternative state, the project team would evaluate the cause of the problem and the trajectory of habitat development, and determine whether intervention would be desirable.

In some cases, habitat development would be on track to meet long-term performance criteria and no remedial actions would be warranted. In other cases, it may be determined that additional monitoring parameters are necessary to determine the cause of poor performance. Once the causes of poor performance are identified, appropriate changes in management would be investigated and implemented. Any modifications implemented as a result of this process would be subject to quantitative monitoring and analysis specifically designed to evaluate the effectiveness of such modifications or changes in management.

ES.7.8 Operation and Maintenance Activities

ES.7.8.1 Habitats and Vegetation

The restored areas would be planted or seeded after earthmoving is completed. Vegetation maintenance, irrigation, and weeding would be required for all habitats after restoration. Removal of invasive species would occur on site in perpetuity through the combination of a volunteer program and long-term management of the site using methods similar to those used during implementation.

ES.7.8.2 Trash Removal Efforts

Trash removal would occur as needed within the restored wetlands by hand. LACFCD operates and maintains trash booms and nets in other flood control channels and a similar boom/net could be installed upstream of the Central Area across the San Gabriel River. If a trash boom/net was installed, it is anticipated that LACFCD or LCWA would inspect the trash net weekly and remove trash from the boom/net as necessary. Alternatively, a trash net could be installed across the breach into the Central Area.

ES.7.8.3 Perimeter Levees and Berms

The Perimeter Levee and berms would require limited maintenance, such as inspections annually and after significant storm events (i.e., 10-year event or greater). The levees would also require periodic repaving of the access road and trail, replacement or repair of installed fencing, replacement or repair of any overlook or educational equipment placed along the walking trail, trash collection and graffiti removal, and any other vandalism repair. Minor erosion prevention measures may be needed for both the levees and berms, periodically. It is anticipated that responsibility for operation and maintenance activities would be allocated between LACFCD and LCWA.

ES.7.8.4 Flood Walls

Operations and maintenance of flood walls would be determined along with the structure design and approval process. As part of this process, the entity responsible for the flood control facility and its function would be identified. Monitoring of the flood wall for deterioration would consist of regular and post-flood condition assessments. The condition assessments would also consider the ground in the vicinity of the flood wall, and identify any signs of instability, cracking, seepage, erosion, etc. Regular surveys could be desired to confirm that the structure settlement is within expectations and rotations and deflections are within tolerances. Exposed steel would require painting, and concrete cracks and spalls would be repaired.

Monitoring and maintenance of levees and flood walls is required, and hence access for construction equipment is an important design consideration. Also, dryside (e.g., the side of the wall closest to the roads) groundwater and drainage control are required.

Access from the dryside to the wetside (e.g., the side of the wall closest to the marsh) by vehicles including construction equipment would require gates or an embankment or bridge.

ES.7.8.5 Water-Control Structures

The existing culverts from the San Gabriel River are operated and maintained by LACFCD (USACE 1999). Operation and maintenance of the existing culverts would continue after restoration.

The existing siphon from Alamitos Bay to the Haynes Cooling Channel is owned and operated by LADWP. Once the Haynes Cooling Channel is decommissioned, it could be transferred to the LCWA, in which case, the LCWA would be responsible for operation and maintenance, which would likely include regular inspections and general maintenance. Long-term management of sediment and fouling organisms may also be required to maintain tidal flow.

For new water-control structures, annual maintenance would be needed to ensure proper operation, similar to current operation and maintenance of the existing structures. Gates and weirs may be adjusted seasonally for habitat management. Obstructions would be removed when necessary. If sedimentation in the channel limits the functionality of the water-control structures, a low ground pressure excavator would be used to remove the sediment. A temporary access route, 35-feet wide, would be created to access any areas of sediment build up within the channels

using mats to provide equipment access. Since the channels will be sized based on their proposed tidal conveyance, sediment build up in the channels is not expected.

ES.7.8.6 Stormwater Management Features

Maintenance of bio-swales is expected to be limited to non-native vegetation removal. Non-native plant removal would include work with hand tools such as shovels, rakes, hatchets, wheel barrows, and small trucks for hauling of equipment and spoils. It is expected that these efforts would occur once a year for the lifespan of the program.

ES.7.8.7 Parking Lots

Hours of operation for public use of the new parking lots, trails, and visitor center would be from sunrise to sunset and may be limited in duration. Parking areas would be locked after hours.

ES.8 Alternatives Considered in the Draft EIR

The intent of the alternatives analysis in an EIR is to identify a range of reasonable alternatives to the proposed program that would feasibly attain most of the basic project objectives and would avoid or substantially lessen the significant impacts of a project. Based on the significant environmental impacts of the proposed program, the aforementioned objectives established for the proposed program, and the feasibility of the alternatives considered, the following alternatives to the proposed program are evaluated in this section. As some impacts associated with the alternatives analyzed below would be the same or similar to the proposed program (depending upon the resource area), this chapter should be read in conjunction with the impact analyses contained in Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*, which provides more detailed information on the individual resource areas and impacts of the proposed program. The significance thresholds and the methodology utilized in this chapter are the same as those utilized in Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*. Therefore, for additional information regarding methodology, reviewers should reference the individual resource chapters for further details.

ES.8.1 Alternative 1: No Project (No Build) Alternative

CEQA Guidelines Section 15126.6(e) requires that an EIR evaluate and analyze the impacts of the "No-Project" Alternative. Under Alternative 1, none of the proposed program components would be constructed and implemented and existing conditions would remain unchanged. This alternative assumes the restoration activities and development covered by the Los Cerritos Wetlands Oil Consolidation and Restoration Project would occur. The following would occur under Alternative 1:

- The South Area, which includes the Haynes Cooling Channel site, State Lands Parcel site, South LCWA site, Hellman Retained site, Los Alamitos Pump Station site, and Los Alamitos Retarding Basin site, would continue to exist as under the existing conditions. In particular, the Haynes Cooling Channel would continue to pull water from the Alamitos Bay Marina and discharge water into the San Gabriel River until it is decommissioned as part of the Haynes Generating Station modernization project in 2029. The State Lands Parcel and South LCWA sites would remain as they currently exist. The Hellman Retained site would continue to

operate as an active oil field. In addition, the Los Alamitos Retarding Basin would continue to operate as a retention basin as operated by the County of Orange Flood Control District. Furthermore, the Los Alamitos Pump station would continue to operate as a pump station to move the stormwater runoff from the Los Alamitos Retarding Basin into the San Gabriel River. Restricted public access within the South Area would continue to be provided as under existing conditions and the gate on 1st Street would remain as well.

- The Isthmus Area, which includes the Callaway Marsh site, DWP site, Zedler Marsh site, Isthmus LCWA site, and Isthmus Bryant site, would continue to exist as under existing conditions. In particular, the Callaway Marsh site, the Isthmus Bryant site, and DWP site would remain vacant. In addition, the Zedler Marsh site would continue to be enhanced as part of the LCWA Stewardship Program. Furthermore, the Isthmus LCWA site would continue as an active oil field, which would be maintained and operated by Signal Hill Petroleum, Inc., as under existing condition. Existing public access to trails and other public amenities would be maintained as under existing conditions. In addition, the San Gabriel River Trail would be maintained on the south bank of the San Gabriel River.
- The Central Area, which includes a portion of the Pumpkin Patch site, Long Beach City Property site, Central LCWA site, Central Bryant site, and San Gabriel River, would continue to exist as under existing conditions. The Pumpkin Patch site and Long Beach City Property site, in particular, would continue as approved under the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse Number 2016041083). This would include construction of an aboveground pipeline system from the corner of 2nd Street and Studebaker Road to the Pumpkin Patch site. The Pumpkin Patch site would be remediated and graded, and new oil facilities would be constructed at the site. After 20 years, in the second phase of the project, oil operations would be removed from the Long Beach City Property site and contaminated areas would be remediated. The Long Beach City Property site would remain vacant. The Central LCWA site would continue to operate as an active oil field and the Central Bryant site would continue to operate as a vacant site. The San Gabriel River levees along the south and north banks of the river would remain intact. Restricted access to the Central LCWA site would be maintained.
- The North Area includes the Northern Synergy Oil Field site, Southern Synergy Oil Field site, and Alamitos Bay Partners site. As part of the Los Cerritos Wetlands Oil Consolidation and Restoration Project, existing oil operations and associated facilities would be consolidated and removed, and a wetlands habitat restoration project would be implemented on the Northern and Southern Synergy Oil Field sites. The first phase of the project would be focused on the 76.52-acres Northern Synergy Oil Field site, and will provide the conditions necessary for the reestablishment of coastal salt marsh habitat and associated hydrologic, biogeochemical, and habitat functions. The first phase of the project would also include work on the Southern Synergy Oil Field site, including relocating the existing office building on-site to house the Long Beach Visitor Center, and construction of a parking lot, trails, overlook, sidewalk enhancements, and bikeway improvements. After 20 years, in the second phase of the project, all remaining wells would be removed, and the 73.07-acres Southern Synergy Oil Field site would be restored to tidal salt marsh by breaching or lowering the earthen berm and removing the sheet pile wall. The Alamitos Bay Partners site would be maintained as an active oil field as with existing conditions.

ES.8.2 Alternative 2: Culvert Connection San Gabriel River to the Central Area Alternative

Under Alternative 2, a culvert or set of culverts would be installed within the northern San Gabriel River levee to connect the river to the Central Area rather than breaching the levee as in the proposed program. The following would occur under Alternative 2:

- The South Area, which includes the Haynes Cooling Channel site, State Lands Parcel site, South LCWA site, Hellman Retained site, Los Alamitos Pump Station site, and Los Alamitos Retarding Basin site, would be restored as described for the proposed program. Public access would be improved as described for the proposed program.
- The Isthmus Area, which includes the Callaway Marsh site, DWP site, Zedler Marsh site, Isthmus LCWA site, and Isthmus Bryant site, would be restored as described for the proposed program. Public access would be improved as described for the proposed program.
- The Central Area, which includes the Pumpkin Patch site, Long Beach City Property site, Central LCWA site, Central Bryant site, and San Gabriel River, would be restored similar to the proposed program, except instead of breaching the San Gabriel River to restore tidal connection to the site, a culvert or set of culverts would be installed in the levee to provide tidal connection to the site. The following sections describe the changes from the proposed program that would be included in this alternative.
- The North Area, which includes the Northern Synergy Oil Field site, Southern Synergy Oil Field site, and Alamitos Bay Partners site, would be restored as described for the proposed program. Public access would be improved as described for the proposed program.

ES.8.2.1 Phasing

Ecosystem restoration in the Central Area under Alternative 2 would occur in two phases based on land and oil lease ownership, similar to the proposed program.

The near-term phase of Alternative 2 would be focused on the Central LCWA and Central Bryant sites and would provide the conditions necessary for the reestablishment of coastal salt marsh habitat and associated hydrologic, biogeochemical, and habitat functions. Near-term activities that mirror those in the proposed program would include:

- Relocating or modifying some oil infrastructure and remediation of soils on the Central LCWA site;
- Grading of the sites, including channels, and revegetation of native plants to support a diversity of salt marsh species; and
- Constructing public trails on levees, accessible ramps, and viewpoints as described in the proposed program.

Near-term activities that would vary from those in the proposed program would include:

- Installing a culvert or set of culverts in the existing levee that currently separates the San Gabriel River from non-tidal portions of the Central LCWA and Central Bryant sites;

- Constructing a new earthen levee (Perimeter Levee) along 2nd Street from the San Gabriel River to the intersection with Studebaker Road to protect areas to the north from flooding, similar to the proposed program, but set to a lower elevation;
- Constructing a new interim earthen levee (Interim Levee) along the western boundary of the Central LCWA site to protect the areas to the west from flooding and to provide continued access to the wells on the Central LCWA site, similar to the proposed program, but set to a lower elevation; and
- Providing protection for the existing wells on the Central LCWA site by either raising the well pads out of the floodplain, similar to the proposed program, but set to a lower elevation, or constructing a berm or flood wall around the wells.

In the long-term, the Long Beach City Property site and the Pumpkin Patch site would be restored to tidal salt marsh as described for the proposed program, including:

- Grading the Long Beach City Property site, including channels, to support a diversity of salt marsh species;
- Removing the northern segment of the Interim Levee on the Central LCWA site to connect the restored habitats on the Central LCWA site to the non-tidal portions of the Long Beach City Property site; and
- Constructing public trails on levees, accessible ramps, stairs, and viewpoints, as described in the proposed program.

Long-term activities that would vary from those in the proposed program would include constructing a new earthen levee (Perimeter Levee) along 2nd Street between the intersection with Studebaker Road to Shopkeeper Road on the Long Beach City Property site and then along Shopkeeper Road to the existing San Gabriel River levee on the Long Beach City Property and Pumpkin Patch sites. The Perimeter Levee would be used to protect areas to the north and west from flooding, similar to the proposed program, but set to a lower elevation.

ES.8.2.2 Ecosystem Restoration

Restored Habitats

Alternative 2 would restore connectivity of the San Gabriel River with the Central LCWA, Central Bryant, and Long Beach City Property sites by installing a culvert or set of culverts in the existing levees on the north bank of the river, rather than breaching and lowering the levee as in the proposed program. Alternative 2 would include a shorter and smaller footprint Perimeter Levee when compared to the one in the proposed program, allowing for less impact on existing wetlands.

Hydrology and Grading

In Alternative 2, the new tidal channels would be excavated between the San Gabriel River culvert(s) and the Interim Levee to create a sinuous and branching network of tidal channels through the wetlands. The culvert(s) would be set at an elevation around 0 to 2 feet NAVD.

The hydrodynamic modeling (refer to Appendix H) showed that one 4-foot-diameter culvert would allow an annual tide range of 2.4 feet into the site. This is 1.6 feet less than the modeled proposed program tide range (4.0 feet). The modeling results also showed that six 4-foot-diameter

culverts would result in an annual tide range of 3.1 feet, which would only be 0.9 feet less than the proposed program.

As described under the proposed program, Alternative 2 would raise the upland perimeter around the restored wetlands to function as a flood risk management levee, but it would be set to a lower elevation, since the culverts would limit the water elevations in the site. Less fill would be needed to construct the Perimeter and Interim Levees, compared to the proposed program. This would increase the volume of excess material in the near-term (Table ES-6), which could increase the amount of fill that would need to be stockpiled until the long-term.

Alternative 2 would maintain flood protection for well pads and access roads to existing levels, as discussed in the proposed program, but set to a lower elevation.

ES.8.3 Flood Risk and Stormwater Management

In Alternative 2, the culvert(s) connecting the San Gabriel River to the Central LCWA site would restrict water levels in the Central Area during large riverine events. During the 100-year event, the hydrodynamic modeling showed water levels would reach 7.7 feet NAVD with one 4-foot-diameter culvert, compared to 14.4 feet NAVD under the proposed program (refer to Appendix H). Six 4-foot-diameter culverts would result in a 100-year water level of 11.0 feet NAVD in the site, according to the model results (refer to Appendix H). Gates could be added to the culvert(s) for maintenance purposes.

The new Perimeter Levee could be set approximately 6.7 feet lower than the proposed program under Alternative 2 with one 4-foot-diameter culvert, or 3.4 feet lower than the proposed program with six 4-foot-diameter culverts. The Perimeter Levee would have a slope of approximately 3:1 horizontal: vertical (H:V) down to restored salt marsh at approximately 6 feet MLLW and the same slope down to the road on the back, which would give it a footprint of 2.6 acres less than under the proposed program with one 4-foot-diameter culvert, or 1.3 acres less than under the proposed program with six 4-foot-diameter culverts. The culvert(s) would reduce the potential for erosion along the Perimeter and Interim Levees, so buried soil cement or rock protection of the levee core would not be included.

Well pads and access roads would be protected to match the existing level of flood risk protection provided by the San Gabriel River Levees.

ES.8.4 Public Access and Visitor Facilities

Under Alternative 2, the installation of a culvert or set of culverts rather than breaching the levee would allow for a loop trail to be constructed along the existing San Gabriel River levee and the Perimeter Levee. The trail would be open to the public from dawn to dusk. The road on top of the Interim Levee (north-south between 2nd Street and the San Gabriel River Levee) would not be open to the public due to the oil operations, but could be restricted to docent-led use only with gates on either end, as described in the proposed program.

ES.8.5 Implementation and Restoration Process

Implementation of the restoration under Alternative 2 would be similar to implementation under the proposed program. However, instead of breaching the northern San Gabriel River levee, a culvert or set of culverts would be installed through the levee. This would likely be done by, first, using steel sheet pile cofferdams in the vicinity of the culvert locations to limit tidal inundation of the construction work. Then concrete box culverts would be installed with precast reinforced concrete (or steel) foundation piles. The construction work would likely involve track-mounted excavators utilizing pile drivers. Alternatively, trenchless technology could be used to push the culvert(s) through the levee. Construction of the culvert(s) would likely take longer than construction of the levee breach in the proposed program.

ES.8.6 Operation and Maintenance Activities

The new culvert(s) from the San Gabriel River to the Central Area would require annual maintenance to ensure proper operation, similar to current operation and maintenance of the existing structures. Gates and weirs may be adjusted seasonally for habitat management. Obstructions would be removed when necessary. If sedimentation in the channel limits the functionality of the culvert(s), a low ground pressure excavator would be used to remove the sediment. A temporary access route, 35-feet wide, would be created using mats to provide equipment access.

ES.9 Terminology Used in this Environmental Analysis

In evaluating the potential impacts of the proposed program and the alternatives, the level of significance is determined by applying the threshold of significance (significance criteria/thresholds) presented for each resource evaluation area. The following terms are used to describe each impact and, where significant impacts are determined, how mitigation measures are addressed:

- **No Impact:** A designation of no impact is given when the proposed program would not cause a physical environmental impact.
- **Less-than-Significant Impact:** A less-than-significant impact is identified when construction or operation of the proposed program would not exceed the defined significance criteria or would be eliminated or reduced to a less-than-significant level through compliance with existing federal, state, and local laws and regulations or the implementation of identified mitigation measure(s).
- **Significant Impact**—Public Resources Code Section 21068 defines a significant impact as "a substantial, or potentially substantial, adverse change in the environment." The thresholds identified in each section of this PEIR and the CEQA definition of "significant impact" are applied to reach this conclusion. Feasible mitigation measures or alternatives to the proposed program must be identified and adopted if they would avoid or substantially reduce the significant impact.
- **Significant Unavoidable Impact:** A significant unavoidable impact is identified when the impact exceeds the defined significance criteria and cannot be eliminated or reduced to a less-

than-significant level through compliance with existing federal, state, and local laws and regulations and/or implementation of all feasible mitigation measures.

- **Mitigation Measures:** Mitigation refers to measures that have been proposed to avoid or lessen potentially significant impacts. Mitigation measures include:
  - Avoiding the impact completely by not taking a certain action or parts of an action;
  - Minimizing the impact by limiting the degree or magnitude of the action and its implementation;
  - Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
  - Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and/or
  - Compensating for the impact by replacing or providing substitute resources or environments.

ES.10 Scope of Analysis and Mitigation Measures

To determine the appropriate scope of analysis for this PEIR, the Lead Agency prepared and circulated a Notice of Preparation (NOP) and Initial Study (IS) from March 8, 2019, through April 8, 2019, as required by *CEQA Guidelines* Sections 15082 and 15063. The NOP was circulated to solicit input from interested public agencies (e.g., responsible and trustee agencies) and interested individuals on the scope and content of this PEIR. A copy of the letters and comments received during the NOP comment period are provided in Appendix A to this PEIR. The LCWA held a scoping meeting during the 30-day scoping period on March 21, 2019, to solicit comments and inform the public of this PEIR.

This PEIR addresses the environmental issues determined to be potentially significant as identified and disclosed in the NOP/IS and based on input from agencies and interested individuals provided during the Scoping Meetings and comment letters on the NOP.

ES.10.1 Scope of Analysis

Based on the NOP/IS, the following 17 resources areas were carried forward for further evaluation in the Draft PEIR:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology, Soils, and Paleontological Resources
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality

- Land Use and Planning
- Mineral Resources
- Noise
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Utility and Service Systems

The NOP/IS determined that the proposed program would not have potentially significant impacts associated with agriculture and forestry resources because the program area is located within a highly urbanized area primarily used as privately owned or leased oil fields, wetland habitat areas, or a stormwater basin; no farmland, forest land or timberland, agricultural uses, or related operations are present within the program area or surrounding areas; and the program area is not zoned for forest land or timberland or agricultural use, nor is it subject to a Williamson Act Contract. Thus, no impacts related to agricultural resources would occur, and this topic is not evaluated in the PEIR.

The NOP/IS also determined that the proposed program would not have potentially significant impacts associated with population and housing as jobs generated by construction of the proposed program are anticipated to be filled by residents in the local area or by commuters within the larger Los Angeles Metropolitan Area and employment opportunities during operation of the proposed program would be mainly maintenance workers and operation of the visitor center and volunteers; these employment opportunities generated during construction and operation are not anticipated to directly increase the population or housing in the area, as positions are anticipated to be filled by local residents or regional commuters.

Additionally, the NOP/IS determined that the proposed program would not have potentially significant impacts associated with wildfire. The program area is not located in a very high fire hazard severity zone. The proposed program would not expect to stage or store construction materials or construction equipment on public roadways. The proposed program would not propose any public road closures or rerouting of the existing public roadway network. Although the proposed program may generate traffic trips during construction and operation, the traffic trips would be minimal and would not interfere with an adopted emergency response plan. Therefore, the program would not substantially impair an adopted emergency response plan or emergency evacuation plan, and no impact would occur.

The full discussions for these determinations are provided in the NOP/IS in Appendix A of this PEIR.

ES.10.2 Summary of Environmental Impacts of the Proposed Program and Alternatives

Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*, analyzes 17 environmental resource areas. Note that the Energy and Greenhouse Gas Emissions topics, while separate topics under the CEQA Appendix G Checklist, are analyzed together in Section 3.8, *Greenhouse Gas Emissions and Energy*. The potential for environmental impacts of the proposed program on the environment were analyzed for each of the resource areas for both construction (e.g., short-term impacts throughout the construction period) and operation (e.g., long-term impacts) of the proposed program. Sections ES.10.3 through ES.10.5 summarize the no impacts, less-than-significant impacts, significant impacts that can be mitigated, and significant and unavoidable impacts associated with implementation of the proposed program.

ES.10.3 Summary of Less-Than-Significant Impacts

As shown below in **Table ES-8**, *Summary of Environmental Effects and Mitigation Measures/Program Requirements*, on page ES-51, the PEIR has determined that implementation of the proposed program (construction and/or operation) would result in no impact or a less-than-significant impact on the following resources:

- Aesthetics (Impact AES-1, Impact AES-2, and Impact AES-3)
- Air Quality (Impacts AQ-1b (operation), Impact AQ-2b (operation), Impact AQ-3b (operation), and Impact AQ-4)
- Biological Resources (Impact BIO-5, Impact BIO-6, and Cumulative)
- Geology and Soils (Impact GEO-1a, Impact GEO-1b, Impact GEO-1c, Impact GEO-2, Impact GEO-3, Impact GEO-4, and Impact GEO-5)
- Greenhouse Gas Emissions and Energy (Impact GHG-1, Impact GHG-2, Impact EN-1, Impact EN-2, and Cumulative)
- Hazards and Hazardous Materials (Impact HAZ-1, Impact HAZ-2, Impact HAZ-4, Impact HAZ-5, Impact HAZ-6, and Cumulative)
- Hydrology and Water Quality (Impact HYD-2, Impact HYD-3b, Impact HYD-3c, Impact HYD-3d, Impact HYD-4, Impact HYD-5, and Cumulative)
- Land Use and Planning (Impact LU-1, Impact LU-2, and Cumulative)
- Mineral Resources (Impact MIN-1 and Cumulative)
- Noise (Impact NOI-1, Impact NOI-2, Impact NOI-3, and Cumulative)
- Public Services (Impact PS-1b, Impact PS-1c, and Cumulative)
- Recreation (Impact REC-1, Impact REC-2, and Cumulative)
- Transportation (Impact TRA-2)
- ~~Tribal Cultural Resources (Impact TRI-1)~~
- Utilities and Service Systems (Impact UTL-4, Impact UTL-5, and Cumulative).

ES.10.4 Summary of Significant Impacts That Can Be Mitigated

As shown in Table ES-8, the PEIR has determined that implementation of the proposed program (construction and/or operation) would result in a less-than-significant impact for the following nine resources areas with the implementation of mitigation measures:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Public Services
- Transportation
- Utilities and Service Systems

The following is a list of impacts that have been determined to be less than significant with mitigation under the proposed program.

- **Impact AES-4:** The proposed program would not create a new source of substantial light or glare that would adversely affect day or night views in the area or that would adversely affect daytime or nighttime views in the area.
- **Cumulative Aesthetic Impacts:** The proposed program would not result in cumulative impacts to aesthetics.
- **Impact AQ-2a (construction):** The proposed program would not violate the air quality standard and contribute substantially to an existing or projected air quality violation for construction-related NO_X emissions.
- **Impact BIO-1:** The proposed program would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- **Impact BIO-2:** The proposed program would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- **Impact BIO-3:** The proposed program would not have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, and coastal wetlands) through direct removal, filling, hydrological interruption, or other means.

- **Impact BIO-4:** The proposed program would not 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.
- **Impact CUL-3:** The proposed program would not disturb any human remains, including those interred outside of formal cemeteries.
- **Impact GEO-6:** The proposed program would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
- **Cumulative Geology and Soils Impacts:** The proposed program would not result in cumulative impacts to geology, soils, and paleontological resources.
- **Impact HAZ-3:** The proposed program would not be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.
- **Impact HYD-1:** The proposed program would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.
- **Impact HYD-3a:** The proposed program would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on site or off site.
- **Impact PS-1a:** The proposed program would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection.
- **Impact TRA-1:** The proposed program would not conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.
- **Impact TRA-3:** The proposed program would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- **Cumulative Transportation Impacts:** The proposed program would not result in cumulative impacts to transportation.
- **Cumulative Tribal Cultural Resources Impacts:** The proposed program would not result in cumulative impacts to tribal cultural resources.
- **Impact UTL-1:** The proposed program would not require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.
- **Impact UTL-2:** The proposed program would have sufficient water supplies available to serve the proposed program and reasonably foreseeable future development during normal, dry and multiple dry years.
- **Impact UTL-3:** The proposed program's wastewater demand would not impact the ~~have adequate~~ capacity of the wastewater treatment provider to serve the proposed program's projected demand in addition to the provider's existing commitments.

ES.10.5 Significant and Unavoidable Impacts

The proposed program would result in program-level and cumulative significant impacts that cannot be reduced to a less-than-significant level, even with implementation of feasible mitigation measures to the following resource areas.

- **Impact AQ-1a (construction), Impact AQ-3a (construction), Cumulative:** If all subphases of construction associated with the near-term phase were to occur concurrently (which was conservatively analyzed in the earliest possible year, maximum daily emissions from construction activities would exceed the SCAQMD regional threshold for NO_X. With implementation of mitigation measures, regional impacts would be mitigated to a less than significant level. However, localized impacts to sensitive receptors at the program-level would be considered potentially significant even after incorporation of mitigation. Therefore, localized impacts from program construction pertaining to NO_X emissions would be significant and unavoidable, if all subphases of construction associated with the near-term phase were to occur concurrently (which was conservatively analyzed in the earliest possible year). In addition, as the proposed program would have a localized impact from NO_X emissions, the proposed program would also conflict with Criterion 1 for determining the proposed program's consistency with the AQMP.
- **Impact CUL-1, Impact CUL-2, and Cumulative:** There are ~~22~~ 23 potential historical resources within or immediately adjacent to the program area, including ~~14~~ 15 archaeological resources and 8 historical architectural resources. In addition, the Los Cerritos Wetlands is part of a tribal cultural landscape identified by some tribal representatives during consultation with the CCC. Furthermore, given that the entire program area was not systematically surveyed as part of this assessment, there could be additional as-yet unidentified archaeological and historical architectural resources within the program area. As such, the proposed program would implement Mitigation Measure CUL-1 through CUL-~~16~~ 17 to reduce impacts to historical resources by requiring qualified cultural resources personnel to conduct future project-specific studies; development of appropriate treatment for significant resources; and archaeological and Native American monitoring of ground disturbance (see Section 3.4, *Cultural Resources*, of this PEIR). The proposed program also includes several mitigation measures (see Mitigation Measures BIO-1 through BIO-11 in Section 3.3, *Biological Resources*, of this PEIR) that would lessen potential construction-related impacts to plants and animals that are considered part of the tribal cultural landscape. However, even with implementation of these mitigation measures, impacts to historical resources and archaeological resources would be significant and unavoidable at the program level during construction of the proposed program. Once specific projects are designed, additional cultural resources studies would be completed as necessary and impacts resulting from specific projects would be considered. It is possible that project-level impacts to historical and archaeological resources may be mitigated to a less than significant level. Project-level impacts would be analyzed as part of future CEQA analysis.
- **Impact TRI-1 and TRI-2:** While no tribal cultural resources were identified in the program area by Public Resources Code Section 21074, the program area was identified as a tribal cultural landscape by some tribal representatives during consultation with the CCC that occurred in connection with the Los Cerritos Wetlands Oil Consolidation and Restoration Project. Implementation of Mitigation Measures CUL-1 and CUL-4 through CUL-~~15~~17, as provided in Section 3.4, *Cultural Resources*, of this PEIR, would lessen the impact to archaeological resources that contribute to the significance of the tribal cultural landscape. The proposed program also includes several mitigation measures (see Mitigation Measures BIO-1 through BIO-11 in Section 3.3, *Biological Resources*, of this PEIR) that would lessen

potential construction-related impacts to plants and animals that are considered part of the tribal cultural landscape. Even with implementation of these measures, the destruction or material alteration of an archaeological resource that contributes to the landscape's significance would constitute a substantial adverse change since it would no longer be present on the landscape. Since avoidance and preservation in place of such resources cannot be guaranteed, impacts to Native American or prehistoric archaeological resources that convey the significance of the tribal cultural landscape are considered significant and unavoidable at the program level. Once specific projects are designed, additional tribal consultation would be conducted as necessary and impacts resulting from specific projects would be considered. It is possible that project-level impacts to Native American or prehistoric archaeological resources that convey the significance of the tribal cultural landscape may be mitigated to a less than significant level. Project-level impacts would be analyzed as part of future CEQA analysis.

ES.10.6 Environmental Impacts of the Proposed Program and Alternatives

Table ES-8, *Summary of Environmental Effects and Mitigation Measures*, summarizes the (1) potential environmental impacts that would occur as a result of the proposed program, provided in the form of an "impact statement;" (2) the recommended mitigation measures that avoid or reduce significant environmental impacts; and (3) the level of significance after mitigation measures are implemented. The impact statement reflects the condition that would result after the implementation of all of the identified mitigation measures.

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
3.1 Aesthetics		
Impact AES-1: The proposed program would not have a substantial adverse effect on a scenic vista	No mitigation is required.	Less than Significant
Impact AES-2: The proposed program would not substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.	No mitigation is required.	Less than Significant
Impact AES-3: The proposed program would not conflict with applicable zoning and other regulations governing scenic quality in an urbanized area.	No mitigation is required.	Less than Significant
Impact AES-4: The proposed program would not create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area.	**Mitigation Measure AES-1: Lighting Plan.** Prior to issuance of a grading permit for each individual site that requires construction, a Lighting Plan for the individual site shall be developed and implemented that requires all exterior lighting to be directed downward and focused away from adjacent sensitive uses and habitats to encourage wayfinding and provide security and safety for individuals walking to and from parking areas.	Less than Significant
Cumulative	Mitigation Measure AES-1.	Less than Significant
3.2 Air Quality		
Impact AQ-1a: The proposed program would conflict with or obstruct implementation of the applicable air quality plan during construction of the proposed program.	Mitigation Measure AQ-1 (see Impact AQ-2a, below).	Significant and Unavoidable
Impact AQ-1b: The proposed program would not conflict with or obstruct implementation of the applicable air quality plan during operation of the proposed program.		Less than Significant
Impact AQ-2a: The proposed program would not result in a cumulatively considerable net increase of NOx during construction of the proposed program.	**Mitigation Measure AQ-1: Construction NO_X Reduction Measures.** The Applicant for the proposed program shall be responsible for the implementation of the following construction-related NO_X reduction measures: • Require all off-road diesel-powered construction equipment greater than 50 hp (e.g., excavators, graders, dozers, scrappers, tractors, loaders, etc.) to comply with EPA-Certified Tier IV emission controls where commercially available. Documentation of all off-road diesel equipment used for this proposed program including Tier IV certification, or lack of commercial availability if applicable, shall be maintained and made available by the contractor to the local permitting agency (City of Seal Beach and City of Long Beach) for inspection upon request. In addition, all construction equipment shall be outfitted with Best Available Control Technology (BACT) devices certified by CARB such as certified Level 3 Diesel Particulate Filter or equivalent. A copy of each unit's certified tier specification, BACT documentation, and CARB or	Less than Significant

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
	SCAQMD operating permit shall be provided at the time of mobilization of each applicable unit of equipment. If Tier IV construction equipment is not available, LCWA shall require the contractor to implement other feasible alternative measures, such as reducing the number and/or hp rating of construction equipment, and/or limiting the number of individual construction subphases occurring simultaneously. The determination of commercial availability of Tier IV construction equipment shall be made by the City prior to issuance of grading or building permits based on applicant-provided evidence of the availability or unavailability of Tier IV equipment and/or evidence obtained by the City from expert sources such as construction contractors in the region. • Require all main engines for tugboats to comply with EPA-Certified Tier IV emission controls. • Eliminate the use of all portable generators. Require the use of electricity from power poles rather than temporary diesel or gasoline power generators. • Provide temporary traffic controls such as a flag person, during all phases of construction to maintain smooth traffic flow, including during the transportation of oversized equipment and vehicles. • Provide dedicated turn lanes for movement of construction trucks and equipment on site and off site. The location of these dedicated lanes shall be addressed in the Construction Trip Management Plan. • Reroute construction trucks away from congested streets or sensitive receptor areas. • Prohibit the idling of on-road trucks and off-road equipment in excess of 5 continuous minutes, except for trucks and equipment where idling is a necessary function of the activity, such as concrete pour trucks. The Applicant or construction contractor(s) shall post signs at the entry/exit gate(s), storage/lay down areas, and at highly visible areas throughout the active portions of the construction site of the idling limit. • On-road heavy-duty diesel haul trucks with a gross vehicle weight rating of 19,500 pounds or greater used to transport construction materials and soil to and from the program area shall be engine model year 2010 or later or shall comply with the USEPA 2007 on-road emissions standards.	
Impact AQ-2b: The proposed program would not result in a cumulatively considerable net increase of criteria pollutants during operation of the proposed program.	No mitigation is required.	Less than Significant
Impact AQ-3a: The proposed program would expose sensitive receptors to substantial pollutant concentrations during construction of the proposed program.	Mitigation Measures AQ-1.	Significant and Unavoidable
Impact AQ-3b: The proposed program would not expose sensitive receptors to substantial pollutant concentrations during operation of the proposed program.	No mitigation is required.	Less than Significant

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
Impact AQ-4: The proposed program would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.	No mitigation is required.	Less than Significant
Cumulative	Mitigation Measure AQ-1 (construction).	Significant and Unavoidable (construction). Less than Significant (operation).
3.3 Biological Resources		
Impact BIO-1: The proposed program would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.	**Mitigation Measure BIO-1: Avoidance of Special-Status Plants.** Prior to ~~ground-disturbing activities (e.g., vegetation removal and grading)~~ LCWA's approval of project plans or publication of subsequent CEQA documents,, a qualified botanist/biologist shall conduct a habitat assessment to determine the presence or absence of suitable habitat for special-status plant species. If suitable habitat is determined to be present, focused plant surveys should be conducted in accordance with Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW, March 20, 2018).~~-~~ Consistent with the CDFW protocol, such focused special-status plant surveys will be conducted during the appropriate blooming period for these species, with May and June likely having the highest number of species in flower. The results of focused special-status plant species will be incorporated into restoration design plans The locations of any special-status plants within 25 feet of proposed disturbance areas shall be identified and mapped. Individual plants shall be flagged for avoidance and an avoidance buffer of at least 10 feet shall be established around the plant(s). If special-status plants cannot be avoided, they shall be incorporated into the proposed program's restoration design at a minimum ratio of 1:1 (one plant planted for every one plant removed, or 1 square foot of absolute cover planted for every 1 square foot of absolute cover removed).~~-~~. For special-status plant species with small population numbers (less than 50 individuals), higher mitigation ratios up to 7:1 will be incorporated, where on-site seed sources are available. Higher mitigation ratios of up to 3:1 will be incorporated where suitable habitat area can support populations of large individual numbers. Special-status plants that cannot be avoided shall be salvaged prior to impacts using species-specific propagation methods, such as transplanting, seed and cuttings. Seed collection shall occur during the appropriate time of year for each species. Seeds shall be propagated by a qualified horticulturalist or in a local nursery, and shall be incorporated into habitat-specific seed mixes that will be used for revegetation of the restoration areas. Plant transplantation of perennial species is a potential mitigation technique but must be used sparingly and only when receiving site parameters are a suitable match from the donor location. Performance standard for the success of propagated or transplanted species will be achieved with the survival of the appropriate number of individuals meeting the mitigation ratio (1:1 for most species) after five years of growth and the establishment of a self-propagating population for	Less than Significant

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
	annual species for a minimum of three years after revegetation completion for a specific area. **Mitigation Measure BIO-2: Environmental Awareness Training and Biological Monitoring.** Prior to commencement of activities within the program area, a qualified biologist shall prepare a Worker Environmental Awareness Program (WEAP) that provides a description of potentially occurring special-status species and methods for avoiding inadvertent impacts. The WEAP training shall be provided to all construction personnel. Attendees shall be documented on a WEAP training sign-in sheet. Initial grading and vegetation removal activities shall be supervised by a qualified monitoring biologist, who will be present during all construction activities. The biologist shall ensure that impacts to special-status plants and wildlife, including wetland vegetation, are minimized to the greatest extent feasible during implementation of program activities on the South, Isthmus, Central and North Areas. If any special-status wildlife species are encountered during construction and cannot be avoided, the monitoring biologist shall have the authority to temporarily halt construction activities until a plan for avoidance has been prepared and approved by CDFW, and implemented by the monitoring biologist. Relocation of a federal- or state-listed species shall not be allowed without first obtaining take authorization from USFWS and/or CDFW. **Mitigation Measure BIO-3: Belding's Savannah Sparrow Breeding Habitat.** Prior to LCWA's approval of project plans or publication of subsequent CEQA documents~~Prior to the commencement of activities within the program area~~, a qualified biologist shall map suitable Belding's savannah sparrow habitat as the location and amount of suitable habitat is anticipated to change over time. The results of habitat mapping will be incorporated into restoration design plans. Project activities shall be limited to July 16 through February 14 within suitable costal marsh habitat to avoid impacts to breeding Belding's savannah sparrow. Suitable Belding's savannah sparrow breeding habitat that will be impacted by the proposed program shall be created within the program area at a minimum ratio of 1:1 (area created:area impacted). Restored breeding habitat shall consist of a minimum 60 percent absolute cover of salt marsh vegetation, and shall consist of a hydrologic regime similar to that currently present in the North Area or South Area, respectively. Other unique conditions within coastal salt marsh communities shall exist as well, such as, similar slope, aspect, elevation, soil, and salinity. A Mitigation, Maintenance and Monitoring Program shall be prepared and approved by CDFW prior to implementation. The proposed program shall be implemented by a qualified restoration ecologist, and at a minimum, shall include success criteria and performance standards for measuring the establishment of Belding's savannah sparrow breeding habitat, responsible parties, maintenance techniques and schedule, 5-year monitoring and reporting schedule, adaptive management strategies, and contingencies. Moreover, in accordance the CESA, an Incidental Take Permit (or other mitigation options identified in accordance with Fish & Game Code, §§ 2080.1, 2081, subds. (b) and (c)) shall be obtained from CDFW if any Belding's savannah sparrow may be impacted during construction or operations of the program. The amount of potential take shall be determined prior to design approval of each	

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
	restoration area based on consultation with CDFW. Lastly, take authorization shall be obtained prior to commencement of any ground disturbing activities. **Mitigation Measure BIO-4: Nesting Bird and Raptor Avoidance.** A qualified biologist shall identify areas where nesting habitat for birds and raptors is present ~~prior to the commencement of activities within the program area~~prior to LCWA's approval of project plans or publication of subsequent CEQA documents. To ensure the avoidance of impacts to nesting avian species, the following measures shall be implemented: • Construction and maintenance activities shall be limited to the non-breeding season (September 1 through December 31) to the extent feasible. If construction or maintenance activities will occur during the avian nesting season (January 1 through August 31), a qualified biologist shall conduct pre-construction nesting avian surveys within no more than 5 days prior to the initiation of construction activities to identify any active nests. If a lapse in work of 5 days or longer occurs, another survey shall be conducted to verify if any new nests have been constructed prior to work being reinitiated. • If active nests are observed, an avoidance buffer shall be demarcated by a qualified biologist with exclusion fencing and shall be maintained until the biologist determines that the young have fledged and the nest is no longer active. **Mitigation Measure BIO-5: Habitat Assessment and Pre-Construction Surveys for Burrowing Owl.** A qualified biologist shall conduct a pre-construction burrowing owl survey of ~~the program area within suitable habitat prior to construction activities~~each restoration area (including required survey buffer areas) prior to LCWA's approval of project plans or publication of subsequent CEQA documents. If burrowing owls are detected, the habitat will be avoided and/or enhanced by the restoration design. In addition, a Burrowing Owl Management Plan shall be prepared and approved by CDFW, and implemented, prior to commencement of construction. The Burrowing Owl Management Plan shall be prepared in accordance with the CDFW 2012 Staff Report on Burrowing Owl Mitigation and shall address specific minimization and avoidance measures for burrowing owls, such as avoidance of occupied habitat, translocation of individuals, and on site revegetation. **Mitigation Measure BIO-6: Minimization of Light Spillage.** A Program Lighting Plan shall be designed to minimize light trespass and glare into adjacent habitat areas prior to the commencement of activities within the program area. Nighttime lighting associated with the visitor center, parking lot, and trails shall be shielded downward and/or directed away from habitat areas to minimize impacts to nocturnal species, including breeding birds. **Mitigation Measure BIO-7: Pre-Construction Bat Surveys.** A qualified biologist shall conduct a pre-construction bat survey of ~~the program area prior to construction activities. P~~each restoration area prior to final approval of the area's restoration plan. If suitable bat roosting habitat is determined to be present, a presence/absence survey shall be conducted prior to commencement of construction activities. A~~, a~~ qualified biologist shall conduct ~~a~~the preconstruction clearance survey of suitable bat roosting habitat, such as mature palm trees. If bats are determined to be roosting, the biologist	

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
	will determine whether it is a day roost (non-breeding) or maternity roost (lactating females and dependent young). If a day roost is determined, the biologist shall ensure that direct mortality to roosting individuals will not occur by requiring that trees with roosts are not directly impacted (e.g., removed) until after the roosting period. If a maternity roost is determined to be present, the biologist shall determine a suitable buffer distance between construction activities and the roosting site. If direct disturbance to the maternity roost could occur, a Bat Exclusion Plan shall be prepared and approved by CDFW, and implemented, prior to impacting the roost. At a minimum, the Plan shall include avoidance and minimization measures to reduce potential impacts to breeding bats during construction activities and prescribed methods to safely and humanely evict bats from the roost to avoid mortality. **Mitigation Measure BIO-8: Focused Surveys for Special-Status Wildlife Species.** Should suitable habitat occur for terrestrial or aquatic special-status species, a qualified biologist shall conduct focused habitat assessments and focused surveys to determine presence, absence and/or abundance for special-status wildlife species listed in Table 3.3-54. Both habitat assessments and focused surveys shall occur prior to LCWA's approval of the project plans or the publication of subsequent CEQA documents for any project site that potentially contains special-status species. Agency-approved protocols shall be used for specific species where appropriate during the required or recommended time of year. For all other target (special-status) species, prior to initiating surveys, survey methods shall be verified and approved in writing by CDFW and USFWS or NMFS for all state- and/or federally-protected species, respectively. If special-status species are detected, the project-specific restoration plan should be designed to minimize impacts to special-status wildlife to the greatest extent feasible and a Wildlife Avoidance Plan shall be prepared and approved by CDFW and USFWS or NMFS prior to commencement of construction. The Wildlife Avoidance Plan shall include specific species minimization and avoidance measures, measures to minimize impacts to occupied habitat, such as avoidance and revegetation, as well as relocation/translocation protocols. The plan shall require that a qualified biological monitor approved by CDFW be onsite prior to and during ground and habitat disturbing activities to move special status species or other wildlife of low mobility out of harm's way that could be injured or killed by ground disturbing activities. If special-status species cannot be avoided, Incidental Take Permits from the National Marine Fisheries Service or United States Fish and Wildlife Service and California Department of Fish and Wildlife will be required. The amount of potential take shall be determined prior to design approval of each restoration area based on consultation with NMFS or USFWS and CDFW and take authorization shall be obtained prior to commencement of any ground disturbing activities. If an incidental take permit is being obtained, compensatory mitigation for the loss of occupied habitat shall be provided through purchase of credit from an existing mitigation bank, private purchase of mitigation lands, or on-site preservation, as approved by the resource agencies. Compensatory mitigation shall be provided at a minimum 1:1 ratio to reduce potential effects to less-than-significant levels.	

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
Impact BIO-2: The proposed program would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.	**Mitigation Measure BIO-9: Revegetation of Sensitive Natural Communities.** Sensitive natural communities located on the program area include: *Anemopsis californica – Helianthus nuttallii – Solidago spectabilis* Herbaceous Alliance, *Arthrocnemum subterminale* Herbaceous Alliance, *Baccharis salicina* Provisional Shrubland Alliance, *Cressa truxillensis – Distichlis spicata* Herbaceous Alliance, *Frankenia salina* Herbaceous Alliance, *Isocoma menziesii* Shrubland Alliance, *Leymus cinereus – Leymus triticoides* Herbaceous Alliance, *Salicornia pacifica* Herbaceous Alliance, *Salix gooddingii* Woodland Alliance, *Schoenoplectus californicus – Typha (angustifolia, domingensis, latifolia)* Herbaceous Alliance and *Spartina foliosa* Herbaceous Alliance. Prior to ~~impacts to Sensitive Natural Communities~~LCWA's approval of project plans or publication of subsequent CEQA documents, the area(s) that will be impacted shall be delineated and quantified using current Global Information System (ArcGIS) mapping software. Sensitive Natural Communities that will be impacted by the proposed program shall be created within the program area at a minimum ratio of 1:1 (area created:area impacted). A mitigation ratio of a minimum 2:1 for natural communities with a rarity ranking of S3 or higher will be incorporated into the restoration designs. Restored Sensitive Natural Communities shall consist of a minimum 60 percent absolute vegetation cover and shall include community-specific growing conditions, such as, similar slope, aspect, elevation, soil, and salinity. Moreover, soils within mudflat areas shall be salvaged (where feasible) for areas that are proposed for activities such as grading, and reintroduced in new mudflat and/or wetland areas that will be created. A Mitigation, Maintenance and Monitoring Program shall be prepared and approved by CDFW prior to implementation. The Program shall be implemented by a qualified restoration ecologist, and at a minimum, shall include success criteria and performance standards for measuring the establishment of Sensitive Natural Communities, responsible parties, maintenance techniques and schedule, 5-year monitoring and reporting schedule, adaptive management strategies, and contingencies.	Less than Significant
Impact BIO-3: The proposed program would not have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, and coastal wetlands) through direct removal, filling, hydrological interruption, or other means.	**Mitigation Measure BIO-10: Jurisdictional Resources Permitting.** Prior to LCWA's approval of project plans or publication of subsequent CEQA documents~~Prior to project construction~~, a jurisdictional delineation report shall be prepared that describes these jurisdictional resources and the extent of jurisdiction under the USACE, RWQCB, CDFW, and CCC. If it is determined during final siting that jurisdictional resources cannot be avoided, the project applicant shall be subject to provisions as identified below: 1. If avoidance is not feasible, prior to ground disturbance activities that could impact these aquatic features, the project applicant shall file the required documentation and receive the following. a. Nationwide Permit or equivalent permit issued from USACE; b. Water Quality Certification issued from the Los Angeles RWQCB; c. Streambed Alteration Agreement issued from CDFW; and d. Coastal Development Permit issued from CCC.	Less than Significant

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
	2. Compensatory mitigation for impacts to jurisdictional resources is not anticipated as the proposed program's goal is the restoration and expansion of coastal salt marsh within the proposed program. 3. The project proponent shall comply with the mitigation measures detailed in permits issued from the USACE, RWQCB, CDFW, and CCC. **Mitigation Measure BIO-11: Monitoring and Adaptive Management Plan.** In conjunction with Section 3.8, *Hydrology and Water Quality*, a Monitoring and Adaptive Management Plan (MAMP) shall be prepared and implemented prior to commencement of construction or restoration activities. The MAMP shall provide a framework for monitoring site conditions in response to the proposed program implementation. The MAMP shall include provisions for conducting a pre-construction survey to collect baseline data for existing wetland function. The MAMP shall require that monitoring focus on the functional wetland values as well as sediment quality in areas subject to the greatest deposition from storm events and that are also not subject to regular tidal flushing, (e.g., the southwestern corner of the Long Beach Property site). The MAMP shall identify habitat functions, such as biotic structure and hydrology, that shall be monitored as part of the proposed program's monitoring and reporting requirements. The MAMP shall identify sediment quality monitoring requirements that shall be performed at a frequency that would capture the potential build-up of contaminants in the deposited sediment before concentration are reached that would impact benthic macro-invertebrates and other sensitive species. The MAMP shall require that the findings of the monitoring efforts be used to identify any source of functional loss of wetlands and water quality impairment, and if discovered, provide measures to improve wetland function and for remediation of the sediment source area(s). Upon completion of restoration activities, the proposed program shall demonstrate a no net loss of aquatic resource functions and demonstrate an increase in wetland functions and values throughout the entire site. The MAMP shall be submitted for review and approval to responsible permitting agencies prior to commencement of construction or restoration activities.	
Impact BIO-4: The proposed program would not 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.	Mitigation Measure BIO-8.	Less than Significant
Impact BIO-5: The proposed program would not have a substantial adverse effect and conflict with biological resources protected by local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	No mitigation is required.	Less than Significant

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
Impact BIO-6: The proposed program would not 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 mitigation is required.	No Impact
Cumulative	No mitigation is required.	Less than Significant
3.4 Cultural Resources		
Impact CUL-1: The proposed program would cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5.	Mitigation Measures BIO-1 through BIO-11, as provided in Section 3.3, *Biological Resources*. **Mitigation Measure CUL-1: Cultural Resources Personnel Professional Qualifications Standards.** Cultural resources consulting staff shall meet, or be under the direct supervision of an individual meeting, the minimum professional qualifications standards (PQS) set forth by the Secretary of the Interior (SOI) (codified in 36 Code of Federal Regulations [CFR] Part 61; 48 FR 44738-44739). **Mitigation Measure CUL-2: Historic Resources Assessment.** For each near-term, mid-term, and long-term project, LCWA shall retain an SOI-qualified architectural historian (Qualified Architectural Historian) to conduct a historic resources assessment including: a records search at the South Central Coastal Information Center; a review of pertinent archives and sources; a pedestrian field survey; recordation of all identified historic resources on California Department of Parks and Recreation 523 forms; and preparation of a technical report documenting the methods and results of the assessment. The report(s) shall be submitted to LCWA for review and approval prior to LCWA's approval of project plans or publication of subsequent CEQA documents. The Qualified Architectural Historian shall file a copy of the final report(s) with the South Central Coastal Information Center within 30 days of its completion. A Historic Resources Assessment shall not be required for any project site that has already undergone the same or similar assessment as part of the program as long as the assessment is deemed adequate by the Qualified Architectural Historian for the purposes of the project currently under consideration. **Mitigation Measure CUL-3: Historic Resources Evaluation.** Prior to LCWA's approval of project plans or the publication of subsequent CEQA documents for any project site containing unevaluated historic resources, a Qualified Architectural Historian shall determine if the project has the potential to result in adverse impacts to identified historic resources. For any historic resource that may be adversely impacted, the Qualified Architectural Historian shall evaluate the resource for listing in the California Register under Criteria 1-4 in order to determine if the resource qualifies as a historical resource. If a historic resource is found eligible, the Qualified Architectural Historian shall determine if the project would cause a substantial adverse change in the significance of the resource. If a substantial adverse change would occur (i.e., the project would demolish the resource or materially alter it in an adverse manner), the Qualified Architectural Historian shall develop appropriate mitigation measures to be incorporated into subsequent CEQA documents. These measures may include, but	Significant and Unavoidable

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
	would not be limited to, relocation, HABS/HAER/HALS documentation, development and implementation of an interpretative and commemorative program, or development and implementation of a salvage plan. All evaluations and resulting technical reports shall be completed and approved by LWCA prior to LCWA's approval of project plans or publication of subsequent CEQA documents. The Qualified Architectural Historian shall file a copy of the final report(s) with the South Central Coastal Information Center within 30 days of its acceptance by LCWA. **Mitigation Measure CUL-4: Archaeological Resources Assessment.** For each near-term, mid-term, and long-term project that involves ground disturbance, LCWA shall retain an SOI-qualified archaeologist (Qualified Archaeologist) to conduct an archaeological resources assessment including: a records search at the South Central Coastal Information Center; a Sacred Lands File search at the Native American Heritage Commission; updated geoarchaeological review incorporating previously unavailable data (such as geotechnical studies); a pedestrian field survey; recordation of all identified archaeological resources on California Department of Parks and Recreation 523 forms; and preparation of a technical report. The technical report shall: document the methods and results of the study; provide an assessment of the project's potential to encounter subsurface archaeological resources and human remains based on a review of the project plans, depth of proposed ground disturbance, and available project-specific geotechnical reports; and provide recommendations as to whether additional studies are warranted (i.e., Extended Phase I presence/absence testing or resource boundary delineation, Phase II testing and evaluation). The report(s) shall be submitted to LCWA for review and approval prior to approval of project plans or publication of subsequent CEQA documents. The Qualified Archaeologist shall file a copy of the final report(s) with the South Central Coastal Information Center within 30 days of its completion. An Archaeological Resources Assessment shall not be required for any project site that has already undergone the same or similar assessment as part of the program as long as the assessment is deemed adequate by the Qualified Archaeologist for the purposes of the project currently under consideration. **Mitigation Measure CUL-5: Extended Phase I Archaeological Investigation.** Prior to LCWA's approval of project plans or the publication of subsequent CEQA documents for any project with a high potential to encounter subsurface archaeological resources as determined by the project-specific archaeological resources assessment conducted under **Mitigation Measure CUL-4: Archaeological Resources Assessment**, a Qualified Archaeologist shall conduct an Extended Phase I investigation to identify the presence/absence of subsurface archaeological resources. Prior to the initiation of field work for any Extended Phase I investigation, the Qualified Archaeologist shall prepare a work plan outlining the investigation's objectives, goals, and methodology (e.g., field and lab procedures, collection protocols, curation and reporting requirements, Native American input/monitoring, schedule, security measures). For investigations related to Native American archaeological resources, monitoring shall be required in accordance with **Mitigation Measures CUL-13: Native American Monitoring**. All work plans shall outline the protocols and procedures to be followed in the event that human remains and associated funerary objects or grave goods (i.e., artifacts associated with human	

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
	remains) are encountered in accordance with **Mitigation Measure CUL-~~17~~18: Human Remains Discoveries**. Disposition of archaeological materials recovered during Extended Phase I investigations shall be in accordance with **Mitigation Measure CUL-15: Curation and Disposition of Cultural Materials**. Disposition of human remains and any associated funerary objects or grave goods shall be in accordance with **Mitigation Measure CUL-~~17~~18: Human Remains Discoveries**. Projects occurring within the same timeframe may be covered by one overarching work plan. All investigations and resulting technical reports shall be completed and approved by LCWA prior to LCWA's approval of project plans or publication of subsequent CEQA documents. The Qualified Archaeologist shall file a copy of the final report(s) with the South Central Coastal Information Center within 30 days of its acceptance by LCWA. An Extended Phase I investigation shall not be required for any project site or resource that has already undergone the same or similar investigation as part of the program as long as the investigation is deemed adequate by the Qualified Archaeologist for the purposes of the project currently under consideration. **Mitigation Measure CUL-6: Phase II Archaeological Investigation.** Prior to LCWA's approval of project plans or the publication of subsequent CEQA documents for any project site containing known unevaluated archaeological resources as identified by the project-specific archaeological resources assessment conducted under **Mitigation Measure CUL-4: Archaeological Resources Assessment**, a Qualified Archaeologist shall determine if the project has the potential to result in adverse impacts to identified **archaeological** resources (this may include initial Extended Phase I testing to identify the boundaries of resources, if necessary to properly assess potential impacts, following the procedures outlined under **Mitigation Measure CUL-5: Extended Phase I Archaeological Investigation**). For any archaeological resource that may be adversely impacted, the Qualified Archaeologist shall conduct Phase II testing and shall evaluate the resource for listing in the California Register under Criteria 1-4 in order to determine if the resource qualifies as a historical resource. LCWA shall consider the significance of the resource to Native American groups prior to requiring any Phase II subsurface testing. If the resource does not qualify as a historical resource, it shall then be considered for qualification as a unique archaeological resource. Native American or prehistoric archaeological resources shall also be considered as contributors to the tribal landscape to determine if they contribute to the significance of the landscape. Prior to the initiation of field work for any Phase II investigation, the Qualified Archaeologist shall prepare a work plan outlining the investigation's objectives, goals, and methodology (e.g., research design, field and lab procedures, collection protocols, data requirements/thresholds, evaluation criteria, curation and reporting requirements, Native American input/monitoring, schedule, security measures). The Qualified Archaeologist and LCWA shall coordinate with participating Native American Tribes during preparation of Phase II work plans related to Native American archaeological resources to ensure cultural values ascribed to the resources, beyond those that are scientifically important, are considered in the evaluation, including those related to the tribal cultural landscape. For investigations related to Native American archaeological resources, Native American Tribal coordination and monitoring shall be required in accordance with	

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
	Mitigation Measures CUL-12: Native American Coordination and **CUL-13: Native American Monitoring**. All work plans shall outline the protocols and procedures to be followed in the event that human remains and associated funerary objects or grave goods (i.e., artifacts associated with human remains) are encountered in accordance with **Mitigation Measure CUL-~~17~~18: Human Remains Discoveries**. Disposition of archaeological materials recovered during Extended Phase I or Phase II investigations shall be in accordance with **Mitigation Measure CUL-15: Curation and Disposition of Cultural Materials**. Disposition of human remains and any associated funerary objects or grave goods shall be in accordance with **Mitigation Measure CUL-~~17~~18: Human Remains Discoveries**. Projects occurring within the same timeframe may be covered by one overarching work plan. All investigations and resulting technical reports shall be completed and approved by LWCA prior to LCWA's approval of project plans or publication of subsequent CEQA documents. The Qualified Archaeologist shall file a copy of the final report(s) with the South Central Coastal Information Center within 30 days of its acceptance by LCWA. **Mitigation Measure CUL-7: Avoidance and Preservation in Place of Archaeological Resources.** In the event historical resources or unique archaeological resources or resources that contribute to the significance of the tribal cultural landscape are identified, avoidance and preservation in place shall be the preferred manner of mitigating impacts to such resources. Preservation in place maintains the important relationship between artifacts and their archaeological context and also serves to avoid conflict with traditional and religious values of groups who may ascribe meaning to the resource. Preservation in place may be accomplished by, but is not limited to, avoidance, incorporating the resource into open space, capping, or deeding the site into a permanent conservation easement. If avoidance is determined by the LCWA to be infeasible in light of factors such as the nature of the find, proposed project design, costs, and other considerations, then that resource shall be subject to **Mitigation Measure CUL-8: Phase III Archaeological Resources Data Recovery and Treatment Plan**. If avoidance and preservation in place of a resource is determined by LCWA to be feasible, then that resource shall be subject to **Mitigation Measure CUL-9: Archaeological Resources Monitoring and Mitigation Plan**. **Mitigation Measure CUL-8: Phase III Archaeological Resources Data Recovery and Treatment Plan.** A Qualified Archaeologist shall prepare a Phase III Archaeological Resources Data Recovery and Treatment Plan for significant archaeological resources (i.e., resources that qualify as historical resources or unique archaeological resources or that contribute to the significance of the tribal cultural landscape) that will be adversely impacted by a project. Consistent with *CEQA Guidelines* Section 15126.4, data recovery shall not be required for a historical resource if LCWA determines that testing or studies already completed have adequately recovered the scientifically consequential information for resources eligible under California Register Criterion 4. The Qualified Archaeologist and LCWA shall consult with interested Native American Tribes for recovery/treatment of Native American archaeological resources during preparation of the plan(s) to ensure cultural values ascribed to the resources, beyond those that are scientifically important, are considered in assessing treatment, including those related to	

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
	the tribal cultural landscape. Projects occurring within the same timeframe may be covered by one overarching plan. The plan(s) shall be submitted to LCWA for review and approval prior to the start of field work for data recovery efforts for resources that are eligible under California Register Criterion 4 (data potential). Data recovery field work shall be completed prior to the start of any project-related ground disturbance. Treatment for archaeological resources that are eligible under California Register Criterion 1 (events), Criterion 2 (persons), or Criterion 3 (design/workmanship) shall be completed within 3 years of completion of the project. Each plan shall include: a. *Research Design.* The plan shall outline the applicable cultural context(s) for the region, identify research goals and questions that are applicable to each resource or class of resources, and list the data needs (types, quantities, quality) required to answer each research question. The research design shall address all four California Register Criteria (1–4) and identify the methods that will be required to inform treatment, such as subsurface investigation, documentary/archival research, and/or oral history, depending on the nature of the resource. The research design shall also include consideration of Native American or prehistoric archaeological resources as contributors to the tribal cultural landscape. b. *Data Recovery for Resources Eligible under Criterion 4.* The plan shall outline the field and laboratory methods to be employed, and any specialized studies that will be conducted, as part of the data recovery effort for resources that are eligible under California Register Criterion 4 (data potential). If a resource is eligible under additional criteria, treatment beyond data recovery shall be implemented (see **CUL-6c**). c. *Treatment for Resources Eligible under Criteria 1, 2, or 3.* In the event a resource is eligible under California Register Criterion 1 (events), Criterion 2 (persons), or Criterion 3 (design/workmanship), then resource-specific treatment shall be developed to mitigate project-related impacts to the degree feasible. This could include forms of documentation, interpretation, public outreach, ethnographic and language studies, publications, and educational programs, depending on the nature of the resource, and may require the retention of additional technical specialists. Treatment measures shall be generally outlined in the plan based on existing information on the resource. Once data recovery is completed and the results are available to better inform resource-specific treatment, the treatment measures shall be formalized and implemented. Treatment shall be developed by the Qualified Archaeologist in consultation with LCWA and Native American Tribal representatives for resources that are Native American in origin, including those related to the tribal cultural landscape. d. *Security Measures.* The plan shall include recommended security measures to protect archaeological resources from vandalism, looting, and non-intentionally damaging activities during field work. e. *Procedures for Discovery of Human Remains and Associated Funerary Objects or Grave Goods.* The plan shall outline the protocols and procedures to be followed in the event *that* human remains and associated funerary objects or grave goods are	

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
	uncovered. Protocols and procedures shall be in accordance with **Mitigation Measure CUL-~~17~~18: Human Remains Discoveries**. f. *Reporting Requirements.* Upon completion of data recovery for resources eligible under Criterion 4, the Qualified Archaeologist shall document the findings in an Archaeological Data Recovery Report. The draft Archaeological Data Recovery Report shall be submitted to the LCWA within 360 days after completion of data recovery, and the final Archaeological Data Recovery Report shall be submitted to LCWA within 60 days after the receipt of LCWA comments. The Qualified Archaeologist shall submit the final Archaeological Data Recovery Report to the South Central Coastal Information Center within 30 days of its acceptance by LCWA. Upon completion of all other treatment for resources eligible under Criteria 1, 2, or 3, the Qualified Archaeologist shall document the resource-specific treatment that was implemented for each resource and verification that treatment has been completed in a technical document (report or memorandum). The document shall be provided to LCWA within 30 days after completion of treatment. g. *Curation or Disposition of Cultural Materials.* The plan shall outline the requirements for final *disposition* of all cultural materials collected during data recovery. Disposition of all archaeological materials shall be in accordance with **Mitigation Measure CUL-15: Curation and Disposition of Cultural Materials**. Disposition of human remains and any associated funerary objects or grave goods shall be in accordance with **Mitigation Measure CUL-~~17~~18: Human Remains Discoveries**. h. *Protocols for Native American Coordination and Monitoring.* The plan shall outline the role and responsibilities of Native American Tribal representatives in *accordance* with **Mitigation Measure CUL-12: Native American Coordination**. It shall outline communication protocols, timelines for review of archaeological resources documents, and provisions for Native American monitoring. The plan shall include provisions for full-time Native American monitoring of all data recovery field work for resources that are Native American in origin, including those related to the tribal cultural landscape, in accordance with **Mitigation Measure CUL-13: Native American Monitoring**. **Mitigation Measure CUL-9: Archaeological Resources Monitoring and Mitigation Plan.** For each near-term, mid-term, and long-term project that involves ground disturbance, a Qualified Archaeologist shall prepare an Archaeological Resources Mitigation and Monitoring Plan taking into account the final LCWA-approved project design plans, depths/locations of ground disturbance, proximity to known archaeological resources, and potential to encounter subsurface archaeological resources. Projects occurring within the same timeframe may be covered by one overarching plan. The Qualified Archaeologist and LCWA shall coordinate with participating Native American Tribes during preparation of the plan(s). Each plan shall include: a. *Establishment of Environmentally Sensitive Areas.* The plan shall outline areas that will be designated Environmentally Sensitive Areas (including maps), if needed. Significant or unevaluated *archaeological* resources that are being avoided and are within 50 feet of the construction zone shall be designated as Environmentally	

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
	Sensitive Areas. The resources shall be *delineated* with exclusion markers to ensure avoidance. These areas shall not be marked as archaeological resources, but shall be designated as "exclusion zones" on project plans and protective fencing in order to discourage unauthorized disturbance or collection of artifacts. b. *Provisions for Archaeological Monitoring.* The plan shall outline requirements for archaeological monitoring and the archaeological monitor(s) role and responsibilities in accordance with **Mitigation Measure CUL-11: Archaeological Resources Monitoring**. Ground disturbance in locations/depths that have been previously monitored as part of the program shall not be subject to additional monitoring. c. *Procedures for Discovery of Archaeological Resources.* Procedures to be implemented in the event of an archaeological discovery shall be fully defined in the plan and shall be in accordance with **Mitigation Measure CUL-14: Archaeological Resources Discoveries**. Procedures outlined shall include stop-work and protective measures, notification protocols, procedures for significance assessments, and appropriate treatment measures. The plan shall state avoidance or preservation in place is the preferred manner of mitigating impacts to historical resources, unique archaeological resources, and contributors to the significance of the tribal cultural landscape, but shall provide procedures to follow should avoidance be infeasible in light of factors such as the nature of the find, project design, costs, and other considerations. If, based on the recommendation of a Qualified Archaeologist, it is determined that a discovered archaeological resource constitutes a historical resource or unique archaeological resource or is a contributor to the significance of the tribal cultural *landscape*, then *avoidance* and preservation in place shall be the preferred manner of mitigating impacts to such a resource in accordance with **Mitigation Measure CUL-7: Avoidance and Preservation in Place of Archaeological Resources**. In the event that preservation in place is determined to be infeasible and data recovery through excavation is the only feasible mitigation available, an Archaeological Resources Data Recovery and Treatment Plan shall be prepared and implemented following the procedures outlined in **Mitigation Measure CUL-8: Phase III Archaeological Resources Data Recovery and Treatment Plan**. LCWA shall consult with appropriate Native American representatives in determining treatment of resources that are Native American in origin to ensure cultural values ascribed to the resources, beyond those that are scientifically important, are considered, including those related to the tribal cultural landscape. d. *Procedures for Discovery of Human Remains and Associated Funerary Objects or Grave Goods.* The plan shall outline the protocols *and* procedures to be followed in the event that *human* remains and associated funerary objects or grave goods are uncovered. Protocols and procedures shall be in accordance with **Mitigation Measure CUL-~~17~~18: Human Remains Discoveries**. e. *Reporting Requirements.* The plan shall outline provisions for weekly and final reporting. The Qualified Archaeologist shall prepare weekly status reports detailing activities and locations observed (including maps) and summarizing any discoveries	

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
	for the duration of monitoring to be submitted to LCWA via email for each week in which monitoring activities occur. The Qualified Archaeologist shall prepare a draft Archaeological Resources Monitoring Report and submit it to LCWA within 180 days after completion of the monitoring program or treatment for significant discoveries should treatment extend *beyond* the cessation of monitoring. The final Archaeological Resources Monitoring Report shall be submitted to LCWA within 60 days after receipt of LCWA comments. The Qualified Archaeologist shall also submit the final Archaeological Resources Monitoring Report to the South Central Coastal Information Center. f. *Curation or Disposition of Cultural Materials.* The plan shall outline the requirements for final disposition of all cultural materials collected during data recovery. Disposition of all archaeological materials shall be in accordance with **Mitigation Measure CUL-15: Curation and Disposition of Cultural Materials**. Disposition of human remains and any associated funerary objects or grave goods shall be in accordance with **Mitigation Measure CUL-~~17~~18: Human Remains Discoveries**. g. *Protocols for Native American Coordination and Monitoring.* The plan shall outline requirements for Native American coordination and monitoring, and the Native American monitor(s) role and responsibilities in accordance with **Mitigation Measures CUL-12: Native American Coordination** and **CUL-13: Native American Monitoring**. **Mitigation Measure CUL-10: Construction Worker Cultural Resources Sensitivity Training.** For each near-term, mid-term, and long-term project that involves ground disturbance, LCWA shall retain a Qualified Archaeologist to implement a cultural resources sensitivity training program. The Qualified Archaeologist, or their designee, and a Native American representative shall instruct all construction personnel of the importance and significance of the area as a tribal cultural landscape, the types of archaeological resources that may be encountered, the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains, confidentiality of discoveries, and safety precautions to be taken when working with cultural resources monitors. In the event that construction crews are phased, additional trainings shall be conducted for new construction personnel. LCWA or their contractors shall ensure construction personnel are made available for and attend the training. LCWA shall retain documentation demonstrating attendance. **Mitigation Measure CUL-11: Archaeological Resources Monitoring.** For each near-term, mid-term, and long-term project, full-time archaeological monitoring of ground disturbance (i.e., demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil) shall be conducted in areas and at depths where there is a potential to encounter archaeological **materials** or human remains, including excavations into existing artificial fill and native soils, based on the project-specific archaeological resources assessment prepared under **Mitigation Measure CUL-4: Archaeological Resources Assessment**. Ground disturbance in locations/depths that have been previously monitored as part of the program shall not	

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
	be subject to additional monitoring. The archaeological monitor(s) shall be familiar with the types of resources that could be encountered and shall work under the direct supervision of a Qualified Archaeologist. The number of archaeological monitors required to be on site during ground-disturbing activities is dependent on the construction scenario, specifically the number of pieces of equipment operating at the same time, the distance between these pieces of equipment, and the pace at which equipment is working, with the goal of monitors being able to effectively observe soils as they are exposed. Generally, work areas more than 500 feet from one another will require additional monitors. The archaeological monitor(s) shall keep daily logs detailing the types of activities and soils observed, and any discoveries. Archaeological monitor(s) shall have the authority to halt and re-direct ground disturbing activities in the event of a discovery until it has been assessed for significance and treatment implemented, if necessary, based on the recommendations of the Qualified Archaeologist in coordination with LCWA, and the Native American representatives in the event the resource is Native American in origin, and in accordance with the protocols and procedures outlined in **Mitigation Measure CUL-8: Phase III Archaeological Resources Data Recovery and Treatment Plan**. Reporting of archaeological monitoring shall be conducted in accordance with the provisions outlined in **Mitigation Measure CUL-9: Archaeological Resources Monitoring and Mitigation Plan**. **Mitigation Measure CUL-12: Native American Coordination.** LCWA shall seek input from participating Native American Tribes during the preparation of documents required under **Mitigation Measures CUL-5: Extended Phase I Archaeological Investigation**, **CUL-6: Phase II Archaeological Investigation**, **CUL-8: Phase III Archaeological Resources Data Recovery and Treatment Plan**, **Mitigation Measure CUL9: Archaeological Resources Monitoring and Mitigation Plan,** and **CUL-14: Archaeological Resources Discoveries**, including but not limited to work plans, research designs, treatment plans, and associated technical reports. LCWA shall provide participating Native American Tribes with electronic copies of draft documents and afford them 30 days from receipt of a document to review and comment on the document. Native American comments will be provided in writing for consideration by LCWA. LCWA shall document comments and how the comments were/were not addressed in a tracking log. **Mitigation Measure CUL-13: Native American Monitoring.** For each near-term, mid-term, and long-term project, full-time Native American monitoring of ground disturbance (i.e., demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil) shall be conducted in areas and at depths where there is a potential to encounter archaeological materials or human remains, including excavations into existing artificial fill and native soils, based on the project-specific study prepared under **Mitigation Measure CUL-4: Archaeological Resources Assessment**. LCWA shall retain a Native American monitor(s) from a California Native American Tribe that is culturally and geographically affiliated with the program area (according to the California Native American Heritage Commission) to	

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
	conduct the monitoring. If more than one Tribe is interested in monitoring, LCWA shall contract with each Tribe that expresses interest and prepare a monitoring rotation schedule. LCWA shall rotate monitors on an equal and regular basis to ensure that each Tribal group has the same opportunity to participate in the monitoring program. If a Tribe cannot participate when their rotation comes up, they shall forfeit that rotation unless LCWA can make other arrangements to accommodate their schedule. The number of Native American monitors required to be on site during ground disturbing activities is dependent on the construction scenario, specifically the number of pieces of equipment operating at the same time, the distance between these pieces of equipment, and the pace at which equipment is working, with the goal of monitors being able to effectively observe soils as they are exposed. Generally, work areas more than 500 feet from one another require additional monitors. Native American monitors shall have the authority to halt and re-direct ground disturbing activities in the event of a discovery until it has been assessed for significance. The Native American monitor(s) shall also monitor all ground disturbance related to subsurface investigations and data recovery efforts conducted under **Mitigation Measures CUL-5: Extended Phase I Archaeological Investigation**, **CUL-6: Phase II Archaeological Investigation**, and **CUL-8: Phase III Archaeological Resources Data Recovery and Treatment Plan** for any resources that are Native American in origin, according to the rotation schedule, including those related to the tribal cultural landscape. **Mitigation Measure CUL-14: Archaeological Resources Discoveries.** In the event archaeological resources are encountered during construction of the proposed program, all activity in the vicinity of the find shall cease (within 100 feet), and the protocols and procedures for discoveries outlined in **Mitigation Measure CUL-9: Archaeological Resources Monitoring and Mitigation Plan** shall be implemented. The discovery shall be evaluated for potential significance by the Qualified Archaeologist. If the Qualified Archaeologist determines that the resource may be significant (i.e., meets the definition for historical resource in *CEQA Guidelines* subdivision 15064.5(a) or for unique archaeological **resource** in PRC subdivision 21083.2(g) or is a contributor to the tribal cultural landscape), the Qualified Archaeologist shall develop an Archaeological Resources Data Recovery and Treatment Plan for the resource following the procedures outlined in **Mitigation Measure CUL-8: Phase III Archaeological Resources Data Recovery and Treatment Plan**. When assessing significance and developing treatment for resources that are Native American in origin, including those related to the tribal cultural landscape, the Qualified Archaeologist and LCWA shall consult with the appropriate Native American representatives. The Qualified Archaeologist shall also determine if work may proceed in other parts of the project site while data recovery and treatment is being carried out. LCWA shall consult with the State Lands Commission Staff Attorney regarding any cultural resources discoveries on state lands. **Mitigation Measure CUL-15: Curation and Disposition of Cultural Materials.** LCWA shall curate all Native American archaeological materials, with the exception of funerary objects or grave goods (i.e., artifacts associated with Native American human remains),	

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
	LCWA shall consult with Native American representatives regarding the final disposition of Native American archaeological materials and on the selection of the curation facility, with preference given to tribal museums. LCWA shall first consider repositories that ~~at a repository~~ are accredited by the American Association of Museums and that meet~~s~~ the standards outlined in 36 CFR 79.9. If ~~no~~ a suitable accredited **repository** is not identified~~accepts the collection~~, then LCWA ~~may curate~~ shall consider ~~it at a~~ non-accredited repositori~~es~~y as long as they ~~it~~ meet~~s~~ the minimum standards set forth by 36 CFR 79.9. If ~~neither an accredited nor~~ a suitable non-accredited repository is not identified ~~accepts the collection~~, then LCWA shall ~~offer the collection to a public, non-profit institution with a research interest in the materials, or~~ donate the collection ~~it~~ to a local California Native American Tribe(s) (Gabrielino or Juañeno) for educational purposes. Disposition of Native American human remains and associated funerary objects or grave goods shall be determined by the landowner in consultation with LCWA and the Most Likely Descendant in accordance with **Mitigation Measure CUL-~~17~~18: Human Remains Discoveries**. LCWA shall curate all historic-period archaeological materials that are not Native American in origin at a repository accredited by the American Association of Museums that meets the standards outlined in 36 CFR 79.9. If no accredited repository accepts the collection, then LCWA may curate it at a non-accredited repository as long as it meets the minimum standards set forth by 36 CFR 79.9. If neither an accredited nor a non-accredited repository accepts the collection, then LCWA shall offer the collection to a public, non-profit institution with a research interest in the materials, or to a local school or historical society in the area for educational purposes. If no institution, school, or historical society accepts the collection, LCWA may retain it for on-site display as part of its interpretation and educational elements. The final disposition of cultural resources recovered on state lands under the jurisdiction of the California State Lands Commission must be approved by the Commission. Prior to start of each project, LCWA shall obtain a curation agreement and shall be responsible for payment of fees associated with curation for the duration of the program. **Mitigation Measure CUL-16: Future Native American Input.** LCWA shall consult with participating California Native American Tribes, to the extent that they wish to participate, during future design of project-level components, plant and native plant selections or palettes, and development of content for educational and interpretative elements, such as signage and Visitors Center displays. **Mitigation Measure CUL-17:** Tribal Access Plan. Prior to the start of construction, LCWA shall develop a written access plan to preserve and enhance tribal members' access to, and use of, the restoration project area for religious, spiritual, or other cultural purposes. This plan will allow access to the extent LCWA has the authority to facilitate such access, and be consistent with existing laws, regulations, and agreements governing property within the program area. The access plan may place restrictions on access into certain areas, such as oil operations and other exclusive easements the LCWA does not have access rights to. This access plan shall be developed in	

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
	coordination with participating California Native American Tribes, to the extent that they wish to participate.	
Impact CUL-2: The proposed program would cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5.	Mitigation Measures CUL-1, and CUL-4 through CUL-15.	Significant and Unavoidable
Impact CUL-3: The proposed program would not disturb any human remains, including those interred outside of formal cemeteries.	**Mitigation Measure CUL-~~17~~18: Human Remains Discoveries:** If human remains are encountered, then LCWA or its contractor shall halt work in the vicinity (within 100 feet) of the discovery and contact the appropriate County Coroner in accordance with Public Resources Code Section 5097.98 and Health and Safety Code Section 7050.5, which requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. If the County Coroner determines the remains are Native American, then the Coroner will notify the California Native American Heritage Commission (NAHC) within 24 hours in accordance with Health and Safety Code subdivision 7050.5(c), and Public Resources Code Section 5097.98. The California Native American Heritage Commission shall then identify the person(s) thought to be the Most Likely Descendant (MLD). The MLD may, with the permission of the land owner, or his or her authorized representative, inspect the site of the discovery of the Native American remains and may recommend to the owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The MLD shall complete their inspection and make their recommendation within 48 hours of being granted access by the landowner to inspect the discovery. The recommendation may include the scientific removal and nondestructive analysis of human remains and items associated with Native American burials. LCWA and the landowner shall discuss and confer with the MLD on all reasonable options regarding the MLD's preferences for treatment. Until LCWA and the landowner have conferred with the MLD, the contractor shall ensure that the immediate vicinity where the discovery occurred is not disturbed by further activity and is adequately protected according to generally accepted cultural or archaeological standards or practices, and that further activities take into account the possibility of multiple burials. If the NAHC is unable to identify an MLD, or the MLD identified fails to make a recommendation, or the landowner rejects the recommendation of the MLD and the mediation provided for in Subdivision (k) of Section 5097.94, if invoked, fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall inter the human remains and items associated with Native American human remains with appropriate dignity on the facility property in a location not subject to further and future subsurface disturbance.	Less than Significant

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
Cumulative	Mitigation Measures BIO-1 through BIO-9, as provided in Section 3.3, *Biological Resources*, and CUL-1 through CUL-~~17~~ 18 (construction). Mitigation Measures BIO-1, BIO-6, and BIO-8 through BIO-11, as provided in Section 3.3, *Biological Resources* (operation).	Significant and Unavoidable (construction). Less than Significant (operation).
3.5 Geology, Soils, and Paleontological Resources		
Impact GEO-1a: The proposed program would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault.	No mitigation is required.	Less than Significant
Impact GEO-1b: The proposed program would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.	No mitigation is required.	Less than Significant
Impact GEO-1c: The proposed program would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction, lateral spreading, and landslides.	No mitigation is required.	Less than Significant
Impact GEO-2: The proposed program would not result in a significant impact if the proposed program would result in substantial soil erosion or the loss of topsoil.	No mitigation is required.	Less than Significant
Impact GEO-3: The proposed program would not be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the proposed program, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.	No mitigation is required.	No Impact
Impact GEO-4: The proposed program would not be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.	No mitigation is required.	Less than Significant
Impact GEO-5: The proposed program would not have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.	No mitigation is required.	No Impact

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
Impact GEO-6: The proposed program would not would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	**Mitigation Measure GEO-1: Retention of a Qualified Professional Paleontologist.** Prior to the start of construction of any near-term, mid-term, or long-term project, LCWA shall retain a Qualified Professional Paleontologist as defined by the Society of Vertebrate Paleontology to carry out all mitigation related to paleontological resources including: project-level review (Mitigation Measure **GEO-2**); paleontological resources sensitivity training (**GEO-3**); oversight of paleontological resources monitoring (Mitigation Measure **GEO-4**); and recovery, treatment, analysis, curation, and reporting (Mitigation Measures **GEO-5**, **GEO-6**, and **GEO-7**). **Mitigation Measure GEO-2: Project-Level Paleontological Resources Review and Monitoring Recommendations.** Prior to LCWA approval of any near-term, mid-term, and long-term project, the Qualified Professional Paleontologist shall review the *Los Cerritos Wetlands Program Paleontological Resources Assessment* (ESA, 2019), grading plans, and any available geotechnical reports/data to determine the potential for ground disturbance to occur within older alluvium and old shallow marine deposits. If available data is sufficient to accurately determine the depth of older alluvium and old shallow marine deposits within a project site, monitoring shall be required beginning at or just above that depth. If available data is insufficient to determine the depth of older alluvium and old shallow marine deposits, monitoring shall be required beginning at 5 feet below surface (consistent with the accepted depth at which high sensitivity sediments could occur based on regional evidence). The results of the reviews shall be documented in technical memoranda to be submitted to LCWA prior to the start of ground disturbance, along with recommendations specifying the locations, depths, duration, and timing of any required monitoring. The technical memoranda shall include map figures that outline where monitoring is required and at what depths, and shall stipulate whether screen washing is necessary to recover small specimens. Any required screen washing shall follow SVP Guidelines. **Mitigation Measure GEO-3: Paleontological Resources Sensitivity Training.** Prior to the start of ground disturbance for any near-term, mid-term, or long-term project, the Qualified Professional Paleontologist shall conduct paleontological resources sensitivity training. The training shall focus on the recognition of the types of paleontological resources that could be encountered within the program area, the procedures to be followed if they are found, confidentiality of discoveries, and safety precautions to be taken when working with paleontological monitors. LCWA shall ensure that construction personnel are made available for and attend the training, and retain documentation demonstrating attendance. The training should be repeated as necessary for incoming construction personnel. **Mitigation Measure GEO-4: Paleontological Resources Monitoring.** A qualified paleontological monitor, as defined by the Society of Vertebrate Paleontology, shall monitor all ground-disturbing activities occurring in the older alluvium and old shallow marine deposits for each near term, mid-term, or long-term project. Monitoring shall be implemented consistent with the locations, depths, duration, and timing recommendations specified in the technical memorandum for the project. Monitors shall work under the direction of the Qualified Professional Paleontologist. The number of	Less than Significant

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
	monitors required to be on site during ground-disturbing activities shall be determined by the Qualified Professional Paleontologist and shall be based on the construction scenario – specifically the number of pieces of equipment operating at the same time, the distance between these pieces of equipment, and the pace at which equipment is working – with the goal of monitors being able to effectively observe sediments as they are exposed. Monitors shall have the authority to temporarily halt or divert work away from exposed fossils in order to recover the fossil specimens, and to request assistance from construction equipment operators to recover samples for screen washing as necessary. Monitors shall prepare daily logs detailing the types of activities and soils observed, and any discoveries. The Qualified Professional Paleontologist, in consultation with LCWA, shall have the ability to modify (i.e., increase, reduce, or discontinue) monitoring requirements based on observations of soil types and frequency of discoveries. Requests for modifications shall be submitted in writing to LCWA for approval prior to implementation. **Mitigation Measure GEO-5: Paleontological Discoveries.** If any potential fossils are discovered by paleontological resources monitors or construction personnel, all work shall cease at that location (within 100 feet) until the Qualified Professional Paleontologist has assessed the discovery and made recommendations as to the appropriate treatment. The paleontological resources monitor (if one is present) or construction personnel (if a monitor is not present) shall flag the fossiliferous area for avoidance until the Qualified Professional Paleontologist can evaluate the discovery and develop plans for avoidance or removal/salvage of the specimen(s), if deemed significant. Significant discoveries shall be salvaged following SVP Guidelines. LCWA shall consult with the State Lands Commission Staff Attorney regarding any paleontological resources discoveries on state lands. **Mitigation Measure GEO-6: Preparation, Identification, Cataloging, and Curation Requirements.** All significant fossil discoveries shall be prepared to the point of identification to the lowest taxonomic level possible, cataloged, and curated into a certified repository with retrievable storage (such as a museum or university). All GPS data, field notes, photographs, locality forms, stratigraphic sections, and other data associated with the recovery of the specimens shall be deposited with the institution receiving the specimens. The Qualified Professional Paleontologist shall be responsible for obtaining a signed curation agreement from a certified repository in southern California prior to the start of the program. Given the length of the program, multiple agreements may be necessary due to changing capacities of repositories. The final disposition of paleontological resources recovered on state lands under the jurisdiction of the California State Lands Commission must be approved by the Commission. **Mitigation Measure GEO-7: Reporting Requirements.** The Qualified Professional Paleontologist shall prepare weekly status reports detailing activities and locations observed (with maps) and summarizing any discoveries to be submitted to LCWA via email for each week in which monitoring activities occur. Monthly progress reports summarizing monitoring efforts shall be prepared and submitted to LCWA for the duration of monitored ground disturbance. Reports detailing the results of monitoring for any near-term, mid-term, or long-term project and treatment of significant discoveries	

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
	shall be submitted to LCWA within 120 days of completion of treatment, or within 30 days of completion of monitoring if no significant discoveries occurred. If significant fossils are recovered, the Qualified Professional Paleontologist shall file the final report with the Natural History Museum of Los Angeles County and the certified repository.	
Cumulative	Mitigation Measures GEO-1 through GEO-7 (construction).	Less than Significant (construction and operation)
3.6 Greenhouse Gas Emissions and Energy		
Impact GHG-1: The proposed program would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	No mitigation is required.	Less than Significant
Impact GHG-2: The proposed program would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	No mitigation is required.	Less than Significant
Impact EN-1: The proposed program would not result in a significant impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during program construction or operation.	No mitigation is required.	Less than Significant
Impact EN-2: The proposed program would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	No mitigation is required.	Less than Significant
3.7 Hazardous and Hazardous Materials		
Impact HAZ-1: The proposed program would not create a significant hazard to the public or the environment through the routine transport, use, or disposal, or reasonable foreseeable upset and accident conditions that release hazardous materials.	No mitigation is required.	Less than Significant
Impact HAZ-2: The proposed program would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	No mitigation is required.	Less than Significant
Impact HAZ-3: The proposed program would 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.	**Mitigation Measure HAZ-1: Health and Safety Plan.** The contractor(s) shall prepare and implement site-specific Health and Safety Plans as required by and in accordance with 29 CFR 1910.120 to protect construction workers and the public during all excavation and grading activities. This Plan shall be submitted to LCWA, the Orange County Environmental Health Division (the CUPA for the City of Seal Beach area), or Long Beach/Signal Hill Joint Powers Authority (the CUPA for the Long Beach area), for	Less than Significant

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
	review prior to commencement of construction. The Health and Safety Plans shall include, but are not limited to, the following elements: • Designation of a trained, experienced site safety and health supervisor who has the responsibility and authority to develop and implement the site Health and Safety Plan; • A summary of all potential risks to construction workers and maximum exposure limits for all known and reasonably foreseeable site chemicals; • Specified personal protective equipment and decontamination procedures, if needed; • Emergency procedures, including route to the nearest hospital; and • Procedures to be followed in the event that evidence of potential soil or groundwater contamination (such as soil staining, noxious odors, debris or buried storage containers) is encountered. These procedures shall be in accordance with hazardous waste operations regulations and specifically include, but are not limited to, the following: immediately stopping work in the vicinity of the unknown hazardous materials release, notifying the LCWA, and the Orange County Environmental Health Division (the CUPA for the City of Seal Beach area), or the Long Beach/Signal Hill Joint Powers Authority (the CUPA for the Long Beach area), the LARWQCB, or CalGEM, as appropriate, and retaining a qualified environmental firm to perform sampling and remediation. **Mitigation Measure HAZ-2: Soil, Landfill Materials, and Groundwater Management Plan.** In support of the Health and Safety Plan described in Mitigation Measure HAZ-1, the contractor(s) shall develop and implement a Soil, Landfilled Materials, and Groundwater Management Plan that includes a materials disposal plan specifying how the contractor will remove, handle, transport, and dispose of all excavated material in a safe, appropriate, and lawful manner. The Plan shall identify protocols for soil and landfilled materials testing and disposal, identify the approved disposal site, and include written documentation that the disposal site can accept the waste. Contract specifications shall mandate full compliance with all applicable federal, state, and local regulations related to the identification, transportation, and disposal of hazardous materials, including those encountered in excavated soil, landfilled materials, or dewatering effluent. As part of the Soil, Landfill Materials, and Groundwater Management Plan, the contractor shall develop a groundwater dewatering control and disposal plan specifying how groundwater (dewatering effluent), if encountered, will be handled and disposed of in a safe, appropriate and lawful manner. The Plan shall identify the locations at which groundwater dewatering is likely to be required, the test methods to analyze groundwater for hazardous materials, the appropriate treatment and/or disposal methods, and approved disposal site(s), including written documentation that the disposal site can accept the waste. The contractor may also discharge the effluent under an approved permit to a publicly owned treatment works, in accordance with any requirements the treatment works may have.	

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
	This Plan shall be submitted to the LCWA, and the Orange County Environmental Health Division (the CUPA for the City of Seal Beach area), or the Long Beach/Signal Hill Joint Powers Authority (the CUPA for the Long Beach area), or the Orange County Environmental Health Division (the CUPA for the City of Seal Beach area) for review and approval prior to commencement of construction.	
Impact HAZ-4: The proposed program would not result in a safety hazard or excessive noise for people residing or working in the program area plan.	No mitigation is required.	Less than Significant
Impact HAZ-5: The proposed program would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	No mitigation is required.	No Impact
Impact HAZ-6: The proposed program would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.	No mitigation is required.	No Impact
Cumulative	No mitigation is required.	Less than Significant
3.8 Hydrology and Water Quality		
Impact HYD-1: The proposed program would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.	**Mitigation Measure HYD-1:** A Monitoring and Adaptive Management Plan (MAMP) shall be prepared and implemented prior to commencement of construction or restoration activities. The MAMP shall provide a framework for monitoring site conditions in response to the program implementation. The monitoring shall focus on sediment quality in areas subject to the greatest deposition from storm events and that are also not subject to regular tidal flushing, (e.g., the southwestern corner of the Long Beach Property site). The sediment quality monitoring shall be performed at a frequency that would capture the potential build-up of contaminants in the deposited sediment before concentration are reached that would impact benthic macro-invertebrates and other sensitive species. The findings of the monitoring efforts shall be used to identify any source of impairment, and if discovered, provide measures for remediation of the sediment source area(s). The MAMP shall be submitted for review and approval to permitting agencies prior to commencement of construction or restoration activities.	Less than Significant
Impact HYD-2: The proposed program would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the proposed program may impede sustainable groundwater management of the basin.	No mitigation is required.	Less than Significant

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
Impact HYD-3a: The proposed program would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on site or off site.	Mitigation Measure HYD-1.	Less than Significant
Impact HYD-3b: The proposed program would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.	No mitigation is required.	Less than Significant
Impact HYD-3c: The proposed program would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.	No mitigation is required.	Less than Significant
Impact HYD-3d: The proposed program would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows.	No mitigation is required.	Less than Significant
Impact HYD-4: The proposed program would not risk release of pollutants due to program inundation.	No mitigation is required.	Less than Significant
Impact HYD-5: The project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan rise.	No mitigation is required.	Less than Significant
Cumulative	No mitigation is required.	Less than Significant
3.9 Land Use and Planning		
Impact LU-1: The proposed program would not physically divide an established community.	No mitigation is required.	Less than Significant
Impact LU-2: The proposed program would not conflict with most applicable land use plan, policy, or regulation of an agency with jurisdiction over the proposed program, adopted for the purpose of avoiding or mitigating an environmental effect.	No mitigation is required.	Less than Significant
Cumulative	No mitigation is required.	Less than Significant

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
3.10 Mineral Resources		
Impact MIN-1: The proposed program would not 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, or 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 mitigation is required.	No Impact
Cumulative	No mitigation is required.	No Impact
3.11 Noise		
Impact NOI-1: The proposed program would not result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the proposed program in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	No mitigation is required. While the proposed program would result in less-than-significant impacts associated with construction noise, to reduce and minimize the construction noise generated on the program area and attenuated at the nearest off-site residences, the following construction noise reduction measures are recommended: **Noise Reduction Measure NOISE-1: Staging Areas and Mufflers.** Staging areas for construction shall be located away from existing off-site residences. All construction equipment shall use properly operating mufflers. These requirements shall be included in construction contracts. **Noise Reduction Measure NOISE-2: Limit Grading.** All grading activities shall be conducted outside of the nesting season for sensitive bird species. The nesting season has been identified as extending from March 1 to August 15. (Refer to Section 3.3 Biological Resources for more information on potential impacts to bird species and the corresponding mitigation). **Noise Reduction Measure NOISE-3: Noise Barriers.** Where feasible, grading plans and specifications shall include temporary noise barriers for all grading, hauling, and other heavy equipment operations that would occur within 300 feet of sensitive off-site receptors and occur for more than 20 working days. The noise barriers shall be 12-feet high, but may be shorter if the top of the barrier is at least one foot above the line of sight between the equipment and the receptors. The barriers shall be solid from the ground to the top of the barrier, and have a weight of at least 2.5 pounds per square foot, which is equivalent to ¾ inch thick plywood. The barrier design shall optimize the following requirements: (1) the barrier shall be located to maximize the interruption of line-of-sight between the equipment and the receptor, which is normally at the top-of-slope when the grading area and receptor are at different elevations. However, a top-of-slope location may not be feasible if the top-of-slope is not on the project site; (2) the length and height of the barrier shall be selected to block the line-of-sight between the grading area and the receptors; (3) the barrier shall be located as close as feasible to the receptor or as close as feasible to the grading area; a barrier is least effective when it is at the midpoint between noise source and receptor.	Less than Significant

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
Impact NOI-2: The proposed program would not result in generation of excessive groundborne vibration or groundborne noise levels.	No mitigation is required.	Less than Significant
Impact NOI-3: The proposed program would not expose people residing or working in the project area to excessive noise levels for a project located within the vicinity of a private airstrip or an airport land use plan.	No mitigation is required.	No Impact
Cumulative	No mitigation is required.	Less than Significant
3.12 Public Services		
Impact PS-1a: The proposed program would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection.	**Mitigation Measure PS-1: Fire Prevention and Protection Training.** Prior to the start of construction activities, the Applicant shall prepare and conduct a fire prevention and protection training for all construction personnel associated with the proposed program. Topics shall include general fire prevention practices such as avoiding smoking on the program area as well as specific preventative measures pertaining to high-fire-risk activities including handling of oil and welding and cutting. Personal protection measures including the locations of fire extinguishers on the program area and site exit routes should also be disclosed to ensure construction worker safety in the event of a fire. The material for the training shall be obtained in consultation with the Orange County Fire Authority and the Long Beach Fire Department.	Less than Significant
Impact PS-1b: The proposed program would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection.	No mitigation is required.	Less than Significant
Impact PS-1c: The proposed program would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for parks.	Refer to Impact REC-1 and Impact REC-2 provided in Section 3.13, *Recreation*.	N/A
Cumulative	No mitigation is required.	Less than Significant

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
3.13 Recreation		
Impact REC-1: The proposed program would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.	No mitigation is required.	Less than Significant
Impact REC-2: The proposed program would not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.	No mitigation is required.	Less than Significant
Cumulative	No mitigation is required.	Less than Significant
3.14 Transportation		
Impact TRA-1: The proposed program would not conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.	**Mitigation Measure TRA-1:** Prior to the start of construction of the program component(s) that require a full or partial roadway closure, LCWA shall require the construction contractor(s) to prepare a traffic control plan. The traffic control plan will show all signage, striping, delineated detours, flagging operations and any other devices that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the cities of Seal Beach and Long Beach and Orange and Los Angeles Counties, as applicable. The traffic control plan shall be prepared in accordance with the applicable jurisdiction's traffic control guidelines and will be prepared to ensure that access will be maintained to individual properties, and that emergency access will not be restricted. Additionally, the traffic control plan will ensure that congestion and traffic delays are not substantially increased as a result of the construction activities. Furthermore, the traffic control plan will include detours or alternative routes for bicyclists using on-street bicycle lanes as well as for pedestrians using adjacent sidewalks. LCWA shall provide written notice at least two weeks prior to the start of construction to owners/occupants along streets to be affected during construction. During construction, LCWA will maintain continuous vehicular and pedestrian access to any affected residential driveways from the public street to the private property line, except where necessary construction precludes such continuous access for reasonable periods of time. Access will be reestablished at the end of the workday. If a driveway needs to be closed or interfered with as described above, LCWA shall notify the owner or occupant of the closure of the driveway at least five working days prior to the closure. The traffic control plan shall include provisions to ensure that the construction of the proposed program does not interfere unnecessarily with the work of other agencies such as mail delivery, school buses, and municipal waste services. LCWA shall also notify local emergency responders of any planned partial or full lane closures or blocked access to roadways or driveways required for program construction. Emergency responders include fire departments, police departments, and ambulances	Less than Significant

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
	that have jurisdiction within the program area. Written notification and disclosure of lane closure location must be provided at least 30 days prior to the planned closure to allow emergency response providers adequate time to prepare for lane closures.	
Impact TRA-2: The proposed program would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).	No mitigation is required.	Less than Significant
Impact TRA-3: The proposed program would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).	Mitigation Measure TRA-1.	Less than Significant
Cumulative	Mitigation Measure TRA-1.	Less than Significant
3.15 Tribal Cultural Resources		
Impact TRI-1: The proposed program would not 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 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).	~~No mitigation is required.~~See Impact TRI-2.	~~Less than Significant~~See Impact TRI-2
Impact TRI-2: The proposed program would 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 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.	Mitigation Measures BIO-1 through BIO-11 as provided in Section 3.3, *Biological Resources*, and Mitigation Measures CUL-1, and CUL-4 through CUL-16, as provided in Section 3.4, *Cultural Resources*.	Significant and Unavoidable

TABLE ES-8
SUMMARY OF ENVIRONMENTAL EFFECTS AND MITIGATION MEASURES

Impacts	Mitigation Measures	Significance after Mitigation
Cumulative	Mitigation Measures BIO-1 through BIO-9, as provided in Section 3.3, *Biological Resources*, and Mitigation Measures CUL-1, and CUL-4 through CUL-16, as provided in Section 3.4, *Cultural Resources* (construction). Mitigation Measures BIO-1, BIO-6, and BIO-8 through BIO-11, as provided in Section 3.3, *Biological Resources* (operation).	Less than Significant
3.16 Utilities and Service Systems		
Impact UTL-1: The proposed program would not require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.	Mitigation Measure TRA-1, as provided in Section 3.14, *Transportation*. **Mitigation Measure UTL-1: Water Will Serve Letter.** Prior to issuance of a certificate of occupancy of the visitor center, a will serve letter will be obtained to verify that the water mains surrounding the program boundary have the capacity to serve the visitor center. **Mitigation Measure UTL-2: Sewer Capacity Study.** Prior to issuance of a certificate of occupancy of the visitor center, a sewer capacity study will be performed to verify that the sewer lines surrounding the program boundary have the capacity to serve the visitor center.	Less than Significant
Impact UTL-2: The proposed program would not have sufficient water supplies available to serve the proposed program and reasonably foreseeable future development during normal, dry and multiple dry years.	Mitigation Measure UTL-1.	Less than Significant
Impact UTL-3: The proposed program would not result in a determination by the wastewater treatment provider which serves or may serve the proposed program that it has adequate capacity to serve the proposed program's projected demand in addition to the provider's existing commitments.	Mitigation Measure UTL-2.	Less than Significant
Impact UTL-4: The proposed program would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.	No mitigation is required.	Less than Significant
Impact UTL-5: The proposed program would ~~not~~ comply with federal, state, and local management and reduction statutes and regulations related to solid waste.	No mitigation is required.	Less than Significant
Cumulative	No mitigation is required.	Less than Significant

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CHAPTER 1
Introduction

1.1 Introduction

To comply with the California Environmental Quality Act (CEQA), the Los Cerritos Wetlands Authority (LCWA) has developed a Los Cerritos Wetlands Restoration Plan Program Environmental Impact Report (PEIR). The Los Cerritos Wetlands Restoration Plan would restore wetland and upland habitats. LCWA, as the Lead Agency, has prepared this Draft PEIR to provide the public and trustee agencies with information about the potential effects on the local environment associated with implementation of the proposed activities under the Los Cerritos Wetlands Restoration Plan (proposed program). This Draft PEIR has been prepared in compliance with CEQA (as amended), codified at California Public Resources Code Sections 21000 et seq. and the *CEQA Guidelines* in the California Code of Regulations Title 14, Division 6, Chapter 3.

1.2 Purpose of the Environmental Impact Report

This PEIR has been prepared to address the potential environmental impacts associated with implementing the proposed program. Since the Los Cerritos Wetlands Restoration Plan consists of numerous conceptual restoration designs that involve implementation of projects over a long time period, a PEIR has been prepared. *CEQA Guidelines* Section 15168 states that a PEIR may be used to evaluate a plan or program that has multiple components (projects and actions) or addresses a series of actions that are related:

- Geographically;
- As logical parts in the chain of contemplated actions;
- In connection with the issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or
- As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental affects that can be mitigated in similar ways.

A PEIR can provide the following additional advantages:

- Provide for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action;
- Ensure consideration of cumulative impacts that might not be evident in a case-by-case analysis;
- Avoid duplicative consideration of basic policy issues;

- Allow the lead agency to consider broad policy alternatives and program-wide mitigation measures early in the process when the agency has greater flexibility to deal with basic problems or cumulative impacts; and
- Allow a reduction in paperwork.

A PEIR may be prepared for a plan before the details of each and every project within the long-term plan have been developed. For the proposed program, restoration designs are in the concept development or planning phase. The PEIR analysis is not intended to focus on the site-specific construction and operation details of individual restoration activities. Rather, this PEIR serves as a first-tier environmental document that focuses on the overall effects of implementing the proposed program as a plan with some project-level detail, to provide for wetland and upland habitat restoration.

1.3 CEQA Environmental Review Process

1.3.1 CEQA Process Overview

The basic purposes of CEQA are to (1) inform the public and governmental decision makers regarding potential significant environmental effects of proposed activities, (2) identify ways in which potential environmental damage can be avoided or significantly reduced, (3) prevent significant, avoidable environmental damage by requiring changes in projects through the use of alternatives or mitigation measures, and (4) disclose to the public the reasons why a governmental agency approved the project if significant environmental effects are involved.

An environmental impact report (EIR) should use a multidisciplinary approach applying social and natural sciences to provide a qualitative and quantitative analysis of all the foreseeable environmental impacts that a proposed project would exert on the surrounding area. As stated in *CEQA Guidelines* Section 15151:

> *An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible.*

This PEIR was prepared to comply with CEQA regulations and is to be used by local regulators and the public in their review of the potential environmental impacts of the proposed program, alternatives, and mitigation measures that would minimize or avoid the potential environmental effects. LCWA will consider the information presented in this PEIR, along with other factors, prior to approving the Los Cerritos Wetlands Restoration Plan and related projects for implementation.

1.3.2 Notice of Preparation

To determine the appropriate scope of analysis for this PEIR, the LCWA prepared and circulated an NOP and Initial Study (NOP/IS) from March 8, 2019, through April 8, 2019, as required by *CEQA Guidelines* Sections 15082 and 15063. The NOP/IS was circulated to solicit input from interested public agencies (e.g., responsible and trustee agencies) and interested individuals on the scope and content of this PEIR. **Table 1-1**, *Scoping Meeting Commenters*, below, provides a

list of the commenters that sent comments on the NOP/IS. A copy of the letters and comments received during the NOP/IS comment period are provided in Appendix A to this PEIR.

TABLE 1-1
SCOPING MEETING COMMENTERS

No.	Entity	Name	Date
1	State	Caltrans District 7 letter by Miya Edmonson, IGR/CEQA Branch Chief, contact is Reece Allen, Project coordinator	28-Mar-19
2	State	California Coastal Commission via letter from Kate Hucklebridge, Senior Environmental Scientist	8-Apr-19
3	State	Department of Fish and Wildlife letter by Erinn Wilson, Environmental Program Manager I	17-Apr-19
4	Local	South Coast Air Quality Management District via letter from Lijin Sun, Draft Supervisor, CEQA IGR	2-Apr-19
5	Local	Los Angeles County Sanitation District via letter by Adriana Raza	3-Apr-19
6	Local	OC Public Works via letter from Richard Vuong, Manager, Planning Division	8-Apr-19
7	Local	Los Angeles County Public Works and Los Angeles County Flood Control District via email from Toan Duong, Civil Engineer	9-Apr-19
8	Organization	Native American Heritage Commission via letter from Steve Quinn, Associate Governmental Program Analyst	2-Apr-19
9	Organization	Sierra Club, Angeles Chapter, Long Beach Area Group via email from Ana Christensen, Conservation Committee Representative	8-Apr-19
10	Organization	El Dorado Audubon via electronic comment card submitted by Mary Parsell and Cindy Crawford	8-Apr-19
11	Organization	Chief of Gabrielino/Tongva, Anthony Morales via email by Rebecca Robles	8-Apr-19
12	Organization	Los Cerritos Wetlands Land Trust via letter by Michelle Black of Chatten-Brown, Carstens & Minteer LLP	8-Apr-19
13	Organization	Los Angeles Chapter of the Climate Reality Project via email from Co-Chair, Michael Zelniker	8-Apr-19
14	Organization	Los Angeles Chapter of the Climate Reality Project via email from Climate Reality Leader, Molly Basler	8-Apr-19
15	Individual	boerum245@gmail.com via email	13-Mar-19
16	Individual	Douglas Frackenfeld via comment card at Scoping Meeting	21-Mar-19
17	Individual	Amy LeSage via comment card	21-Mar-19
18	Individual	Kim Garvey via comment card	21-Mar-19
19	Individual	Janice Dahl via letter	7-Apr-19
20	Individual	Virginia Bickford via emailed letter	8-Apr-19
21	Individual	Protect the Los Cerritos/Long Beach Wetlands via email from Ann Cantrell	8-Apr-19

1.3.3 Scoping Meeting

Pursuant to the *CEQA Guidelines* Section 15083, the LCWA held a scoping meeting during the 30-day scoping period to solicit comments and inform the public of this PEIR. The scoping meeting was held on March 21, 2019, from 7 p.m. to 8:30 p.m. at the Recreation Park Community Center, 4900 E 7th Street, Long Beach, CA. The purpose of the meeting was to present the proposed program and receive public input regarding the proposed scope of the PEIR analysis. Attendees were provided an opportunity to voice comments or concerns regarding potential effects of the proposed program. Table 1-1 includes the commenters that provided comments in the scoping meeting.

This PEIR addresses the environmental issues determined to be potentially significant as identified and disclosed in the Initial Study and based on input from agencies, organizations and interested individuals provided during the scoping meeting and comment letters on the NOP/IS.

1.3.4 Draft PEIR

As described above, a PEIR can be prepared on a series of related actions characterized as one large project or program (*CEQA Guidelines* Section 15168(a)). Prior to implementation, each action in the program must be evaluated to determine if additional environmental documentation is required (*CEQA Guidelines* Section 15168(c)). ~~If the environmental effects resulting from an action are fully covered by the analysis in this PEIR and no new mitigation measures are required, then the action is within the scope of this PEIR, and no additional environmental documentation is necessary (*CEQA Guidelines* Section 15168(c)(2)). If an action would result in significant or more severe significant environmental effects or new mitigation measures not included in the PEIR then additional environmental documentation, such as a Mitigated Negative Declaration or EIR, would be required (*CEQA Guidelines* Section 15168(c)(1)). The mitigation measures developed in a PEIR may be incorporated into subsequent environmental documents (*CEQA Guidelines* Section 15168(c)(3)).~~See Chapter 2, Project Description, Section 2.1.2 for a description of the CEQA process that will occur prior to implementation.

This Draft PEIR describes the proposed program and the existing environmental setting, identifies short-term, long-term, and cumulative environmental impacts, identifies mitigation measures for impacts found to be significant, and provides an analysis of program alternatives. Significance criteria have been developed for each environmental resource analyzed in this Draft PEIR.

1.3.5 Known Areas of Controversy and Issues of Concern

Pursuant to *CEQA Guidelines* Section 15123(b)(2), a lead agency is required to include areas of controversies raised by agencies and the public during the public scoping process in the EIR. Commenting parties have identified issues of concern. These issues include aesthetics, biological resources, cultural resources, hazards and hazardous materials, hydrology and water quality, land use, traffic, and tribal cultural resources impacts.

1.3.6 Public Review

In accordance with *CEQA Guidelines* Section 15105, the Draft PEIR is available for public review and comment for a 45-day review period. The Draft PEIR has been circulated to federal, state, and local agencies and interested parties who may wish to review and provide comments on its contents. Send all comments to:

Los Cerritos Wetlands Authority
Attn: Sally Gee
100 N. Old San Gabriel Canyon Rd.
Azusa, California 91702
(626) 815-1019 x 104
sgee@rmc.ca.gov

The Draft PEIR is available for public review and download on the LCWA website at http://intoloscerritoswetlands.org/the-lcws-eir/.

The Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse Number 2016041083), which has been incorporated by reference, is available online at http://www.longbeach.gov/lbds/planning/environmental/reports/.

1.3.7 Final PEIR Publication and Certification

Written and oral comments received on the Draft PEIR will be addressed in a Response to Comments document, which, together with changes and corrections to the Draft PEIR, will constitute the Final PEIR. Following review of the Final PEIR, the LCWA will decide whether to certify the Final PEIR. If the PEIR identifies environmental impacts that are considered significant and unavoidable, LCWA must state, in writing, the reasons for approving the proposed program despite its significant environmental effects in a Statement of Overriding Considerations, as required by *CEQA Guidelines* Section 15093. A Statement of Overriding Considerations shall be adopted by a lead agency if the agency finds that the benefits of a project outweigh significant, unavoidable adverse impacts and decides to approve a project even though these impacts cannot be mitigated to less than significant levels. The Statement of Overriding Considerations will be included in the record of the program approval and cited in the Notice of Determination (*CEQA Guidelines* Section 15093(c)).

1.3.8 Mitigation Monitoring and Reporting Program

Public Resources Code Section 21081.6(a) requires lead agencies to "adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment." Throughout the PEIR, mitigation measures are clearly identified and presented in language that will facilitate establishment of a monitoring and reporting program. Any mitigation measures adopted by the LCWA will be included in a Mitigation Monitoring and Reporting Program (MMRP) to verify compliance. The MMRP will be included within the Final PEIR.

1.4 Approach to this PEIR

This PEIR evaluates impacts that could result from implementation of the proposed program as compared to existing conditions. CEQA requires that before a decision can be made to approve a ~~project~~ program with potentially significant environmental impacts, an EIR must be prepared that fully describes the environmental impacts of the ~~project~~ program and identifies feasible mitigation for significant impacts. The PEIR is a public information document for use by governmental agencies and the public to identify and evaluate potential environmental consequences of a proposed ~~project~~program, to recommend mitigation measures to lessen or eliminate adverse impacts, and to examine feasible alternatives to the ~~project~~program. The information contained in the PEIR is reviewed and considered by the governing agency prior to the ultimate decision to approve, disapprove, or modify the proposed program.

CEQA requires that a lead agency shall neither approve nor implement a ~~project~~ program as proposed unless the significant environmental impacts of that ~~project~~ program have been reduced to less than significant levels, which essentially involves "eliminating, avoiding, or substantially lessening" the expected impacts. If the lead agency approves the ~~project~~ program despite residual significant adverse impacts that cannot be mitigated to less than significant, the agency must state the reasons for its action in writing.

As described under Section 1.3.7, *Final PEIR Publication and Certification*, above, a Statement of Overriding Considerations shall be adopted by a lead agency if the agency finds that the benefits of a ~~project~~ program outweigh significant, unavoidable adverse impacts and decides to approve a ~~project~~ program even though these impacts cannot be mitigated to less than significant levels.

1.5 PEIR Organization

This Draft PEIR is organized into the following chapters:

- **Executive Summary.** This chapter summarizes the contents of the Draft PEIR.
- **Chapter 1, Introduction.** This chapter discusses the CEQA process and the purpose of the PEIR.
- **Chapter 2, Project Description.** This chapter provides an overview of the proposed program, describes the need for and objectives of the proposed program, and provides detail on the characteristics of the proposed program.
- **Chapter 3, Environmental Setting, Impacts and Mitigation Measures.** This chapter describes the environmental setting and identifies impacts of the proposed program for each of the following environmental resource areas; Aesthetics; Air Quality; Biological Resources; Cultural Resources; Geology, Soils, and Paleontological Resources; Greenhouse Gas Emissions and Energy; Hazards and Hazardous Materials; Hydrology and Water Quality; Land Use and Planning; Mineral Resources; Noise; Public Services; Recreation; Transportation; Tribal Cultural Resources; and Utilities and Service Systems. Measures to mitigate the impacts of the proposed program are presented for each resource area.
- **Chapter 4, Other CEQA Considerations.** This chapter describes the effects that were found not to be significant and those that were found to be significant and unavoidable. In addition, this section discusses the significant irreversible environmental changes and growth-inducing impacts associated with the proposed program.
- **Chapter 5, Alternatives.** This chapter presents an overview of the alternatives development process and describes the alternatives to the proposed program that were considered.
- **Chapter 6, Report Preparation.** This chapter identifies the key staff at LCWA and the authors involved in preparing this Draft PEIR.
- **Appendices.** This PEIR includes appendices that provide either background information or additional technical support for the analysis. The following technical reports have been prepared and incorporated into the PEIR:
  - Appendix A – NOP/IS, Scoping Meeting Materials, and NOP and Scoping Meeting Comments
  - Appendix B – Air Quality Technical Report

- Appendix C – Biological Resources
- Appendix D – Cultural Resources Assessment Report
- Appendix E – Paleontological Resources Assessment
- Appendix F – Greenhouse Gas Emissions Technical Report
- Appendix G – Energy Calculations
- Appendix H – Hydrodynamic Modeling Technical Report
- Appendix I – Sediment Dynamics and Sediment Budget Analysis
- Appendix J – Sediment and Water Quality Investigation Technical Report
- Appendix K – Noise Analysis Report
- Appendix L – Summary of Environmental Effects and Mitigation Measures for the Los Cerritos Wetlands Oil Consolidation and Restoration Project

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CHAPTER 2
Project Description

2.1 Introduction

The Los Cerritos Wetlands Authority (LCWA), as the Lead Agency pursuant to CEQA, is proposing to implement a restoration program for the Los Cerritos Wetlands Complex. The Los Cerritos Wetlands Restoration Plan (proposed program) (described in Section 2.7, *Program Characteristics*) identifies conceptual restoration designs for approximately 503 acres of land and water located on the border of Orange County and Los Angeles and County in the cities of Seal Beach and Long Beach. The program area contains large expanses of open space, including wetland habitat, as well as other uses described in more detail below. This Program Environmental Impact Report (PEIR) serves as a first-tier environmental document that focuses on the overall effects of implementing the activities that make up the program. As a first-tier environmental document, this PEIR will serve as the foundation for subsequent CEQA analysis (e.g., project-level EIRs, addendums) which may be conducted for project-specific restoration designs (see Section 1.2, *Purpose of the Environmental Impact Report*, in Chapter 1, *Introduction*). To provide LCWA with the broadest of foundations as a first-tier environmental document, where appropriate, assumptions have been made in describing the program features that would potentially result in the worst-case impacts[1]. This ensures that the analysis in the PEIR documents the potential for environmental impacts from all of the projects under this program. Once LCWA begins the process of designing specific restoration projects, they will seek to minimize impactful aspects of the project, wherever feasible.

2.1.1 Los Cerritos Wetlands Authority

The LCWA, founded in 2006, is a joint powers authority consisting of the San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy (RMC), State Coastal Conservancy (SCC), and cities of Seal Beach and Long Beach. The mission of the LCWA is to provide a comprehensive program of acquisition, protection, conservation, restoration, maintenance and operation, and environmental enhancement of the Los Cerritos Wetlands Complex, consistent with the goals of flood protection, habitat protection and restoration, and improved water supply, water quality, groundwater recharge, and water conservation. The LCWA currently owns 165 acres within the Program Area.

[1] For example, detailed data on soil contamination is not available for all of the sites within the program boundary, so this PEIR assumes a worst-case scenario that a large area of soil would need to be remediated. However, during future phases of the restoration design process, more data on soil contamination will be collected which in turn will be used to refine the restoration design so that a smaller area of soil requires remediation, thereby reducing impacts associated with larger-scale remediation.

2.1.2 Los Cerritos Wetlands Restoration Plan Planning Process

Los Cerritos Wetlands Final Conceptual Restoration Plan

The first major step in the design process for the restoration of the Los Cerritos Wetlands Complex was the development of the Los Cerritos Wetlands Final Conceptual Restoration Plan (CRP; Moffatt & Nichol). The CRP is a restoration alternatives analyses report that provides the LCWA with a roadmap for habitat enhancement and improved public access for the Los Cerritos Wetlands Complex. Adopted by the LCWA Board of Directors in August 2015, the CRP identifies goals and objectives (see Section 2.5, *Los Cerritos Wetlands Restoration Plan Goals and Objectives*) and three restoration design alternatives (minimum alteration, moderate alteration, and maximum alteration) with varying degrees of alterations to existing site conditions under a range of sea-level rise scenarios. The report was prepared with input by the LCWA Steering Committee (made up of staff representing agencies of the LCWA joint powers authority), a Technical Advisory Committee (comprised of representatives of 20 resource and permitting agencies, and research groups covering federal, state, regional, and local jurisdictions), and the public (based on input during 6 community workshops). The plan is supported by 8 technical reports that provide baseline information for numerous topics including hydrology and hydraulics, soils, watersheds, and habitat. The CRP identified the next step in the restoration design process:

> *Further concept development of a hybrid alternative may occur at some point in the future to maximize benefits and minimize impacts of restoration. This work may include "mixing" and "matching" certain footprints of particular alternatives with those of different alternatives to create more alternatives that may provide more overall benefit than any of these individual concepts (pg 7).*

Program Environmental Impact Report and Los Cerritos Wetlands Optimized Restoration Plan

In 2017, LCWA received funding to further the design of the alternatives identified in the CRP with the development of a program-level restoration design, to prepare a PEIR, and to prepare a Los Cerritos Wetlands Optimized Restoration Plan (expected to be completed in late 2020). The proposed program along with alternatives to the proposed program described in Chapter 5 were identified based on input from the LCWA Steering Committee (made up of staff representing agencies of the LCWA joint powers authority), a Technical Advisory Committee (representatives of 20 resource and permitting agencies, and research groups covering federal, state, regional, and local jurisdictions), and the public (based on input during 2 community workshops). The PEIR has been prepared to evaluate the environmental impacts associated with the proposed program described in this Chapter 2 Project Description.

~~The purpose of the Los Cerritos Wetlands Optimized Restoration Plan is to provide a conceptual basis of design for the restoration of the Los Cerritos Wetlands Complex, and to provide guidance for future phases of the restoration process. Future phases of the restoration would involve identifying individual projects, and developing more detailed, project-level designs (i.e., engineering designs, grading plans) and analysis (i.e., wetland delineation reports).~~

Following certification of ~~After~~ the PEIR by the LCWA Board of Directors, the Los Cerritos Wetlands Optimized Restoration Plan will be ~~developed~~ finalized with input from public agencies, tribal representatives, stakeholders, landowners, and the community, and adopted by the LCWA Board of Directors. The restoration design presented in the Los Cerritos Wetlands Optimized Restoration Plan will be informed by this PEIR and public input while maintaining consistency with the framework provided by the CRP. The purpose of the Los Cerritos Wetlands Optimized Restoration Plan is to provide a conceptual basis of design for the restoration of the Los Cerritos Wetlands Complex, and to provide guidance for future phases of the restoration process. The restoration design of near-term phased areas will include more details than the mid-term and long-term phased areas.

Individual Restoration Projects

Future phases of the restoration would involve identifying individual projects, performing required analyse~~is~~ and field surveys (i.e., wetland delineation reports, habitat surveys, archaeological and cultural surveys, soil samplings, etc.), engaging stakeholders, and developing more detailed, project-level designs (i.e., engineering designs, grading plans. An example of an individual restoration project would be the near-term activities proposed for the South Area (see Section 2.7.2.1 and Figure 2-12).

As each individual restoration project is proposed, it will be evaluated for consistency with the Los Cerritos Wetlands Optimized Restoration Plan and the goals and objectives identified in Section 2.5 of this PEIR. Individual restoration projects will be developed with input from public agencies, tribal representatives, stakeholders, landowners, and the community, and adopted by the LCWA Board.

CEQA Process for Individual Restoration Projects

Because this is a long-term plan for which individual restoration projects have not and cannot yet be fully developed due to existing land uses, property ownership, and a variety of other variables, program-level environmental review has been selected as the appropriate level of CEQA documentation for the proposed program. Once funding is available for individual projects, additional design and development of individual projects would commence, allowing for a greater understanding of project-level environmental impacts. As required by CEQA Guidelines Section 15168(c), subsequent activities in furtherance of a program (or plan) must be examined in the light of the Program EIR to determine whether additional environmental documentation must be prepared. Factors that LCWA will consider in making the determination of an individual project being within the scope of the Program EIR include changes in circumstances under which the project is undertaken (e.g., major changes in habitat conditions due to sea-level rise), new information that was not known and could not have been known with the exercise of reasonable diligence at the time the Program EIR was certified (e.g., location and extent of soil contamination sites), and the effects of changes caused by individual projects (CEQA Guidelines Sections 15162[a][2], 15162[a][3], and 15168[c][2]).

If LCWA determines that the individual restoration project would have a new significant effect and/or a substantially more severe environmental effect that was not examined in the Program EIR, further environmental documentation would be required. The form of the new environmental document would typically be a Supplemental EIR or Subsequent EIR. A Supplemental EIR is required when there are only minor additions or changes necessary to make

the Program EIR adequate. Subsequent EIRs are required when it is necessary to revise significant segments of the Program EIR. The noticing and comment opportunities associated with a Supplemental EIR and Subsequent EIR are identical to comment periods required for a Program EIR (i.e., a minimum 30-day scoping comment period and 45-day Draft Supplemental EIR/Draft Subsequent EIR comment period).

Pursuant to CEQA Guidelines Section 15162, if LCWA finds that no new significant effects or substantially more severe environmental effects would occur, LCWA can approve the activity as being within the scope of the project covered by the Program EIR, and no new environmental documentation would be required. However, it is appropriate to document this finding by preparation of an Addendum to the Program EIR. While an Addendum is not circulated for public review, LCWA will need to consider the Addendum and the Final Program EIR when making a decision about an individual project.

To determine the type of further environmental documentation that would be required to address future, individual restoration projects (i.e., Addendum, Supplemental EIR, or Subsequent EIR), a checklist will be prepared that addresses each impact statement provided in the Program EIR, which directly relate to the thresholds provided in Appendix G of the CEQA Guidelines (page 309 at this link: 2019 CEQA Statute and Guidelines). Depending on the individual restoration project, this checklist would result in a brief or detailed Addendum, or could lead to preparation of a Supplemental or Subsequent EIR.

An MND may also be an appropriate tiering document when an individual restoration project would: (1) clearly be consistent with and in furtherance of the adopted Los Cerritos Wetlands Optimized Restoration Plan; (2) be described and evaluated in the Final PEIR; and (3) not trigger the need for further environmental review pursuant to CEQA Guidelines Section 15162. It is assumed that any individual restoration project analyzed through an MND would not be materially different from what was described in the adopted Los Cerritos Wetlands Optimized Restoration Plan, and any analysis provided in an MND would demonstrate that there is no possibility for significant and unavoidable impacts.

Following approval of the subsequent CEQA document, as well as approvals and permits from local, state and federal agencies, the individual restoration project could be implemented.

2.2 Program Area

2.2.1 Regional Location

The proposed program is located within the cities of Seal Beach and Long Beach. The City of Seal Beach is within the northwestern portion of Orange County, California. The City of Long Beach is within the southeastern portion of Los Angeles County, California.

The City of Seal Beach is bounded by the City of Long Beach to the west; the City of Los Alamitos and the neighborhood of Rossmoor to the north; and the cities of Huntington Beach, Westminster and Garden Grove to the east. The Pacific Ocean borders the City of Seal Beach to the south. The U.S. Navy Naval Weapons Station Seal Beach is located within Seal Beach city boundaries to the southeast of the program area.

The City of Long Beach is bounded by the cities of Carson and Los Angeles, the neighborhood of Wilmington, and the Port of Los Angeles to the west; the cities of Compton, Paramount, and Lakewood to the north; and the cities of Hawaiian Gardens, Cypress, Los Alamitos, and Seal Beach to the east. The Pacific Ocean borders the City of Long Beach to the south.

Figure 2-1, *Regional Location*, shows the regional location of the proposed program.

Regional access to the program area is provided by Interstate 405 (I-405) and Interstate 605 (I-605) as well as State Route 22 (SR-22) which terminates as 7th Street. Pacific Coast Highway (SR-1) traverses the area from the northwest corner to the southeast corner. Locally, 2nd Street, Loynes Drive, and 7th Street all provide east/west connections across the area (City of Long Beach 2016).

2.2.2 Project Vicinity

The program area is located in West Seal Beach and East Long Beach, straddling the border of Orange County and Los Angeles County in southern California (see **Figure 2-2**, *Program Area and Local Vicinity*). Three major channels are present in the program area: Los Cerritos Channel, San Gabriel River, and the Haynes Cooling Channel. A remnant historic tidal channel, called Steamshovel Slough, is also present, and drains to the Los Cerritos Channel.

Figure 2-2 illustrates the program area relative to its immediate surroundings.

2.2.3 Project Areas

For purposes of organizing the environmental analysis and discussion, the proposed program has been separated into 4 areas (South, Isthmus, Central, and North) and 17 individual sites (Figure 2-2). The program boundary totals approximately 503 acres of land and water. Property within the program boundary is held by 10 landowners. Each area's location and ownership is provided in more detail below:

- **South Area:** The South Area is bounded by the Isthmus and Island Village to the north, industrial and residential development to the east, residential development to the south, and the Pacific Coast Highway to the west. It includes the **Haynes Cooling Channel** owned by the City of Los Angeles Department of Water and Power, along with two small upland parcels owned by the City of Long Beach and the State of California, the **State Lands Parcel** site owned by the State of California, the **South LCWA** site owned by the LCWA, the **Hellman Retained** site owned by Hellman Properties, LLC, and the **Los Alamitos Pump Station** and **Los Alamitos Retarding Basin** sites, both owned by the County of Orange Flood Control District. The South area is within the City of Seal Beach with the exception of the Haynes Cooling Channel and Los Alamitos Retarding Basin site which are within both the cities of Seal Beach and Long Beach, and Los Alamitos Pump Station site which is within the City of Long Beach. (Assessor's Parcel Numbers: 7237-020-902, 7237-020-900, 7237-020-275, 7237-020-276, 7237-020-280, 7237-020-281, 7237-020-282, 7237-020-282, 0431-603-6, 0431-605-3, 0431-604-5, 0950-106-3, 0950-106-4, 0950-106-7, 0950-106-8, 0950-103-6, 7237-020-277, 7237-020-278, and 7237-020-279).

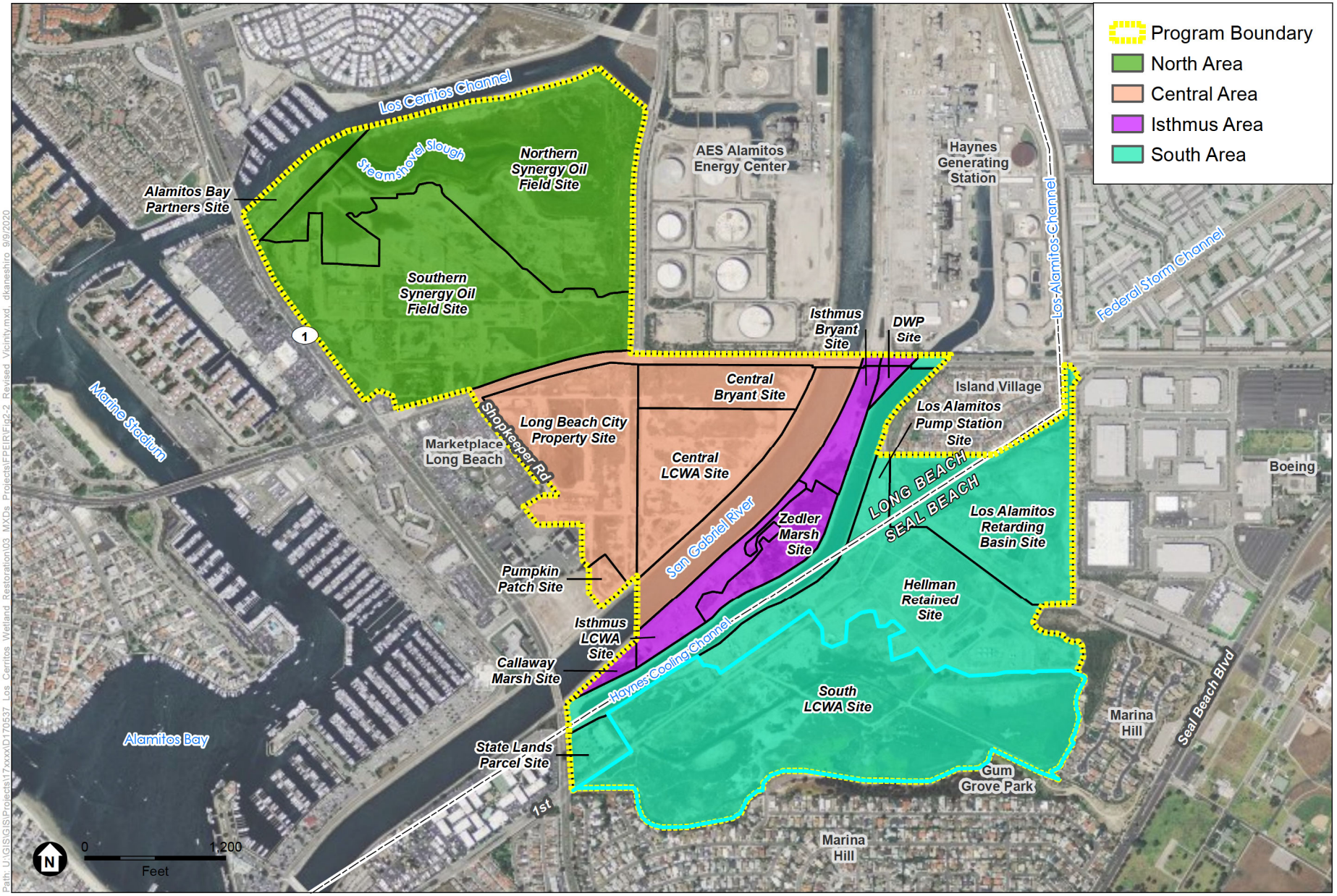


SOURCE: ESRI

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 2-1
Regional Location

ESA



SOURCE: Mapbox, LCWA

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 2-2

Revised Project Site and Local Vicinity

ESA

- **Isthmus Area:** The Isthmus Area is bounded by the San Gabriel River and 2nd Street to the north, Haynes Cooling Channel to the east and south, and Pacific Coast Highway to the west. It includes the **Callaway Marsh** site owned by the City of Los Angeles Department of Water and Power, the **Isthmus LCWA** site owned by the LCWA (surface rights only), **Zedler Marsh** site owned by the LCWA, the **Isthmus Bryant** site owned by Bryant Dakin, LLC, and the **DWP** site owned by the City of Los Angeles Department of Water and Power. The Isthmus area is within the City of Long Beach. Portions of 2nd Street adjacent to the individual sites are also part of the Isthmus Area (Assessor's Parcel Numbers: 7237-020-275, 7237-020-276, 7237-020-901, 7237-020-054)
- **Central Area:** The Central Area is bounded by 2nd Street to the north, the Isthmus to the east and south, and commercial-retail uses at the Marketplace Long Beach development to the west. It includes the **Central LCWA** site owned by the LCWA (surface rights only), the **Central Bryant** site owned by Bryant Dakin, LLC, the **Long Beach City Property** site owned by the City of Long Beach, the **Pumpkin Patch** site owned by Lyon Housing, and the **San Gabriel River**. The portion of the San Gabriel River that is located within the program boundary is owned by the LCWA. Portions of 2nd Street and Shopkeeper Road adjacent to the individual sites are also part of the Central area. The Central area is within the City of Long Beach. (Assessor's Parcel Numbers: 7237-020-901, 7237-020-903, 7237-020-053, 7237-020-044, 7237-020-045, and 7237-020-043)
- **North Area:** The North Area is bounded by the Los Cerritos Channel to the north, Studebaker Road to the east, 2nd Street to the south, and Pacific Coast Highway to the west. It includes the **Northern Synergy Oil Field** site and **Southern Synergy Oil Field** site owned by Los Cerritos Wetlands, LLC, and **Alamitos Bay Partners** site owned by Alamitos Bay Partnership, LLC. The North area is within the City of Long Beach. (Assessor's Parcel Numbers: 7237-022-012, 7237-017-010, 7237-017-011, 7237-017-012, 7237-017-013, 7237-017-014, 7237-017-018, and 7237-017-019)

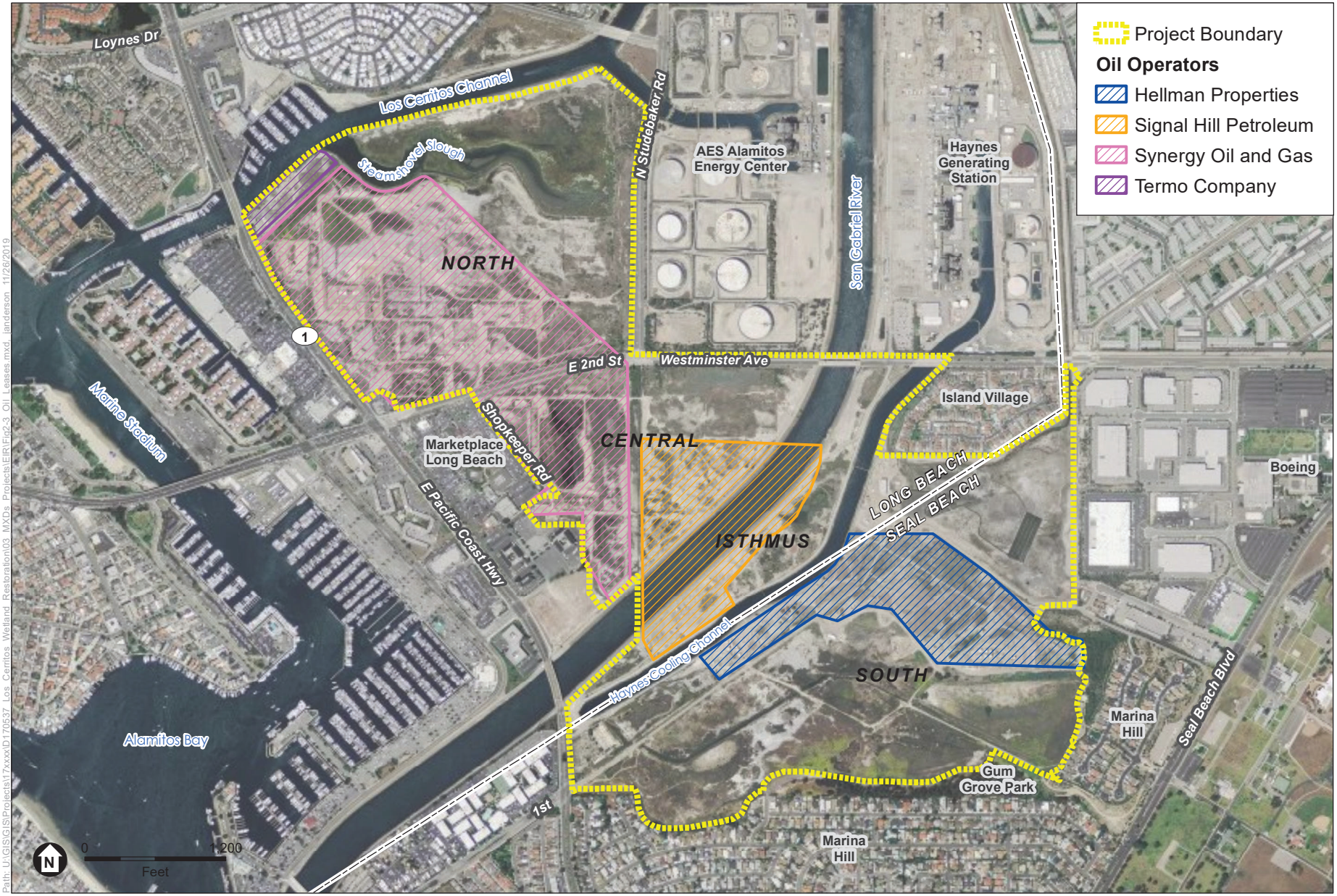
2.3 Existing Land Management and Site Conditions

2.3.1 Property Ownership and Oil Leases

There are four oil leases operated within the program area (see **Figure 2-3**, *Oil Operators*). These oil leases are owned and/or managed by Hellman Properties, LLC, Signal Hill Petroleum, Inc., Synergy Oil and Gas, LLC, and Termo Company (Moffatt & Nichol, 2015).

The LCWA has an agreement with Signal Hill Petroleum, Inc. on the Central LCWA and Isthmus LCWA sites that allows the oil operator to remove vegetation from around their mineral extraction equipment consistent with the requirements of the City of Long Beach Fire Department and the California Geologic Energy Management Division (CalGEM) [formerly known as the Division of Oil, Gas, and Geothermal Resources (DOGGR)]. The oil operator compensates for this impact by providing the LCWA with an annual fee to be used for wetlands habitat restoration.

The City of Long Beach has an agreement with LCW Oil Operations, LLC on the Long Beach City Property site that includes clauses for relocating oil infrastructure and abandoning wells (Moffatt & Nichol, 2015).



SOURCE: Moffatt Nichol, 2015

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 2-3
Oil Operators

ESA

2.3.2 Site Conditions by Program Area

The program area is composed of four individual areas, as described above in Section 2.2.3, *Project Areas*, and totals approximately 503 acres of land and water. Information in this section is presented for individual sites within each of the four program areas, and generally addresses existing land uses, current oil operators and land managers, habitat types, known presence of special-status plant and animal species, vehicular access to individual sites and existing public access opportunities. Determination of habitat types and presence of special-status plants and animal species is based on *Los Cerritos Wetlands Habitat Assessment Report: Habitat Types and Special Status Species* prepared by Tidal Influence in 2012 and field observation by EIR project team biologists during site visits conducted in 2018. This section is also informed by field observation during site visits conducted by EIR project team engineers and designers and architectural historian and cultural resource specialists during 2018 and 2019.

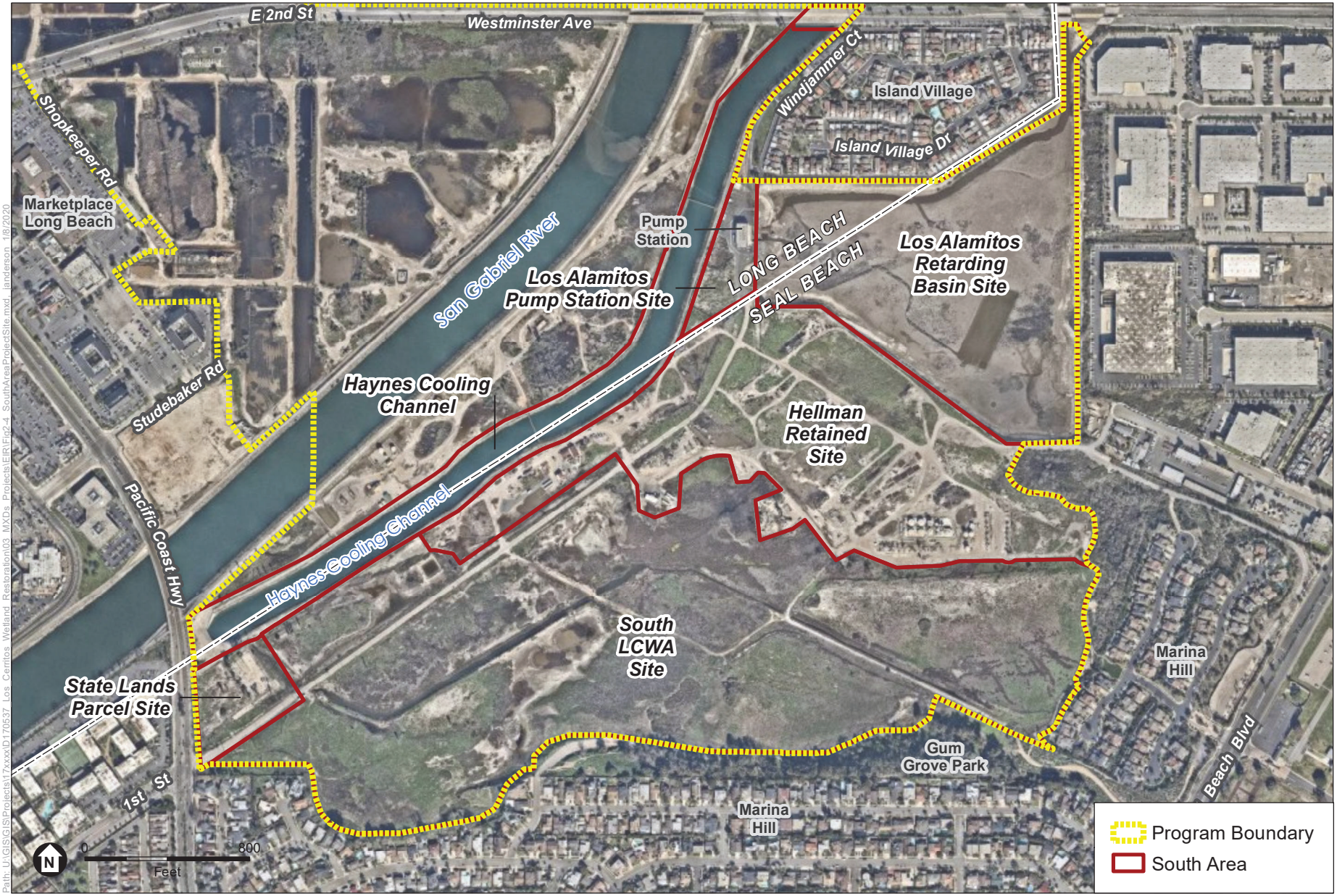
2.3.2.1 South Area

The South Area includes the following individual sites: Haynes Cooling Channel, State Lands Parcel, South LCWA, Hellman Retained, Los Alamitos Pump Station, and Los Alamitos Retarding Basin (**Figure 2-4**, *South Area*).

The Haynes Cooling Channel is a waterway used by the Haynes Generating Station located north of the program area to bring in water from the Pacific Ocean via 7 culverts in the Alamitos Bay Marina to cool the power plant through a method called once-through cooling. Once the water is used, it is discharged into the San Gabriel River slightly upstream of where the River crosses under 2nd Street. The Haynes Generating Station, owned and operated by the City of Los Angeles Department of Water and Power (LADWP), is a natural gas and steam power plant that was built in the mid-1960s. The Haynes Generating Station is undergoing a modernization project that would eliminate the use of ocean water to cool the power plant by 2029. Once the modernization project is completed, the Haynes Cooling Channel will be decommissioned and no longer be in use for the Haynes Generating Station.

The State Lands Parcel site contains the remnant building foundation of what was once a music venue called the Airport Club and Marina Palace. Major habitat types include ruderal uplands and southern coastal salt marsh with muted tidal connection in the channel that runs along the south of the parcel. Portions of the site that do not contain the remnant building foundation support special-status plant and animal species (**Table 2-1**, *Special-Status Species Known to Occur in the South Area*). Access to the site is available via an existing gated driveway on 1st Street.

The South LCWA site contains multiple former sumps, landfills, and contaminated areas from prior oil operations, and is currently owned and maintained by the LCWA. Some areas of tidal southern coastal salt marsh still persist on the site but other areas were converted by previous land owners. Conversion from coastal salt marsh habitat to primarily ruderal uplands with no tidal connections occurred due to extensive filling of the property from dredged material associated with the excavation of the Haynes Cooling Channel in the 1960s. Former access roads still bisect the site and cause ecological and hydrological fragmentation. Remnant geomorphic features indicate historic southern coastal bluffs.



SOURCE: Mapbox, LCWA

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 2-4
South Area

ESA

TABLE 2-1
SPECIAL STATUS SPECIES KNOWN TO OCCUR IN THE SOUTH AREA

Special-Status Species	Scientific Name	Haynes Cooling Channel	State Lands Parcel	South LCWA	Hellman Retained	Los Alamitos Retarding Basin	Los Alamitos Pump Station
Flora							
California Boxthorn	*Lycium californicum*			P			
Coulter's Goldfields	*Lasthenia glabrata* ssp. *coulteri*			P	P		P
Estuary Sea-Blite	*Suaeda esteroa*						
Lewis' Evening Primrose	*Cammissonia lewisii*			P			
Southern Tarplant	*Centromadia parryi* ssp. *australis*		P	P	P	P	P
Southwestern Spiny Rush	*Juncus acutus* ssp. *leopoldii*						P
Woolly Sea-Blite	*Suaeda taxifolia*					P	P
Fauna							
Belding's Savannah Sparrow	*Passerculus sandwichensis beldingii*	P		P		P	P
Black Skimmer	*Rynchops niger*	P					
Burrowing Owl	*Athene cunicularia*						
California Brown Pelican	*Pelecanus occidentalis californicus*						
California Least Tern	*Sterna antillarum browni*	P		P			
Least Bell's Vireo	*Vireo belii pusillus*						
Loggerhead Shrike	*Lanius ludovicianus*		P	P	P	P	
Mudflat Tiger Beetle	*Cicindela trifasciata sigmoidea*						
Northern Harrier	*Circus cyaneus*		P	P	P	P	P
Pacific Green Sea Turtle	*Chelonia mydas*	P					
Red-Diamond Rattlesnake	*Crotalus ruber*						
Salt Marsh Tiger Beetles	*Cicindella trifasciata sigmoides*						
Salt Marsh Wandering Skipper	*Panoquina errans*			P	P	P	P
Short-Eared Owl	*Asio flammeus*						
Yellow-Breasted Chat	*Icteria virens*		P	P	P	P	
White-Tailed Kite	*Elanus leucurus*						

P = species presence

SOURCES: Tidal Influence, 2012; Field observation in 2018

The Hellman Channel is a small, muted tidal channel that connects to the San Gabriel River through a culvert that goes around the southern end of the Haynes Cooling Channel and above the siphons connecting the cooling channel to the Alamitos Bay Marina. The Hellman Channel runs through the South LCWA site and provides habitat for several special-status animal and plant species (Table 2-1). The site is accessed via a gated private road on 1st Street.

The Hellman Retained site is an active oil field with substantial oil operation infrastructure (pipelines, pumps, tanks, and roadways). There are 43 active oil wells and 11 idle oil wells on site. The Hellman Retained site is owned and operated by Hellman Properties, LLC. Historically, the site was primarily coastal salt marsh habitat; today the parcel is composed mostly of ruderal wetlands with no tidal connection. Past surveys indicate that the Hellman Retained site may host several special status plant species (Table 2-1). Access to the site is available via a gated private road on 1st Street.

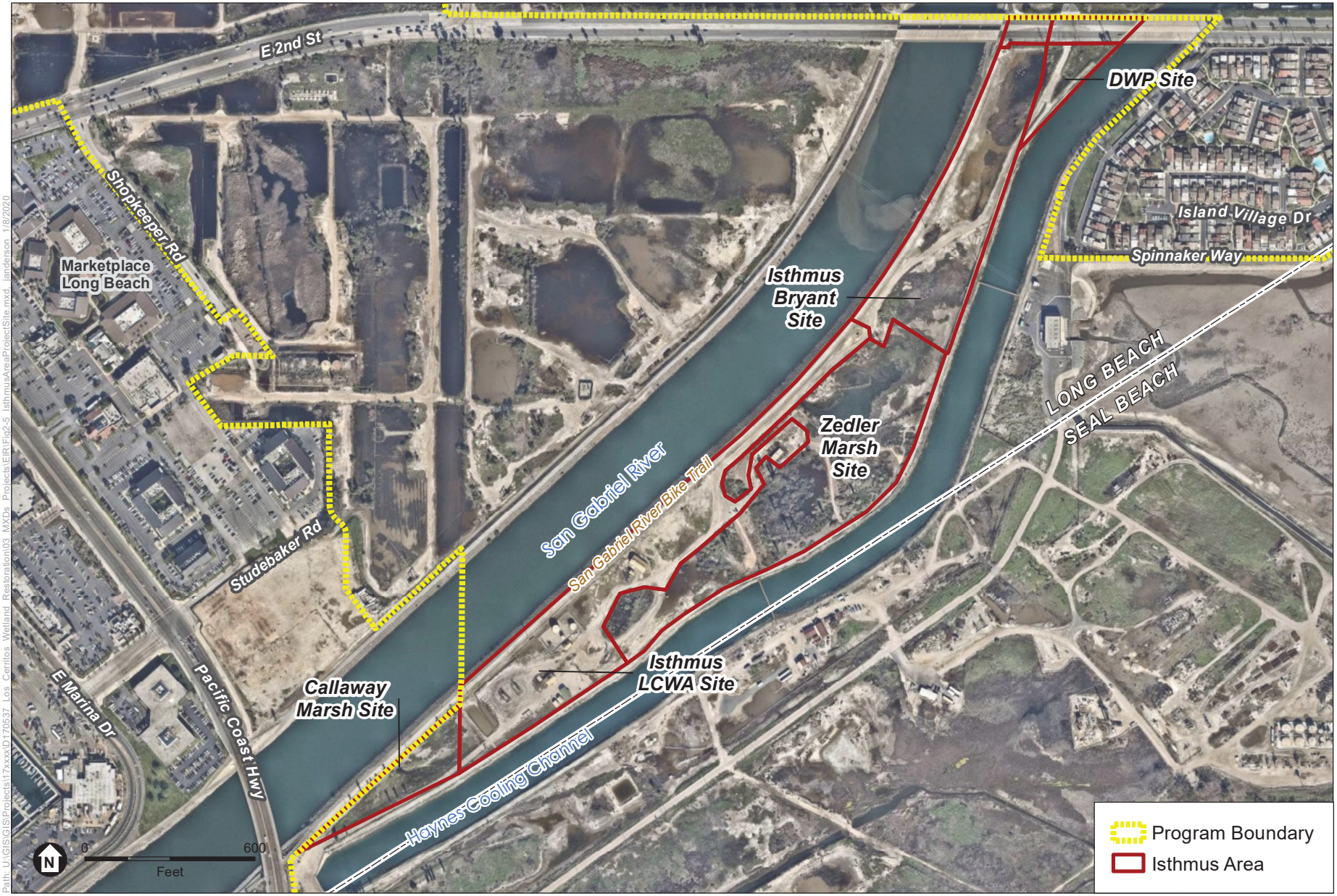
The Los Alamitos Retarding Basin site is a 30-acre depressed basin surrounded by an earthen berm and access road that receives stormwater runoff and other drainage from a 3,600-acre area in the City of Seal Beach, including from the Los Alamitos Channel and the Federal Storm Channel (Figure 2-2). The site is owned and operated by the County of Orange Flood Control District. The retarding basin provides habitat for several special-status animal species (Table 2-1). Access to the site is from 1st Street via locked gates on a private road, or off Adolfo Lopez Drive through a similarly gated private road.

The Los Alamitos Pump Station site includes a pump station, which moves the stormwater runoff from the Los Alamitos Retarding Basin, under the San Gabriel River Levee, and into the San Gabriel River. The site is owned and operated by the County of Orange Flood Control District. The site includes a wetland and upland habitat restoration site (not tidally connected) constructed to mitigate for the pump station impacts. The Los Alamitos Pump Station site provides habitat for several special-status animal/plant species (Table 2-1). Access to the site is via 1st Street via locked gates on a private road, or off Adolfo Lopez Drive through a similarly gated private road.

The South Area has some existing public access located just outside the program boundary. A small public parking lot is located off of Seal Beach Boulevard providing access to the Hellman Ranch Trail. The trail runs west and north between the Heron Pointe residential neighborhood and the South Area and includes interpretive signage, benches, and a gathering area. The north end of the trail ends at a locked gate at the boundary of the oil operations. The Hellman Ranch trail also connects west to the Gum Grove Trail in Gum Grove Park and is served by a second, small, public parking area accessed from Avalon Drive along the south program boundary. Gum Grove Trail and Hellman Ranch Trail combine to provide approximately a 1-mile trail just outside the South Area program boundary. A gated and locked access drive from 1st Street provides occasional guided access to restricted areas within the site.

2.3.2.2 Isthmus Area

The Isthmus Area includes the following individual sites: Callaway Marsh, DWP, Zedler Marsh, Isthmus LCWA, and Isthmus Bryant (**Figure 2-5**, *Isthmus Area*).



SOURCE: Mapbox, LCWA

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 2-5
Isthmus Area

ESA

The Callaway Marsh site is a vacant site with a heavily degraded perched salt marsh, tidally connected to the San Gabriel River by a three-foot-wide culvert, which mutes the water levels reaching the site. The site contains salt marsh plant communities and is surrounded by ruderal upland species that support special-status plant and animal species (**Table 2-2**, *Special-Status Species Known to Occur in the Isthmus Area*). Access to the site is available via an existing driveway on Pacific Coast Highway.

TABLE 2-2
SPECIAL-STATUS SPECIES KNOWN TO OCCUR IN THE ISTHMUS AREA

Special-Status Species	Scientific Name	Callaway Marsh	Zedler Marsh	Isthmus LCWA	Isthmus Bryant	DWP
Flora						
California Boxthorn	*Lycium californicum*		P			
Coulter's Goldfields	*Lasthenia glabrata* ssp. *coulteri*		P			
Estuary Sea-Blite	*Suaeda esteroa*		P			
Lewis' Evening Primrose	*Cammissonia lewisii*					
Southern Tarplant	*Centromadia parryi* ssp. *australis*	P	P	P	P	P
Southwestern Spiny Rush	*Juncus acutus* ssp. *leopoldii*		P		P	
Woolly Sea-Blite	*Suaeda taxifolia*		P			
Fauna						
Belding's Savannah Sparrow	*Passerculus sandwichensis beldingii*	P	P		P	
Black Skimmer	*Rynchops niger*					
Burrowing Owl	*Athene cunicularia*	P		P		
California Brown Pelican	*Pelecanus occidentalis californicus*					
California Least Tern	*Sterna antillarum browni*		P			
Least Bell's Vireo	*Vireo belii pusillus*		P			
Loggerhead Shrike	*Lanius ludovicianus*	P	P	P	P	
Northern Harrier	*Circus cyaneus*	P	P	P	P	
Pacific Green Sea Turtle	*Chelonia mydas*					
Red-Diamond Rattlesnake	*Crotalus ruber*					
Salt Marsh Tiger Beetles	*Cicindella trifasciata sigmoides*		P			
Salt Marsh Wandering Skipper	*Panoquina errans*	P	P	P	P	
Short-Eared Owl	*Asio flammeus*					
Yellow-Breasted Chat	*Icteria virens*	P	P	P	P	
White-Tailed Kite	*Elanus leucurus*					

P = species presence

SOURCE: Tidal Influence, 2012; Field observation in 2018

The Zedler Marsh site is a 12-acre restoration site operated and managed by the LCWA and is currently being enhanced and restored as part of the LCWA Stewardship Program (see Section 2.4.3, *Los Cerritos Wetlands Stewardship Program*, for more information). Recent restoration activity involved the removal of over 50,000 pounds of trash and debris and installation of nearly 5,000 native plants by community volunteers. The site contains tidal salt marsh and surrounding habitat. The site receives muted tidal circulation via a three-foot wide culvert connection to the San Gabriel River. Special-status plants and animals are present on the site (Table 2-2). The site can be accessed via existing gated driveways on Pacific Coast Highway and 2nd Street.

The Isthmus LCWA site is an active oil field maintained and operated by Signal Hill Petroleum, Inc. who own the mineral rights. The oil operation infrastructure includes 4 active oil wells, 2 water injection wells, 1 idle oil well a tank farm, associated buildings, and an exclusive use easement area. The site contains a mix of disturbed ruderal habitats. Special-status plants and animals are present on the site (Table 2-2). The site can be accessed via existing private gated driveways on Pacific Coast Highway and 2nd Street.

The Isthmus Bryant site is a vacant site and the surface is not currently in use by oil operators. The site contains salt flat and alkali meadow wetland habitat types but is fragmented both ecologically and hydrologically by the access road that bisects the site. The site is adjacent to Zedler Marsh and two culverts in the access road allow some hydrologic connection between the area adjacent to Zedler Marsh and the area northwest of the road during major high tide events. The site supports special-status plant and animal species (Table 2-2). Access to the Isthmus Bryant site is via an existing gated driveway on 2nd Street.

The DWP site is a vacant site. The site contains upland and wetland habitat types, with no hydrologic connection. The site is adjacent to Isthmus Bryant site. The site supports a special-status plant species (Table 2-2). Access to the DWP site is via an existing gated driveway on 2nd Street.

Restricted public access to the trails and other public amenities at the Zedler Marsh site is available from the San Gabriel River Trail located in the Central Area via a locked gate located on the trail midway between Pacific Coast Highway and 2nd Street. The Zedler Marsh site facilities include an outdoor classroom area, native plant restoration area, benches, picnic tables, informational kiosks, and a native wetland nursery. A fishing area is located at the southwest end of the Haynes Cooling Channel at the west end of the Isthmus Area. It can be accessed from the San Gabriel River Trail, or by vehicle or bicycle from Pacific Coast Highway, and has a small gravel parking area adjacent to the fishing spot. A network of gated maintenance roads connects from the fishing spot at the west end to the Zedler Marsh site and out to 2nd Street at the east end of the Isthmus. There is a bike lane along Pacific Coast Highway, which also serves as a pedestrian path between the San Gabriel River Trail and the fishing area, as well as along 2nd Street. There are no sidewalks along the Pacific Coast Highway or 2nd Street. Dirt footpaths have developed in some areas due to the lack of pedestrian infrastructure.

2.3.2.3 Central Area

The Central Area includes the following individual sites: Pumpkin Patch, Long Beach City Property, Central LCWA, Central Bryant, and the San Gabriel River (**Figure 2-6**, *Central Area*).



SOURCE: Mapbox, LCWA

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 2-6
Central Area

ESA

The majority of the Pumpkin Patch site is vacant land zoned for commercial use. The site within the program boundary has an active oil field with an oil well and associated pipeline. There is one active oil well on site. The oil infrastructure is maintained and operated by Synergy Oil and Gas, LLC. The site contains ruderal upland habitat type and southern coastal salt marsh. Special-status plants and animals are present on site (**Table 2-3**, *Special-Status Species Known to Occur in the Central Area*). Vehicular access to the site is via Pacific Coast Highway.

TABLE 2-3
SPECIAL-STATUS SPECIES KNOWN TO OCCUR IN THE CENTRAL AREA

Special-Status Species	Scientific Name	Pumpkin Patch	Long Beach City Property	Central LCWA	Central Bryant	San Gabriel River
Flora						
California Boxthorn	*Lycium californicum*					
Coulter's Goldfields	*Lasthenia glabrata* ssp. *coulteri*					
Estuary Sea-Blite	*Suaeda esteroa*					
Lewis' Evening Primrose	*Cammissonia lewisii*					
Southern Tarplant	*Centromadia parryi* ssp. *australis*	P	P	P	P	
Southwestern Spiny Rush	*Juncus acutus* ssp. *leopoldii*					
Woolly Sea-Blite	*Suaeda taxifolia*					
Fauna						
Belding's Savannah Sparrow	*Passerculus sandwichensis beldingii*	P		P		
Black Skimmer	*Rynchops niger*					P
Burrowing Owl	*Athene cunicularia*					
California Brown Pelican	*Pelecanus occidentalis californicus*					
California Least Tern	*Sterna antillarum browni*					P
Least Bell's Vireo	*Vireo belii pusillus*					
Loggerhead Shrike	*Lanius ludovicianus*		P	P	P	
Pacific Green Sea Turtle	*Chelonia mydas*					P
Red-Diamond Rattlesnake	*Crotalus ruber*					
Salt Marsh Tiger Beetles	*Cicindella trifasciata sigmoides*					
Salt Marsh Wandering Skipper	*Panoquina errans*	P	P	P	P	
Northern Harrier	*Circus cyaneus*		P	P	P	
Short-Eared Owl	*Asio flammeus*					
Yellow-Breasted Chat	*Icteria virens*		P	P	P	
White-Tailed Kite	*Elanus leucurus*					

P = species presence
SOURCE: Tidal Influence, 2012; Field observation in 2018

The Long Beach City Property site is an active oil field with oil storage tanks and associated oil production infrastructure, such as pipelines. There are 11 active oil wells and 2 idle oil wells on site. Aboveground pipelines and dirt access roads traverse the site. A majority of the site is disturbed, and vegetation is generally sparse. Existing road and oil well pads severely fragment the site ecologically and hydrologically. The oil field is maintained and operated by Synergy Oil and Gas, LLC. The site contains southern coastal brackish marsh habitat where urban stormwater runoff is directed via storm drains onto the salty soils of formerly tidal areas. Alkali meadow, southern coastal salt marsh, and ruderal upland habitat types are also present. There is a perched culvert at the southern tip of the property that receives tidal waters during major high tide events, but the majority of the site is non-tidal. Special-status plants and animals are present throughout the site (Table 2-3). Vehicular access to the site is via an existing gated driveway along Shopkeeper Road.

The Central LCWA site is an active oil field with oil operation infrastructure (roadways, wells, power lines, pipelines, and pumps), which severely fragment the site ecologically and hydrologically. The oil wells are accessed via raised dirt roads that vary from 10 to 30 feet in width. There are 7 active oil wells on site. The oil field is maintained and operated by Signal Hill Petroleum, Inc. who own the mineral rights. The site is composed of a mixture of native and non-native wetland habitats, including southern coastal salt marsh, alkali meadow, and salt flat, and non-native upland habitats. The Central LCWA site is disconnected from any tidal action. The site contains several special-status plant and animal species (Table 2-3). Vehicular access to the site is through the Long Beach City Property site. Restricted access is also available along the north levee of the San Gabriel River, which can be accessed from Pacific Coast Highway and 2nd Street.

The Central Bryant site is an undeveloped, vacant site with no active oil operations. Stormwater runoff supports mulefat scrub and other wetland habitats on parts of the site. The site is comprised of southern coastal salt marsh, alkali meadow, salt flat, and ruderal wetland and upland habitats and is disconnected from tidal action. The site contains special-status plant and animal species (Table 2-3). Vehicular access to the Central Bryant site is not currently available.

The San Gabriel River is a waterway that originates in the San Gabriel Mountains and flows generally south for 58 miles, passing through 19 cities before reaching the Pacific Ocean (LADPW, 2019), approximately 0.75 miles southwest of the program area. The San Gabriel River drains a watershed of 640 square miles. There are levees along the north and south banks of the San Gabriel River within the program boundary. LCWA owns the levees as part of their property that extends from the Central Area into the Isthmus Area (APN #7237-020-901). The Los Angeles County Flood Control District (LACFCD) currently operates and maintains these levees consistent with the U.S. Army Corps of Engineers' Operation, Maintenance, Repair, Replacement, and Rehabilitation (OMRR&R) Manual for the Los Angeles County Drainage Area project (Corps 1999, as amended).

The Class 1 San Gabriel River Trail runs on the levee along the south bank of the San Gabriel River and extends upstream beyond the program area to the Azusa River Wilderness Park located about 38 miles inland. There are access points to the trail at both Pacific Coast Highway and 2nd Street, at either end of the Central Area. The levee along the north bank is closed to public access with gates and fences at each end. On-street public parking is available on Shopkeeper Road.

Restricted public access to the Central LCWA site is available. Existing bike lanes are provided along 2nd Street. Dirt footpaths have developed between the curb and fence along the street frontages due to the lack of pedestrian infrastructure. There are partial crosswalks at the south and west crossing points at the intersection of 2nd Street and Shopkeeper that do not connect to sidewalks on the north or east sides of the intersection.

2.3.2.4 North Area

The North Area includes the following individual sites: Northern Synergy Oil Field, Southern Synergy Oil Field, and Alamitos Bay Partners (**Figure 2-7**, *North Area*).

The Northern Synergy Oil Field site is an undeveloped, vacant site with no active oil operations. It is separated from the oil operation areas to the south by an earthen berm and varying expanses of open space. It contains Steamshovel Slough, an area of tidally influenced salt marsh, tidal channels, and mudflats. Steamshovel Slough is a relatively pristine remnant of the historic tidal marsh of Alamitos Bay Marina. Steamshovel Slough is considered a historic or "ancient" marsh in that it has not been modified through dredging or filling. The site also supports a variety of wetland flora and fauna, including special-status plants, animals, and insects, and federally and state-listed animals (**Table 2-4**, *Special-Status Species Known to Occur in the North Area*). Vehicular access to the Northern Synergy Oil Field site is not currently available.

The Southern Synergy Oil Field site is an active oil field with oil production and wells, tank farms, a network of roads and pipelines, and other oil production-related infrastructure, including the Bixby Ranch Field Office. There are 22 active oil wells and 17 idle oil wells on site. The oil operation is maintained and operated by Synergy Oil and Gas, LLC. The site supports salt marsh habitat and areas with non-native plant species. The site is subject to tidal influence. A series of pipes are used to restrict the tidal influence from interfering with oil operations in the Synergy Oil Field site. The site supports special status species (Table 2-4). Vehicular access to the site is via an existing gated driveway on 2nd Street.

The Alamitos Bay Partners site is an active oil field with oil wells and associated oil production infrastructure, such as pipelines and tanks. There are three active oil wells and one idle oil well on site. Dirt access roads traverse the site. The oil field is maintained and operated by The Termo Company. A majority of the site is disturbed, and vegetation is generally sparse. The site contains southern coastal salt marsh and ruderal wetlands habitats. The site is connected to muted tidal action in the northern-most end of the site via a small culvert. Special-status plant and animal species are present on the site (Table 2-4). Vehicular access to the site is via an existing driveway along Pacific Coast Highway.

The North Area is mostly fenced along the street frontages and closed to public access. There are existing bike lanes on Studebaker Road and the north half of the Pacific Coast Highway frontage. There are no existing sidewalks along the streets. Dirt footpaths have developed between the curb and fence along the street frontages due to the lack of pedestrian infrastructure. The only public access currently available to the Southern Synergy Oil Field Site is views of the site from the street or footpath through a chain-link fence. The Los Cerritos Channel likely provides some public access for boaters and kayakers along the north perimeter. Floating booms across Steamshovel Slough at the confluence with the channel restrict access into the Northern Synergy Oil Field site, but have a kayak crossing that allows guided access to the slough.



SOURCE: Mapbox, LCWA

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 2-7
North Area

ESA

TABLE 2-4
SPECIAL-STATUS SPECIES KNOWN TO OCCUR IN THE NORTH AREA

Special Status Species	Scientific Name	Northern Synergy Oil Field	Southern Synergy Oil Field	Alamitos Bay Partners
Flora				
California Boxthorn	*Lycium californicum*			
Coulter's Goldfields	*Lasthenia glabrata* ssp. *coulteri*			
Estuary Sea-Blite	*Suaeda esteroa*	P		
Lewis' Evening Primrose	*Cammissonia lewisii*			
Southern Tarplant	*Centromadia parryi* ssp. *australis*	P	P	P
Southwestern Spiny Rush	*Juncus acutus* ssp. *leopoldii*			
Woolly Sea-Blite	*Suaeda taxifolia*	P		
Fauna				
Belding's Savannah Sparrow	*Passerculus sandwichensis beldingii*	P	P	P
Black Skimmer	*Rynchops niger*	P		
Burrowing Owl	*Athene cunicularia*			
California Brown Pelican	*Pelecanus occidentalis californicus*	P		P
California Least Tern	*Sterna antillarum browni*	P		
Least Bell's Vireo	*Vireo belii pusillus*			
Loggerhead Shrike	*Lanius ludovicianus*	P	P	P
Mudflat Tiger Beetle	*Cicindela trifasciata sigmoidea*	P		
Northern Harrier	*Circus cyaneus*	P	P	P
Pacific Green Sea Turtle	*Chelonia mydas*	P		
Red-Diamond Rattlesnake	*Crotalus ruber*	P	P	P
Salt Marsh Tiger Beetles	*Cicindella trifasciata sigmoides*	P		
Salt Marsh Wandering Skipper	*Panoquina errans*	P	P	
Short-Eared Owl	*Asio flammeus*	P		
Yellow-Breasted Chat	*Icteria virens*	P	P	P
White-Tailed Kite	*Elanus leucurus*	P	P	P

P = species presence
SOURCES: Tidal Influence, 2012; Field observation in 2018

2.4 Background

2.4.1 History of the Los Cerritos Wetlands Complex

Until the late 1800s, the wetlands within and beyond the program area, collectively known as the Los Cerritos Wetlands Complex, spanned approximately 2,400 acres and consisted of a network of tidal channels, vegetated wetlands, and upland areas. Historically, the Los Cerritos Wetlands Complex was almost entirely tidal wetland, with a few natural streams and intertidal flat channels.

Beginning in the late 1800s, the Los Cerritos Wetlands Complex began to undergo significant alterations due to cattle and beet farming, the demands of a growing population, and oil extraction. Oil was first discovered at the Seal Beach Oil Field in 1926. The development of oil production operations, paired with channelization of the San Gabriel River, resulted in substantial dredge and fill of the Los Cerritos Wetlands Complex. Today, nearly all of the program area has been converted from its historic wetland habitat, though a few remnant and degraded historic habitats remain. The most notable example of remaining historic habitat within the program area is the Steamshovel Slough, a fully tidal marsh connected to the Los Cerritos Channel that maintains high plant diversity and estuarine ecological communities.

2.4.2 Cultural History of the Los Cerritos Wetlands Complex

Archaeological evidence from the Channel Islands indicates that the first people migrated down the California Coast as early as 12,000 years ago (Cassidy et al. 2004; Erlandson et al. 2007), with permanent settlements established between 8,000 and 3,000 years ago (Douglass et al. 2015; Glassow et al. 1988; Grenda and Altschul 2002; Koerper et al. 2002; Macko 1998). From 1,000 years before present to approximately 1542 C.E., Los Angeles County and Northern Orange County were occupied by the Gabrielino (Tongva and Kizh) and Juaneño (or Acjachemen) peoples (named after the Spanish Mission where many of them were baptized). The terms Tongva, Kizh, and Acjachemen are preferred by many descendant groups over the Spanish words that have historically been used to describe them. Approximately 50 major villages were located along the coast and inland prairies. ~~The Gabrielino~~ These groups have in past and current times used the local wetlands and its natural resources, including biological, water, and mineral resources, for food, shelter, and trade~~, rivers, and streams to hunt and fish, to gather reeds and willows to build homes, and as a reliable water source~~ (McCawley, 1996). ~~Nearby~~ Native American archaeological sites are known to be located at California State University Long Beach, Rancho Los Alamitos Historic Ranch, and Heron Pointe (California Coastal Commission, 2018). Section 3.4, *Cultural Resources*, and Section 3.15, *Tribal Cultural Resources*, of this PEIR, provides a more exhaustive description of the archaeological sites within and in the vicinity of the program area.

The Los Cerritos Wetlands Complex has been identified by California Native American tribal members as a Tribal Cultural Landscape as part of government-to-government consultation with LCWA regarding the proposed program and as part of consultations related to the Los Cerritos Wetland Oil Consolidation and Restoration Project (see Section 2.4.4, *Los Cerritos Wetlands Oil Consolidation and Restoration Project*, for more detail on this project). Tribal members consulted ~~believe~~ identified the Tribal Cultural Landscape ~~is~~ as eligible for listing in the National Register of Historic Places as a Tribal (or Traditional) Cultural Property (or TCP) – a type of significance that is often related to religious or ceremonial values because of unique landscape features, such as a mountain or bluff top, places with significant or special natural views, rivers and estuaries, or vegetation and wildlife, or areas with burials or religious artifacts/monuments. The wetlands are within ~~walking distance to both~~the *Puvungna* and *Motuucheyngna* village sites community and served as an important resource to native peoples and was used both historically and in current times by native peoples. The California Coastal Commission has acknowledged the significance of this area as part of the Los Cerritos Wetlands Oil Consolidation and Restoration Project (State

Clearinghouse No. 2016041083) (California Coastal Commission, 2018). LCWA, in its discretion and as supported by substantial evidence provided by tribal groups, determined that the landscape is a historical resource (CEQA Guidelines Section 15064.5(a)(4) and a tribal cultural resource (Public Resource Code Section 21074(a)(2)) for the purposes of the program PEIR. Section 3.4, *Cultural Resources*, and Section 3.15, *Tribal Cultural Resources*, of this PEIR, provides a more exhaustive description of the cultural/tribal framework.

2.4.3 Los Cerritos Wetlands Stewardship Program

The Los Cerritos Wetlands Stewardship Program[2] was created in 2009 by the LCWA to engage the public and allow volunteers to help the LCWA with managing and enhancing habitat that exists on LCWA property. The Los Cerritos Wetlands Stewardship Program Vision Plan prepared by the LCWA in 2018 identifies future restoration projects, including opportunities for improved public access.

2.4.4 Los Cerritos Wetlands Oil Consolidation and Restoration Project

A project-level EIR was prepared for the City of Long Beach to evaluate the environmental effects associated with the Los Cerritos Wetlands Oil Consolidation and Restoration Project (State Clearinghouse No. 2016041083). The project applicant, Beach Oil Minerals Partners (BOMP), proposes to consolidate existing oil operations and implement a wetlands habitat restoration project in portions of the North and Central Areas within the program area and on property that falls completely outside the program area. The EIR was certified by the City of Long Beach City Council on January 16, 2018. The Local Coastal Program Amendment associated with the Los Cerritos Wetlands Oil Consolidation and Restoration Project was approved by the California Coastal Commission (CCC) on August 8, 2018, with modifications to the amendment approved on October 2, 2018. The Coastal Development Permit was conditionally approved by the CCC on December 13, 2018. This PEIR relies on the technical analysis, impact discussion, and mitigation measures documented in the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse No. 2016041083) for portions of the program area. No new information of substantial importance or change in circumstance with the Los Cerritos Wetlands Oil Consolidation and Restoration Project requires re-evaluation of the analysis in that EIR. Appendix L provides a summary of the environmental effects and mitigation measures for the Los Cerritos Wetlands Oil Consolidation and Restoration Project.

The Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse No. 2016041083) contains more detail and quantitative analysis than this program-level EIR because this EIR is evaluating the impacts associated with implementing the Los Cerritos Wetlands Restoration Plan, not a specifically designed project as is the case for the Los Cerritos Wetlands Oil Consolidation and Restoration Project. The Los Cerritos Wetlands Oil Consolidation and Restoration Project was designed to be consistent with the goals and objectives of the Los Cerritos Wetlands Final Conceptual Restoration Plan.

[2] http://intoloscerritoswetlands.org/wp-content/uploads/2015/12/LCWA-Stewardship-Program-Vision-Plan.pdf

2.4.4.1 Project Characteristics Not Evaluated in this PEIR

The environmental effects associated with the following project characteristics of the Los Cerritos Wetlands Oil Consolidation and Restoration Project are evaluated in the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse No. 2016041083) and will not be further evaluated in this PEIR (see **Figure 2-8**, *Los Cerritos Wetlands Oil Consolidation and Restoration Project*).

North Area

The Los Cerritos Wetlands Oil Consolidation and Restoration Project would involve removing the existing oil operations and associated facilities and implementing a wetlands habitat restoration project on the Northern and Southern Synergy Oil Field sites.

The first phase of the project would be focused on the 76.52-acre Northern Synergy Oil Field site, and provide the conditions necessary for the reestablishment of coastal salt marsh habitat and associated hydrologic, biogeochemical, and habitat functions, including:

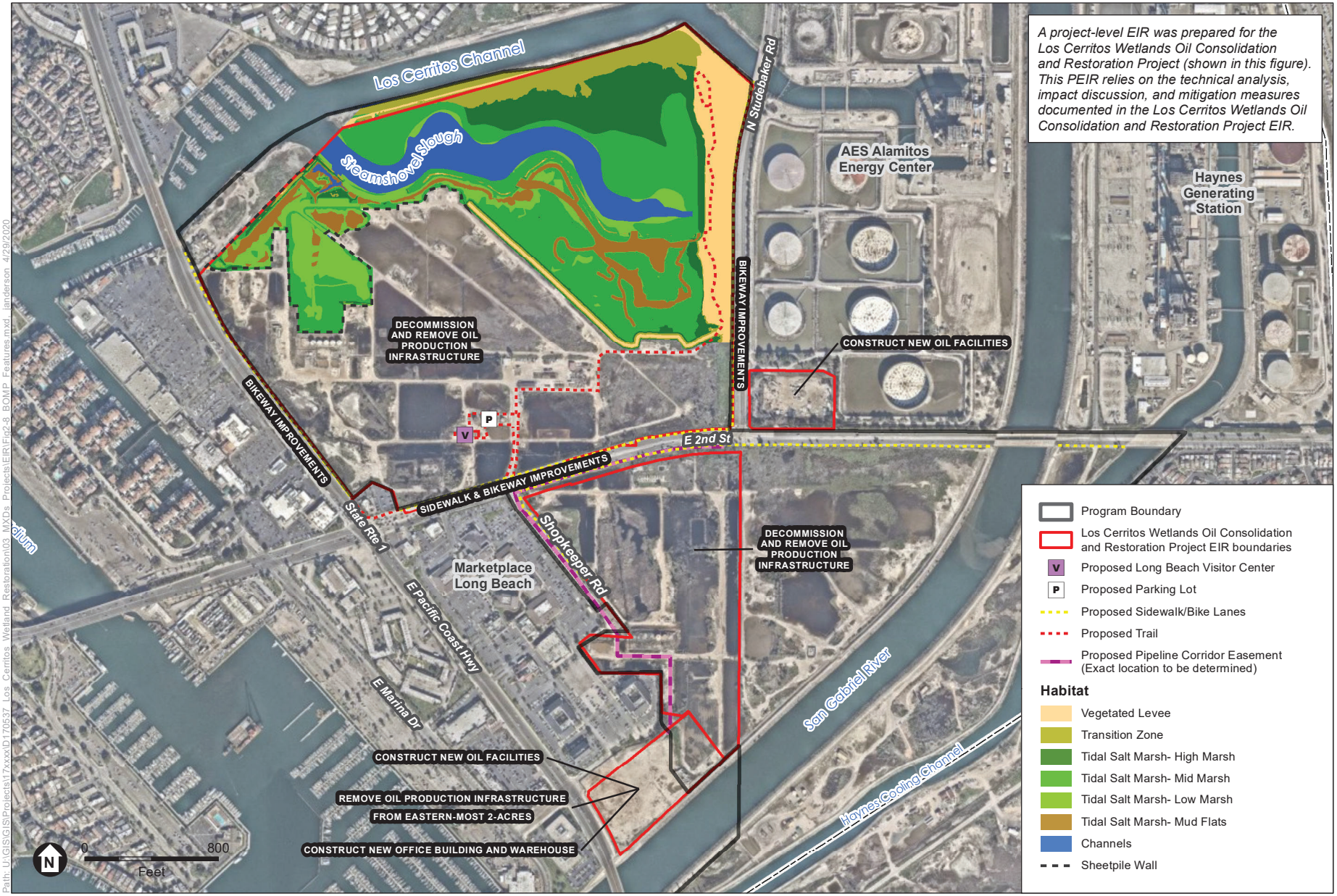
- Remediating any contaminated areas identified through sampling, and as required by permit, and restoring a natural wetland area that would be operated as a wetlands mitigation bank.[3]
- Constructing a new barrier consisting of sheet piles and earthen berms along the southern limits of the Northern Synergy Oil Field site;
- Establishing tidal channels, by means of grading, to convey tidal water from the Los Cerritos Channel/Steamshovel Slough to areas that currently lack tidal flows; and
- Removing segments of the existing berm and roads that currently separate Steamshovel Slough from non-tidal portions of the Northern Synergy Oil Field site.

The first phase of the project would also include work on the Southern Synergy Oil Field site, including relocating the existing office building on site to house the Long Beach Visitor Center, and construction of a parking lot, trail, overlook, sidewalk enhancements, and bikeway improvements.

The first phase of the project is expected to be implemented within 4 years of obtaining construction permits.

Within 20 years after obtaining Certificate of Occupancy for the new office on the Pumpkin Patch site, in the second phase of the project, all remaining oil operations would be removed and the 73.07-acre Southern Synergy Oil Field site may be restored to tidal salt marsh by breaching or lowering the earthen berm and removing the sheet pile wall.

[3] Mitigation banking is the sale of credits for the preservation, enhancement, restoration or creation of a wetland, stream, or habitat conservation area which offsets, or compensates for, expected adverse impacts to similar nearby ecosystems. The approval and establishment of the mitigation bank, including the wetlands restoration plan that may be implemented, is subject to a separate regulatory process overseen by the interagency review team (IRT) consisting of State and federal resources agencies, and led by the U.S. Army Corps of Engineers.



SOURCE: Mapbox, LCWA, NOAA, ESA

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 2-8

Los Cerritos Wetlands Oil Consolidation and Restoration Project

ESA

Central Area

An aboveground pipeline system and underground utility corridor would be constructed in the first phase of the project, along 2nd Street from Studebaker Road down to, and along, Shopkeeper Road on the Long Beach City Property site to the Pumpkin Patch site. On the Long Beach City Property, the tanks and 95 percent of all pipelines would be removed. Up to 95 percent of oil production infrastructure within the program area would be removed from the Pumpkin Patch site in the near term to allow for restoration. Sidewalks could be constructed along all parcel frontages. Construction on the Pumpkin Patch site is expected to take 3 to 4 years, while construction of the pipeline system on the Long Beach City Property is expected to take 2 to 3 years.

Within 20 years from the New Occupancy Date, in the second phase of the project, oil operations would be removed from the Long Beach City Property site and contaminated areas would be remediated.

Outside the Program Boundary

Outside the program boundary, on the LCWA-owned property on the northeast corner of Studebaker Road and 2nd Street, oil processing facilities would be constructed after the site is remediated and graded. The facilities would include an elevated pipe rack, tank storage, well cellars, and an emergency flaring system. The Pumpkin Patch site outside the program area would be graded and new oil facilities would be constructed at the site. Oil facilities would include a tank storage area, well cellars, a water treatment system, and oil separation system. Additionally, a new office building and warehouse would be constructed on the Pumpkin Patch site. A bike station would be constructed adjacent to the Pumpkin Patch site. The first phase of the project is expected to be implemented within 2 years of obtaining construction permits. Potential environmental impacts to this activity are not analyzed under this PEIR, except to the extent these activities are reasonably anticipated future activities that may have a cumulative effect on activities within the program area (see Table 3-1 in Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*, which includes the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse No. 2016041083), which is included as Cumulative Project No. 24).

2.5 Los Cerritos Wetlands Restoration Plan Goals and Objectives

The goals and objectives of the proposed program are presented below and are identical to the goals and objectives identified in the CRP (Moffatt & Nichol, 2015):

1. Restore tidal wetland processes and functions to the maximum extent possible.
    a. Increase estuarine habitat with a mix of tidal channels, mudflat, salt marsh, and brackish/ freshwater marsh and ponds.
    b. Provide adequate area for wetland-upland ecotone and upland habitat to support wetlands.
    c. Restore and maintain habitat that supports important life history phases for species of special concern (e.g., federal and state listed species), essential fish habitat, and migratory birds as appropriate.

~~c.~~d. Solicit and address feedback on restoration design from members of the community, Native American tribes, and other interested parties.

2. Maximize contiguous habitat areas and maximize the buffer between habitat and sources of human disturbance.
    a. Maximize wildlife corridors within the LCW Complex and between the LCW Complex and adjacent natural areas within the region.
    b. Incorporate native upland vegetation buffers between habitat areas and human development to mitigate urban impacts (e.g., noise, light, unauthorized human encroachment, domestic animals, wastewater runoff) and reduce invasion by non-native organisms.
    c. Design the edges of the LCW Complex to be respectful and compatible with current neighboring land uses.
3. Create a public access and interpretive program that is practical, protective of sensitive habitat and ongoing oil operations, economically feasible, and will ensure a memorable visitor experience.
    a. Build upon existing beneficial uses.
    b. Minimize public impacts on habitat/wildlife use of the LCW Complex.
    c. Design interpretive concepts that promote environmental stewardship and the connection between the wetlands and the ~~surrounding~~ community.
    d. Solicit and address feedback from members of the ~~surrounding~~ community, Native American tribes, and other interested parties.
    ~~d.~~e. Encourage equitable access of the LCW as a regional resource
4. Incorporate phasing of implementation to accommodate existing and future potential changes in land ownership and usage, and as funding becomes available.
    a. Include projects that can be implemented as industrial operations are phased out and other properties are acquired over the near, mid, and long terms (next 10 years, 10–20 years, and 20+ years).
    b. Investigate opportunities to restore levels of tidal influence that are compatible with current oil leases and neighboring private land holdings.
    c. Remove/realign/consolidate existing infrastructure (roads, pipelines, etc.) and accommodate future potential changes in infrastructure, to the maximum extent feasible.
5. Strive for long-term restoration success.
    a. Implement an adaptive management framework that is sustainable.
    b. Restore habitats in appropriate areas to minimize the need for long-term maintenance activities that are extensive and disruptive to wildlife.
    c. Design habitats that will accommodate climate changes (e.g., incorporate topographic and habitat diversity and natural buffers and transition zones to accommodate migration of wetlands with rising sea levels).
    d. Provide economic benefit to the region.

6. Integrate experimental actions and research into the project, where appropriate, to inform restoration and management actions for this project.
    a. Include opportunities for potential experiments and pilot projects to address gaps in information (e.g., effect of warm river water on salt marsh ecosystem) that are protective of sensitive habitat and wildlife and that can be used to adaptively manage the restoration project.
    b. Include areas on the site, where appropriate, that prioritize research opportunities (such as those for adaptive management) over habitat sensitivities.

2.6 Land Use and Zoning Designations

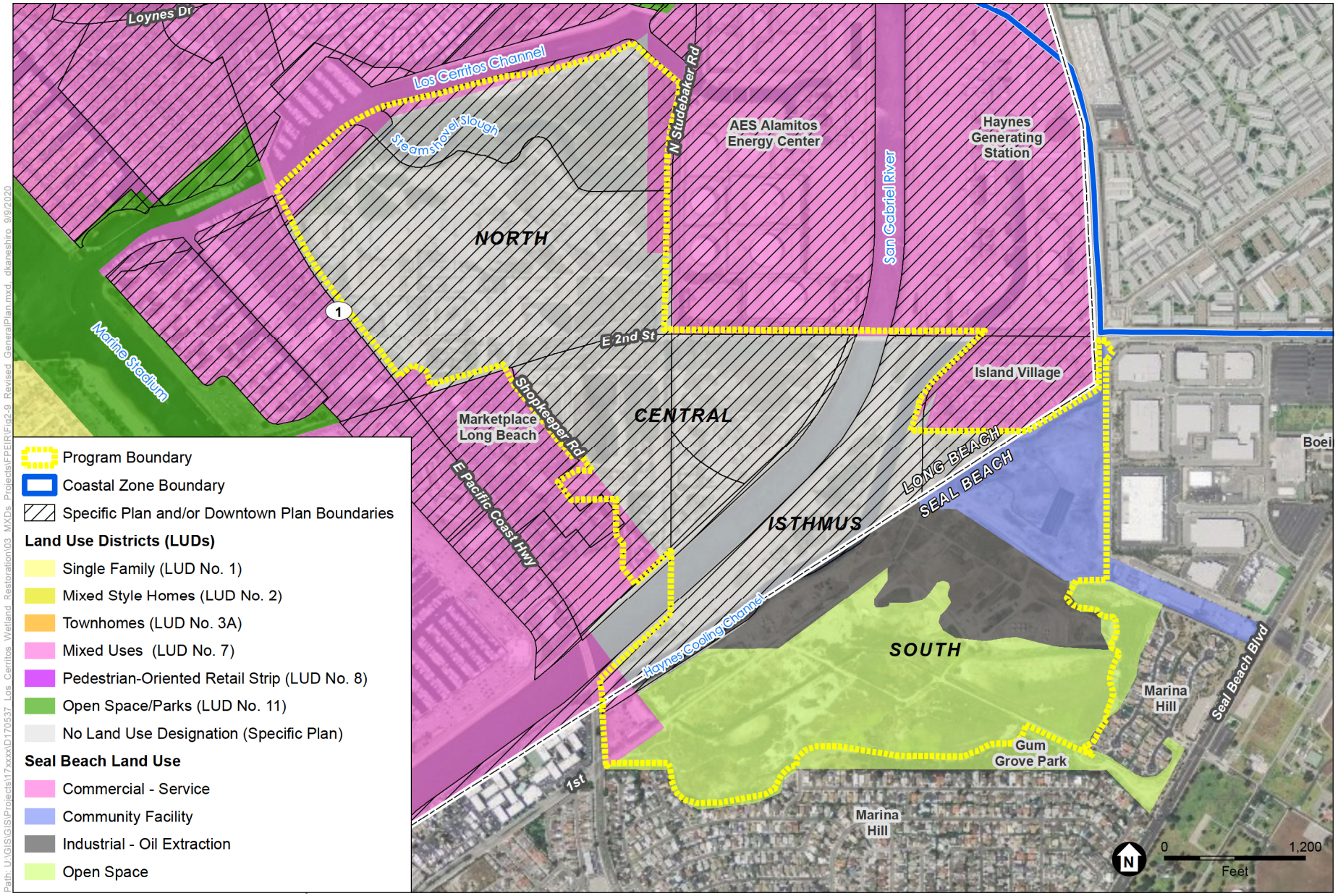
The program area is located entirely within the California Coastal Zone, which means it is subject to the California Coastal Act and the City of Long Beach Local Coastal Program, adopted in 1980.

The Seal Beach General Plan designates the portion of the program area within Seal Beach city boundaries as Community Facilities, Industrial – Oil Extraction, Open Space, and Commercial Service (**Figure 2-9**, *General Plan Land Use Designations*).

According to the Seal Beach zoning map, and as shown in **Figure 2-10**, *Zoning Districts*, the properties within Seal Beach are zoned as Specific Plan Regulation, Open Space Natural, and Oil Extraction. The Hellman Ranch Specific Plan applies to the entire portion of the program area within the City of Seal Beach.[4]

The properties within the City of Long Beach are not assigned a specific General Plan Land Use District, with the exception of the Alamitos Bay Partners site and Pumpkin Patch site, and portions of the Northern Synergy Oil Field, Long Beach City Property, and Callaway Marsh sites which have a designation of Land Use District No. 7, Mixed Uses. The City of Long Beach recently adopted ~~the~~ an updated General Plan Land Use Element on December 2019. The ~~currently adopted~~ land use designations under the updated General Plan Land Use Element for the program area ~~(as shown in Figure 2-9)~~ are an Open Space (OS) PlaceType with a Specific Plan Overlay, with the exception of the Pumpkin Patch site and a portion of the Long Beach City Property site, which have a Regional-Serving Facility (RSF) Placetype with a Specific Plan Overlay. ~~However, at the time of this writing, the CCC has not certified the updated General Plan Land Use Element, as such, the SEADIP land use map is used in the adopted LCP and currently applicable to the proposed program. Under the currently applicable SEADIP, as shown in Figure 2-9, properties within Long Beach are not assigned a specific General Plan Land Use District, with the exception of the Alamitos Bay Partners site and Pumpkin Patch site, and portions of the Northern Synergy Oil Field, Long Beach City Property, and Callaway Marsh sites which have a designation of Land Use District No. 7, Mixed Uses~~ The City of Long Beach is currently in the process of obtaining CCC certification of the coastal portions of the updated General Plan Land Use Element. Once the City obtains certification, the updated General Plan land uses designations will go into effect.

[4] A specific plan is a document designed to implement the goals and policies of the General Plan. These plans will contain detailed development standards, distribution of land uses, infrastructure requirements, and implementation measures for the development of a specific geographic area.



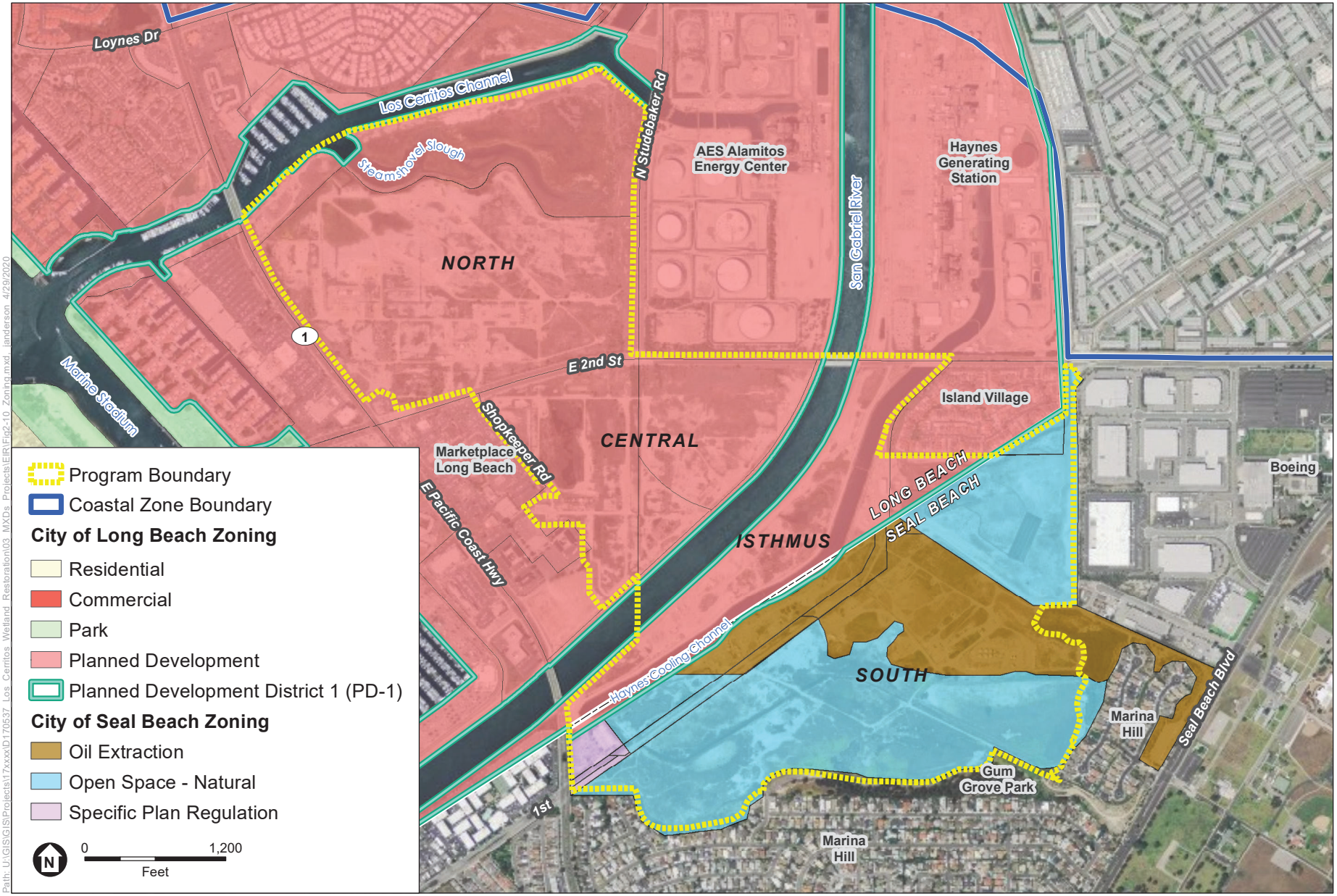
SOURCE: Mapbox, LCWA, City of Long Beach, City of Seal Beach, ESA

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 2-9

Revised General Plan Land Use Designations

ESA



Path: U:\GIS\GIS\Projects\17xxxx\D170537_Los_Cerritos_Wetland_Restoration\03_MXDs_Projects\EIR\Fig2-10_Zoning.mxd_ianderson_4/29/2020

SOURCE: Mapbox, LCWA, City of Long Beach, City of Seal Beach

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Figure 2-10
Zoning Districts

ESA

The properties within the City of Long Beach are subject to the South East Area Development and Improvement Plan (SEADIP). The City of Long Beach is in the process of replacing the SEADIP with the Southeast Area Specific Plan (SEASP) 2060, which would change the zoning of the program area and introduce new development standards (setbacks, densities, heights, buffers, etc.) and design guidelines.

2.7 Program Characteristics

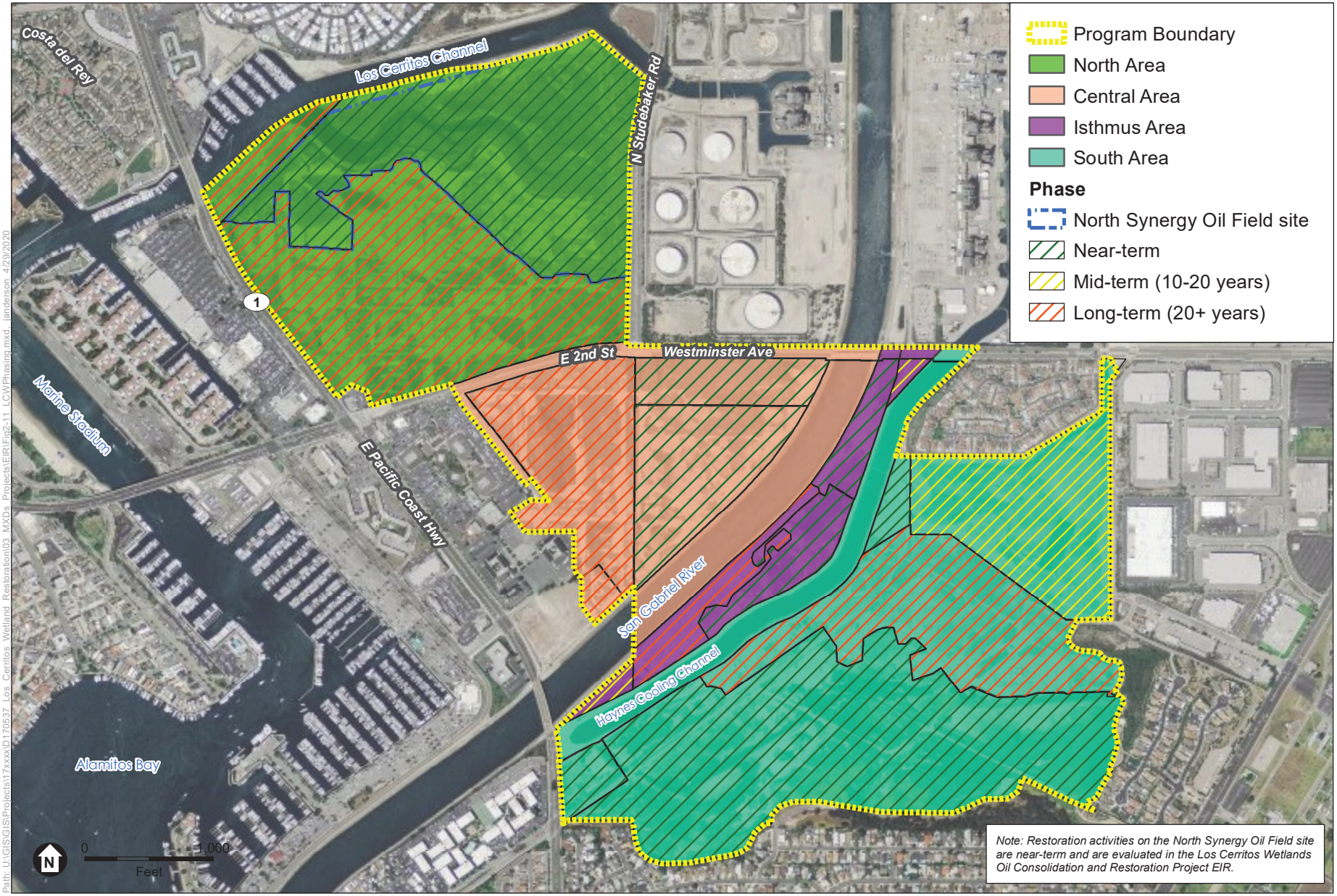
As described in Section 2.2, *Program Area*, the program area consists of the South, Isthmus, Central and North areas (Figure 2-2). The proposed program would restore wetland, transition, and upland habitats throughout the program area. This would involve remediation or containment of contaminated soil and groundwater, grading, revegetation, construction of new public access opportunities (including trails, visitor center, parking lots, and viewpoints), construction of flood management facilities (including earthen levees and berms, and walls), modification of existing infrastructure and utilities, and integrating experimental actions and research into the proposed program.

2.7.1 Overview of Common Program Features

The description of each of the program areas is broken down into the following elements: phasing, ecosystem restoration, flood risk and stormwater management, public access and visitor facilities, and infrastructure and utility modification. An overview of each of these elements is provided below, followed by a more detailed description by program area. After the program area descriptions, at the end of Section 2.7, *Program Characteristics*, a description is provided for the entire program area regarding the implementation and restoration process (the construction phase), and the monitoring and adaptive management and operations and maintenance (the post-restoration phase).

2.7.1.1 Phasing

One of the Los Cerritos Wetlands Restoration Plan objectives (Objective #4, provided above in Section 2.5, *Los Cerritos Wetlands Restoration Plan Goals and Objectives*) is to incorporate phasing of implementation to accommodate existing and future potential changes in land ownership and usage, and as funding becomes available. The restoration activities would be phased over time as properties become available for acquisition by LCWA, as shown in **Figure 2-11**, *Los Cerritos Wetlands Restoration Plan Phasing*. The timing of construction at each site is dependent on multiple variables, including property transfers, removal of oil infrastructure, and related facilities, availability of funding, and permit approvals. Each phase of the proposed program will take multiple years to complete construction activities and with multiple years anticipated between each phase.



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SOURCE: ESRI,LCWA

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 2-11

Los Cerritos Wetlands Restoration Plan Phasing

ESA

Construction on properties currently under the ownership of LCWA or in the process of being transferred to the LCWA is expected to occur in the **near term** (within approximately 10 years). Construction on properties that would be connected to or are associated with the decommissioning of the Haynes Cooling Channel or that may require more time than the near-term timeframe is expected to occur in the **mid term** (between approximately 10–20 years). The timing of the **long-term** phase depends on decommissioning of existing oil operations and could vary from around 20 years (where agreements are already in place) to much longer time frames. For oil operations that do not have agreements in place with LCWA, it is expected that overall levels of oil and natural gas production would continue until production decreases to below economically viable levels, after which oil production would stop production.

What is described in this PEIR is an approximation of the sequence of restoration that could occur; however, it is possible that a property identified as available for restoration in the mid term may not be restored until the long term, or a property identified as available for restoration in the mid term is available to be restored in the near term, etc. Restoration will not begin until a variety of actions are taken, including: preparation of project level restoration designs, completion of studies and analysis in support of design and permit approvals, acquiring project-level funding, acquiring permit approvals and associated CEQA clearance documents, amendments made with easement holders, and property transfers.

2.7.1.2 Ecosystem Restoration

Ecosystem restoration includes actions that will restore more natural ecosystem processes (physical and biological) from disturbed habitats within the program area. Restoration of more natural ecosystem processes through actions like grading, altering tidal connections, and revegetation will lead to more extensive and higher functioning wetland, transition, and upland habitats. Habitat types that would be restored or enhanced within the program area include subtidal channels, intertidal salt marsh, salt marsh-upland transition zone, brackish marsh, ~~native grassland,~~ coastal sage scrub, and riparian scrub. Restored habitat distribution and acreages vary by program area and are described in more detail below.

Excavation of tidal channels to enhance tidal connection would require a balancing of temporary impacts to existing resources, which in most instances are moderately to substantially degraded wetlands, with maximizing the long-term functions of the areas receiving tidal exchange. To the extent feasible, tidal channels would avoid existing areas of pickleweed mats, Parish's glasswort patches and saltgrass flats and instead would be located in unvegetated flats and low elevation areas. In some areas it would not be possible to fully avoid existing vegetation while establishing the necessary elevations for the tidal channels.

The restored salt marsh areas would be re-vegetated through a combination of seeding and installation of nursery container stock. Restoration would include soil amendments (to enhance soil texture and nutrients), irrigation, and weed control. The salt marsh would support a mix of species such as Parish's glasswort, shoregrass, saltgrass, Pacific pickleweed, alkali heath, and Pacific cordgrass.

Revegetation activities in non-tidal areas would include removing or controlling invasive plant species and seeding/planting native plant species. Appropriate conditions will need to be restored in order to support target plant communities. A few important factors to consider will be hydrology, salinity, soil texture, and slope aspect. Invasive-nonnative plant species would be removed or treated according to the protocols described in Section 2.7.6.4, *Implementation Methods*. Additional details of implementing revegetation procedures are described in Section 2.7.6.4 under *Revegetation of Graded and Disturbed Areas*.

Intertidal areas with unrestricted connections to fully tidal waters will, over time with sea-level rise, experience an upward elevation shift in vegetation communities. In the shorter term, subtidal and low salt marsh areas would expand, and mid and high salt marsh areas would shrink. In the longer term, elevations that support intertidal communities at current sea level will be converted entirely to subtidal habitats. Gently sloped transition zone and low-lying upland habitats adjacent to today's salt marsh could support intertidal communities in the longer term.

Potential disturbances to sensitive habitats and species during operation of the proposed program would be minimized through effective design of public access areas to keep people on trails and out of habitat areas. The success of restoration efforts would be measured based on established performance criteria focusing on the abundance and diversity of native vegetation and the wildlife that use the Los Cerritos Wetlands Complex (see Section 2.7.7, *Monitoring and Adaptive Management*).

2.7.1.3 Flood Risk and Stormwater Management

Improving connection of wetlands to tidal flows to allow for habitat restoration would require changes to existing flood risk and stormwater management elements, and construction of new flood risk and stormwater management elements. Creating and expanding these tidal connections also requires consideration of future climate change, including sea-level rise. As the restoration project designs are refined, the LCWA will consider the best available science in order to reduce potential climate-related impacts, including impacts resulting from sea-level rise.

The proposed program would include modifications to Los Angeles County Drainage Area project structures within the program area by modifying the existing levee along the San Gabriel River, constructing new flood risk management structures (e.g., earthen levees and berms, or flood walls), restoring the wetland floodplain, constructing new water-control structures that allow for increased tidal connections, and constructing new stormwater management features (e.g., bioswales). The proposed program would also include modifications to existing operations and maintenance practices for flood risk and stormwater management structures.

The existing Los Angeles County Drainage Area project structures and facilities are maintained in such a manner and operated at such times and for such periods as necessary to obtain the maximum flood protection benefits (33 C.F.R. §208.10). The implementation of the proposed program would require revisions to the U.S. Army Corps of Engineers' OMRR&R Manual to reflect changes made to the existing Los Angeles County Drainage Area project structures and facilities within the program area.

2.7.1.4 Public Access and Visitor Facilities

Potential public access improvements and visitor amenities would include construction of new pedestrian trails, elevated perimeter pedestrian walkways, educational or interpretive features, viewing areas with overlooks, new and improved parking facilities, and visitor center. These improvements would develop and enhance public access, recreation, and educational opportunities within the program area, while balancing the need for protection of sensitive habitats.

2.7.1.5 Infrastructure and Utility Modification

Infrastructure and utility modifications include oil well and associated pipeline abandonment and relocation, and electric and water line relocation. These modifications would allow for increased connectivity of habitat restoration within the program area and protection of existing utilities that are not otherwise abandoned or relocated.

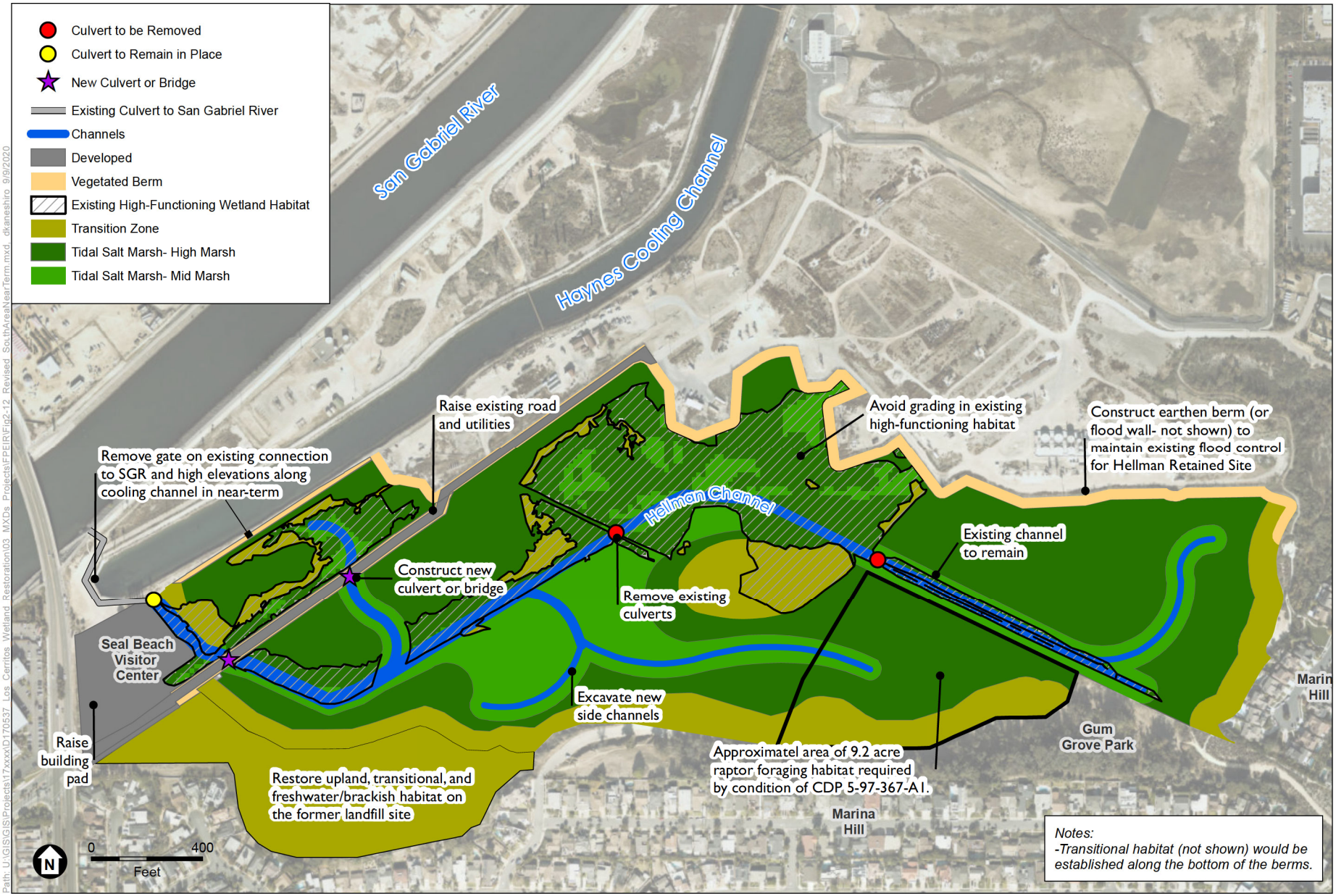
2.7.2 South Area

2.7.2.1 Phasing

Ecosystem restoration in the South Area would occur in three phases based on land and oil lease ownership. The near- and mid-term phases of the program in the South Area would be mostly focused on the South LCWA and State Lands Parcel sites and would provide the conditions necessary for the expansion of coastal salt marsh habitat and associated hydrologic, biogeochemical, and habitat functions. Long-term phases of the program would be focused on the Hellman Retained site. The operations on the Los Alamitos Retarding Basin are proposed to be modified in the mid term, and no changes are proposed for the Los Alamitos Pump Station site, which was formerly restored as part of a mitigation project.

Near-term activities would include (**Figure 2-12**, *Proposed South Area Near-Term Restoration*):

- Remediating soils (e.g., on-site treatment, excavation and removal, or cap in place) that have been impacted by oil operations;
- Grading the South LCWA site, including excavation to create channels and revegetation of native plants to support a diversity of marsh, transitional, and upland habitats;
- Constructing a new earthen berm or flood wall along the Hellman property boundary on the South LCWA site to protect the Hellman site from flooding;
- Raising 1st Street on the South LCWA site out of the floodplain by placing it on fill;
- Building a Seal Beach Visitor Center and associated parking on an existing raised building pad on the State Lands Parcel site;
- Removing the gate on the existing culvert connecting the South LCWA site to the San Gabriel River and removing the culverts under the former access roads. The existing culvert under 1st Street would either be improved or replaced with a bridge; and
- Restoring native ~~grassland for raptor foraging~~upland, transitional, and freshwater/brackish habitat on South LCWA site over the former landfill.



SOURCE: ESRI,LCWA

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 2-12

Revised Proposed South Area Near-Term Restoration

ESA

Mid-term activities would include (**Figure 2-13**, *Proposed South Area Mid-Term Restoration*):

- Excavating a channel connecting the Hellman Channel directly to the Haynes Cooling Channel and lowering the berm along the Haynes Cooling Channel to increase the tidal range in the South LCWA site; and
- Modifying the Los Alamitos Retarding Basin operations to enhance the habitat value in the basin (e.g., change pumping operations to maintain ponding for shorter or longer time).

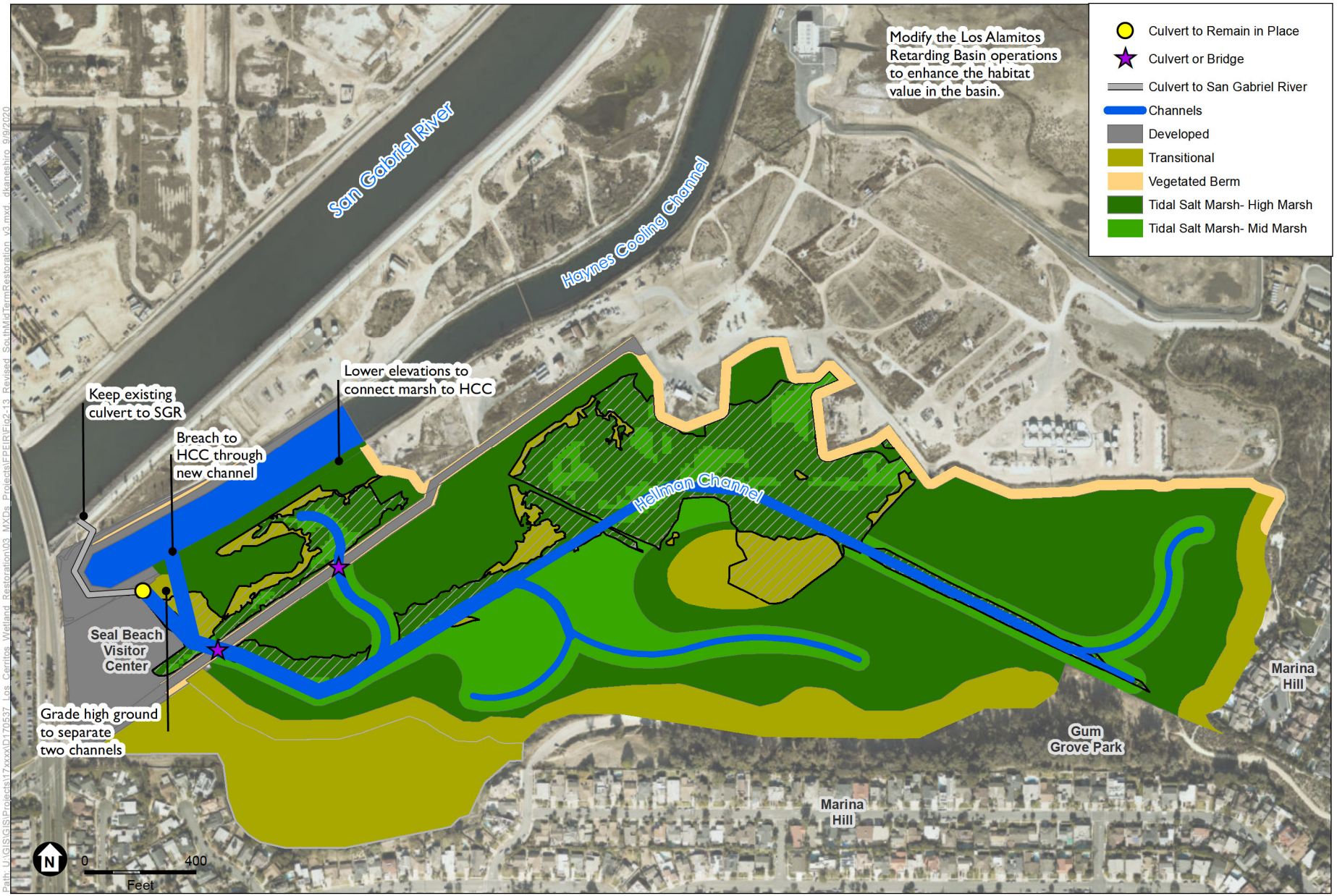
Long-term activities would include (**Figure 2-14**, *Proposed South Area Long-Term Restoration*):

- Removing or consolidating oil operations on the Hellman Retained site to allow for restoration;
- Lowering, breaching, or removing the earthen berm or flood wall separating the South LCWA site and the Hellman Retained site
- Removing 1st Street (through the South LCWA site) and removing, lowering, or breaching the berm under the road.

Table 2-5, *South Area Phasing*, summarizes the activities associated with each phase.

TABLE 2-5
SOUTH AREA PHASING

	Near Term (0–10 years)	Mid Term (10–20 years)	Long Term (20+ years)
Los Alamitos Pump Station Site	• Previously restored	n/a	n/a
South LCWA Site	• Remediation of soils • Grading of site to support habitat restoration • Constructing an earthen berm or flood wall to protect Hellman Retained site • Raising 1st Street • Removing the gate on the Hellman Channel culvert to the San Gabriel River	• Excavating a channel to connect the Haynes Cooling Channel to the site • Lower berm separating the Haynes Cooling Channel from the site	• Lower or breach earthen berm or remove flood wall to connect to Hellman Retained site • Remove 1st Street and lower or breach berm
State Lands Parcel Site	• Building a Seal Beach Visitor Center and associated parking facilities	n/a	n/a
Haynes Cooling Channel	n/a	• Channel is decommissioned	n/a
Los Alamitos Retarding Basin Site	n/a	• Operations of retarding basin are modified to enhance habitat	n/a
Hellman Retained Site	n/a	n/a	• Oil operations removed or consolidated to allow for restoration • Remediation of soils • Grading of site to support habitat restoration • New tidal channel excavated to connect the Haynes Cooling Channel to the site



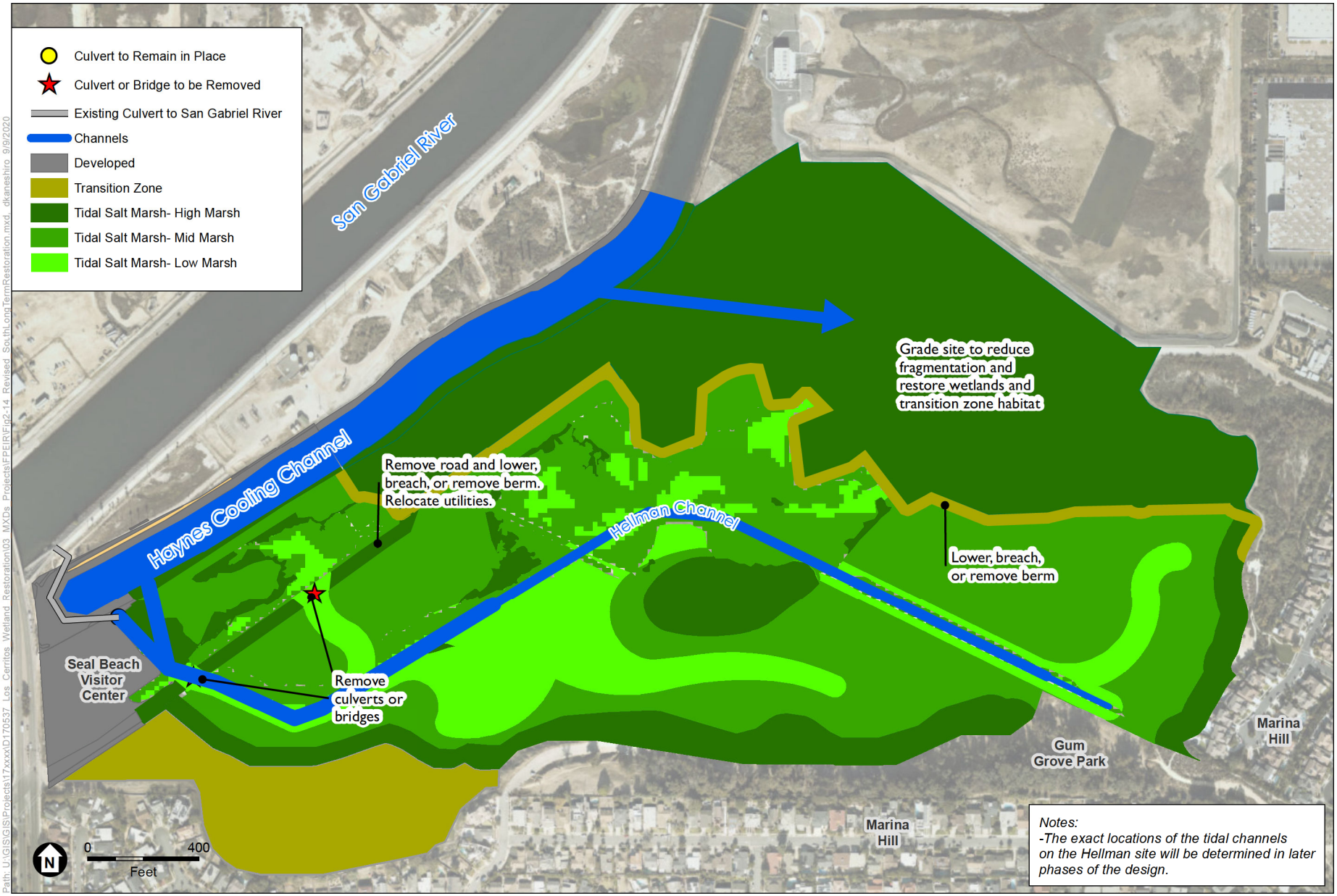
SOURCE: ESRI,LCWA

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Figure 2-13

Revised Proposed South Area Mid-Term Restoration

ESA



SOURCE: ESRI,LCWA

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 2-14

Revised Proposed South Area Long-Term Restoration

ESA

2.7.2.2 Ecosystem Restoration

Restored Habitats

Focused marsh and transitional wetland grading would occur across the South Area to lower the site to wetland elevations transitioning up to upland elevations along the southern and eastern borders of the South Area. Existing tidal salt marsh habitat would be avoided as much as possible. Tidal channels would be excavated in the near term on the South LCWA site and connected to the San Gabriel River through the existing culvert.

A 10-acre ~~grassland, raptor foraging habitat is required to~~ upland, transitional, and freshwater/brackish habitat area would be restored in the southwest corner of the site, over the former landfill area. ~~Target native grassland species would include Alkali sacaton (*Sporobolus airoides*), purple needlegrass (*Stipa pulchra*), and alkali ryegrass (*Elymus triticoides*).~~

~~This area would meet the~~A conditions~~s~~ for the development of Heron Pointe, a previously approved residential development located outside the program boundaries south and east of the South Area involved restoration of raptor habitat per Coastal Development Permit 5-97-367-A1. The Coastal Development Permit's Amendment Staff Report (filed on September 12, 2000) requires the creation of 9.2 acres of suitable raptor foraging habitat to support various bird species which nest and/or forage in the South Area and within Gum Grove Park. Figure 2-12 shows the approximate location of the raptor foraging area, which overlaps multiple habitat types know to support foraging activities for a variety of raptor species including, but not limited to, harrier hawk, American kestrel, red-tailed hawk, red-shouldered hawk, cooper's hawk and white-tailed kite.

In the mid term, the site would be connected to the Haynes Cooling Channel, in addition to the existing culvert to the San Gabriel River, to increase the tide range at the site. Additionally, in the mid term the Los Alamitos Retarding Basin operations would be modified to enhance the habitat value in the basin. In the long term, a channel would be connected from the Haynes Cooling Channel into the Hellman Retained site, to bring tidal flows in.

Restoration habitat targets and acreages by phase are presented in **Table 2-6**, *Post-Restoration Habitats and Acreages in South Area*.

TABLE 2-6
POST-RESTORATION HABITATS AND ACREAGES IN SOUTH AREA

Habitat Type	Existing Conditions	Near Term Proposed Restoration	Mid Term Proposed Restoration	Long Term Proposed Restoration
Wetlands[a]	**49.7**	**1094.3**	**9104.5**	**1546.3**
Transitional zone	4.3	125.5	125.5	129.2
Salt flat	2.9	0.0	0.0	0.0
Tidal salt marsh	0.0	0.0	66.5	115.0
Muted-tidal salt marsh	18.8	66.3	0.0	0.0
Non-tidal salt marsh	8.6	0.0	0.0	0.0
Non-native wetlands	6.6	2.0	1.9	0.0
Subtidal	8.5	10.5	10.7	12.1
Uplands	**60.3**	**40.7**	**40.6**	**40.2**
~~Native grassland~~	~~0.0~~	~~10.0~~	~~10.0~~	~~10.0~~
Native shrubland	7.1	0.5	0.5	0.2
Non-native upland	53.1	0.2	0.1	0.0
Managed Habitats	**0.0**	**3.6**	**3.6**	**0.0**
Vegetated berms	0.0	3.6	3.6	0.0
Non-Natural	**51.1**	**52.5**	**52.4**	**4.9**
Disturbed habitat	22.1	22.0	22.0	0.0
Developed (e.g., impervious surfaces)	29.1	30.5	30.4	4.9
Total[b]	**161**	**161**	**161**	**161**

[a] These habitat acreages may or may not be jurisdictional wetlands, but they have plants and/or hydrology that is indicative of wetlands. Jurisdictional surveys would be conducted when individual projects move forward.

[b] Acreages do not include the Los Alamitos Pump Station site or the Los Alamitos Retarding Basin site. Acreages presented here assume the construction of an earthen berm, which has a slightly larger footprint than a flood wall

Hydrology and Grading

Marshplain Grading

Soil would be removed in focused areas to restore tidal wetlands near the Hellman Channel with transitional habitats between the wetlands and the new berm to be constructed along the Hellman Retained site boundary (transitional habitat not shown in figures) or the surrounding uplands. Areas of existing high-functioning wetland and transition habitat could be avoided. The soil removed would be used to construct the new berm, and the excess material would be used to build the levee system in the Central Area (Section 2.7.4, *Central Area*). In the near term, existing road and high elevations ranging from 8 to 14 feet mean lower low water (MLLW)[5] on the South LCWA site would be graded down to marshplain elevation.

[5] Mean lower low water is the average of the lowest tide every day over a 13-year period.

In the mid term, the existing high elevations along the south edge of the Haynes Cooling Channel on the South LCWA site would be lowered to allow sheet flow over the marshplain and into the South LCWA site. The Los Alamitos Retarding Basin site could be graded to enhance habitats, without affecting flood management functions and existing habitat mitigation.

Some of the elevations on the Hellman Retained site (5 to 11 feet MLLW) are already low enough and support high marsh species, but in the long term, some grading would be needed to expand areas of high marsh and improve tidal connections.

Perimeter Berm or Flood Wall

A perimeter earthen berm or flood wall would be constructed in the near term to maintain protection of the Hellman Retained site from seasonally high tide levels and storm events (**Figure 2-15**, *Artistic Rendering of South Area Perimeter Berm and Flood Wall*). Soil excavated from the tidal channels or marshplain grading would be used to construct the berm (approximately 16,000 cy would be required).

The berm or wall crest elevation would be set to 10 feet NAVD,[6] or roughly 4 feet above the marshplain, to allow for higher water levels while maintaining the existing level of inundation protection for the Hellman Retained site. If an earthen berm is used, it would be constructed with a top width of 12 feet to accommodate an access road for maintenance and a public access trail, and side slopes of 3:1 horizontal to vertical (H:V) down to the marsh and Hellman Retained site. If a flood wall is used, the wall would be 5 feet wide/thick with a 12-foot access road for maintenance behind it.

Raised Road

An additional berm would be constructed in the near term along 1st Street to raise the existing road onto the berm so that it is above the marshplain and to maintain the existing access easement for the Hellman Retained site. The berm would be constructed with a top width of 30 feet and side slopes of 3:1 H:V down to the marsh on either side.

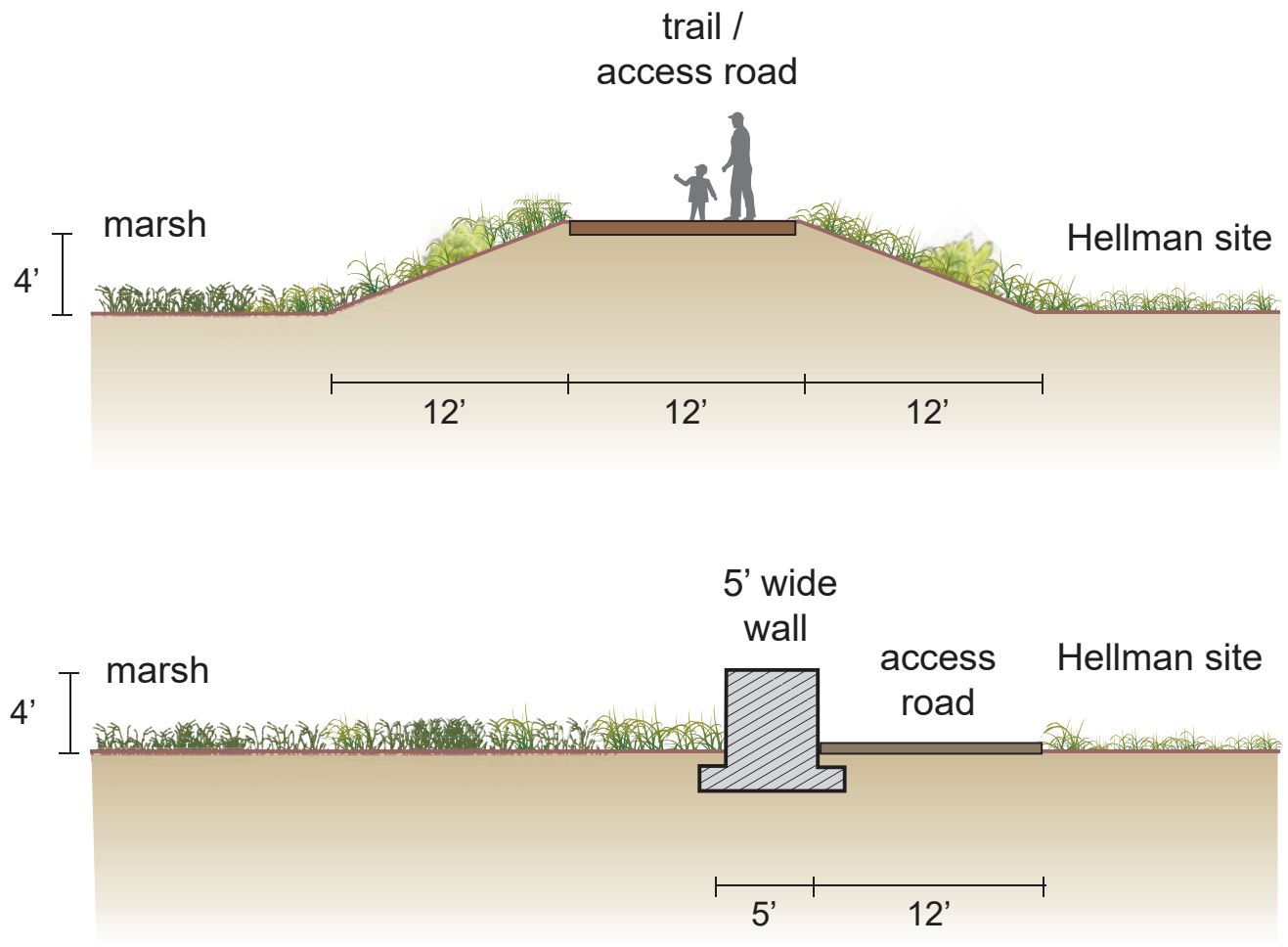
Tidal Channels

In the near term, new tidal channels would be excavated off of the Hellman Channel on the South LCWA site to create a sinuous and branching network of tidal channels through the wetlands. The existing channel would connect to the existing San Gabriel River culvert and would continue to be subtidal. The smaller channels throughout the rest of the marsh would be intertidal and would drain at low tide. The larger channels would branch into smaller distributary channels.

In the mid term, a short channel would be excavated to connect the existing main channel to the Haynes Cooling Channel. The existing culvert and channel connection would remain.

In the long term, a new channel network would be excavated from the Haynes Cooling Channel into the Hellman Retained site.

[6] The North American Vertical Datum of 1988 (NAVD) is the vertical elevation control datum established for vertical control surveying in the United States and accounts for the fact that mean sea level is not the same equipotential surface at all tidal bench marks.



SOURCE: ESA, 2019

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 2-15
Artistic Rendering Berms

ESA

LAX/D170537.00 - Los Cerritos Wetlands Restoration Program EIR/05 Graphics-GIS-Modeling/Illustrator

Water-Control Structures

In the near term, two of the existing culverts along the Hellman Channel would be improved to enhance tidal connection to the southern and eastern portions of the South LCWA site. The existing culvert under 1st Street would be improved or replaced with a bridge once the road is raised, and a second culvert or bridge would be installed through the road berm as well to connect the marsh west of the road with the marsh east of the road. The existing culvert connecting the main channel to the San Gabriel River would be improved, as needed, and the flap gate on the culvert would be removed.

Berm or Flood Wall Removal

The earthen berm or flood wall constructed in the near term would be lowered, breached, or removed to create marsh and increase connectivity to the Hellman Retained site once that site has been restored in the long term. The 1st Street berm would also be lowered or breached once the road is removed.

2.7.2.3 Flood Risk and Stormwater Management

Perimeter Berm or Flood Wall

To increase tidal flows to the site, the gate on the existing culvert connecting the South LCWA site to the San Gabriel River would be removed. To prevent flooding of the Hellman Retained site, a perimeter berm or flood wall would be constructed along the Hellman Retained site and South LCWA site boundary and tied into areas of high ground to maintain the existing level of flood risk protection.

Stormwater Management

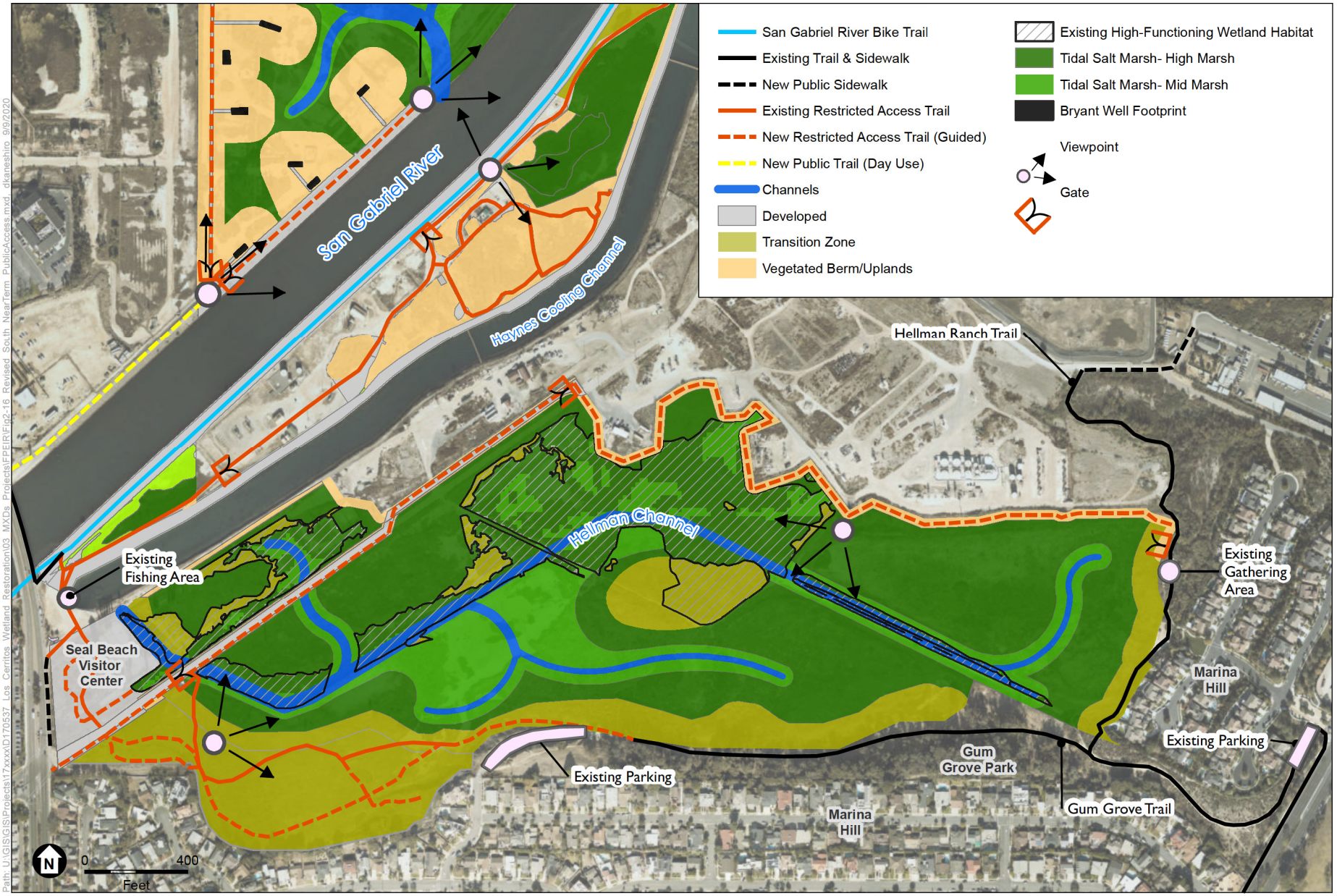
In the near term, new stormwater basin or bioswales would be constructed to function as a water quality treatment measure for the stormwater runoff from the new Seal Beach Visitor Center and associated parking.

2.7.2.4 Public Access and Visitor Facilities

The proposed program would develop and improve public access, recreation, and interpretative opportunities within the South Area in the near term, as shown in **Figure 2-16**, *Proposed South Area Near-Term Public Access*, and in the long term, as shown in **Figure 2-17**, *Proposed South Area Long-Term Public Access*.

Visitor Center and Parking

A new Seal Beach Visitor Center would be constructed on the existing raised building pad at the southeast corner of the San Gabriel River Trail and PCH. Parking would be provided along 1st Street adjacent to the Seal Beach Visitor Center for employees and visitors. An additional existing parking lot would be available at the western end of the Gum Grove Trail. The Seal Beach Visitor Center would serve as the main access point to the Isthmus and South Areas, with trail connections to Callaway and Zedler Marshes to the north, and to Gum Grove Park and the Hellman Ranch Trail to the east.



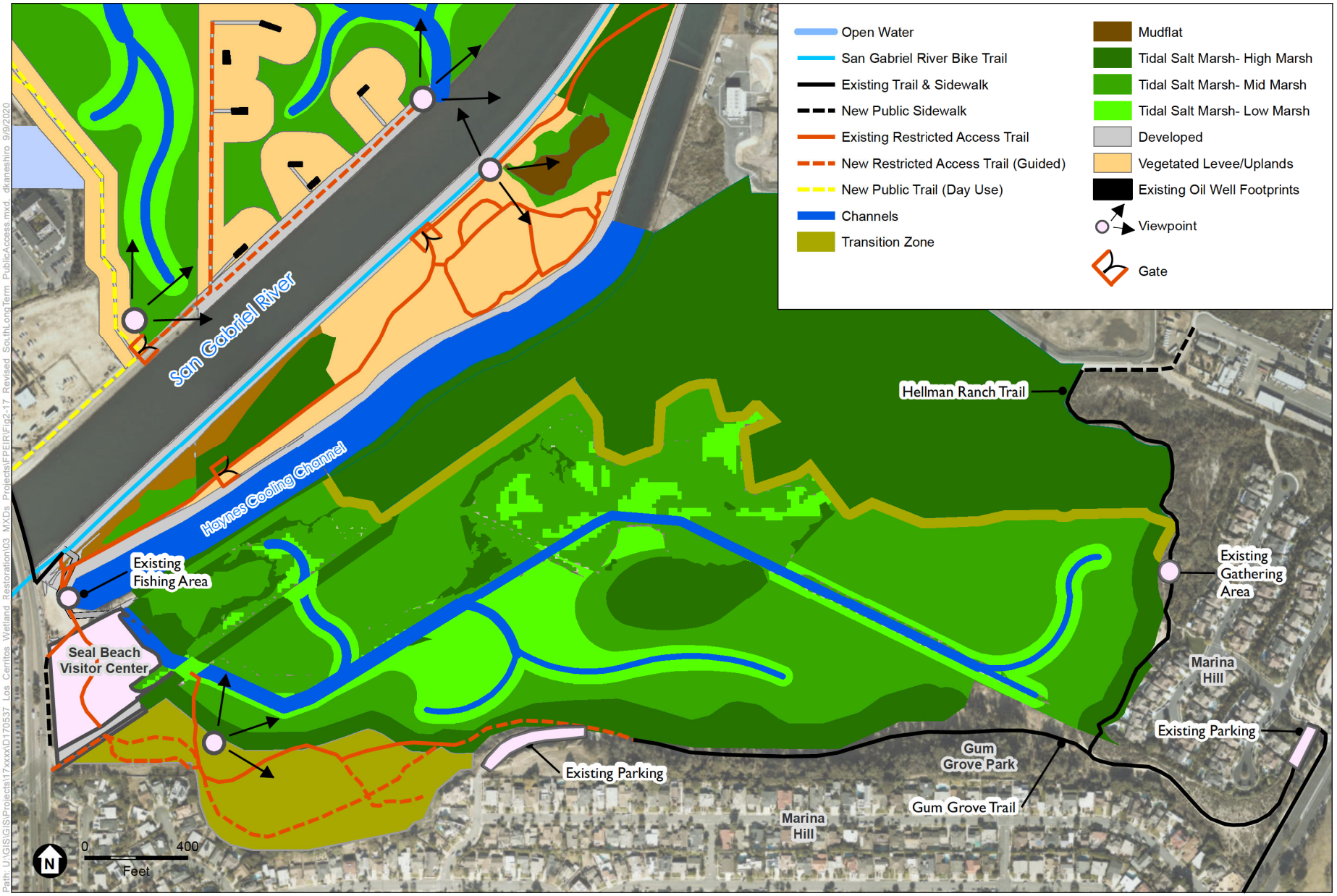
SOURCE: ESRI,LCWA, ESA

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 2-16

Revised Proposed South Area Near-Term Public Access

ESA



SOURCE: ESRI,LCWA, ESA

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 2-17

Revised Proposed South Area Long-Term Public Access

ESA

Trails and Overlooks

A new restricted trail would be constructed through the ~~raptor~~ habitat on the former landfill site on the South LCWA site in the near term. The trail would connect Gum Grove Park to the existing San Gabriel River Trail, fishing area, and trails on the Isthmus area. Initially this trail would be restricted to docent-led tours until habitat areas are established and a management plan is approved. A viewpoint would be constructed ~~in the raptor habitat area~~overlooking the marsh.

Another restricted trail would be constructed along the top of the new berm, connecting with 1st Street on the west and Gum Grove Trail on the east. If the perimeter flood wall is constructed instead of the berm, public access would be reduced. A viewpoint would be constructed along the new berm. This trail would be restricted to docent-led tours and maintenance access. In the long-term phase, this trail would be removed to allow for full restoration of the South Area.

The existing fishing area at the Haynes Cooling Channel would be retained. Public access along PCH would be improved by the addition of sidewalks between 1st Street and the San Gabriel River Trail, and improvements to formalize parking at the fishing area.

2.7.2.5 Infrastructure and Utility Modification

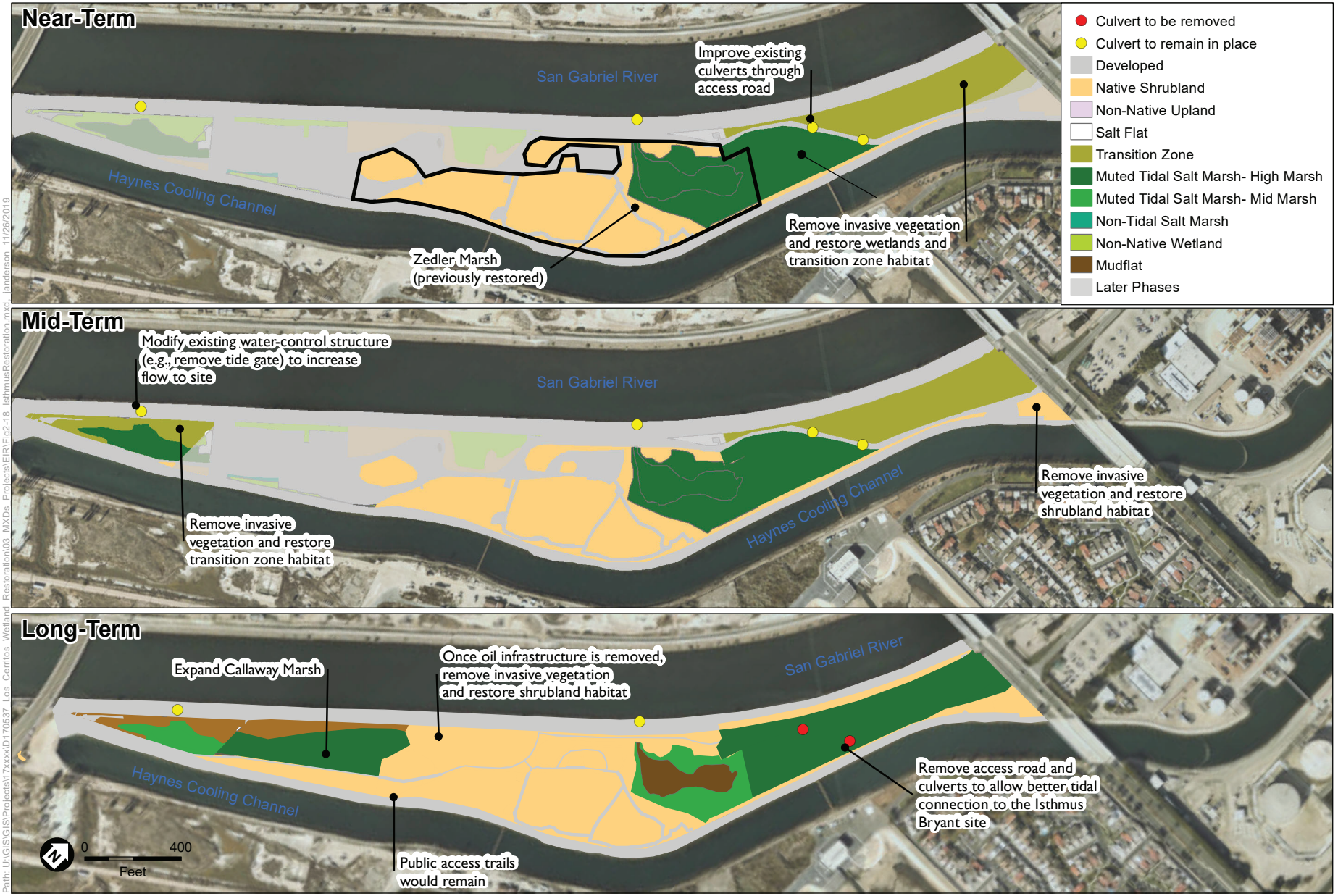
In the near term, the existing road (1st Street) through the marsh would be raised on a berm to move it out of the restored marsh floodplain. The City of Seal Beach is planning to replace the water line within the road, which could be done at the same time as the road upgrade. The utility poles supporting the power lines along the road would likely need to be improved (e.g., relocated, heightened) as part of the raising of the road. Preferably the power lines could be replaced underground.

In the long term, the oil wells and associated oil production infrastructure on the Hellman Retained site would need to be decommissioned and removed before restoration can occur. Because there are no agreements in place between the oil operators and LCWA in the South area, it is expected that overall levels of oil and natural gas production would continue until production decreases to below economically viable levels, after which oil production would stop. When the owner/operators of those oil operations elect to change or close those operations, the changes would be analyzed under separate CEQA documents. The work would involve plugging and abandoning oil wells and is discussed in more detail under the heading Oil Well Abandonment in Section 2.7.6.4 *Implementation Methods*. Additionally, 1st Street would be removed, to allow for restoration of the berm. The water line and power lines would be relocated off site.

2.7.3 Isthmus Area

2.7.3.1 Phasing

In the near term, the proposed program would extend the restoration currently present on the Zedler Marsh site north into the Isthmus Bryant site and the portion of the DWP site west of the gas access road (**Figure 2-18**, *Proposed Isthmus Area Restoration*). The Callaway Marsh site and the rest of the DWP site would be enhanced in the mid term, once the Haynes Cooling Channel is decommissioned by LADWP and no longer in use for the Haynes Generating Station. In the long term, the oil operations on the Isthmus LCWA site would be removed or consolidated off site to allow for restoration once the oil operations are no longer active. **Table 2-7**, *Isthmus Area Phasing*, summarizes the activities associated with each phase.



SOURCE: Mapbox, LCWA, NOAA, ESA

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 2-18

Proposed Isthmus Area Restoration

ESA

TABLE 2-7
ISTHMUS AREA PHASING

	Near Term (0–10 years)	Mid Term (10–20 years)	Long Term (20+ years)
Zedler Marsh Site	• Previously restored with ongoing restoration activities per the Stewardship Vision Plan	n/a	n/a
Isthmus Bryant Site	• Limited grading of site to support habitat restoration and provide tidal connection to Zedler Marsh • Removal of invasive species and planting of native vegetation	n/a	• Removal of access road and culverts to allow better tidal flow to the north
DWP Site	• Removal of invasive species and planting of native vegetation west of the gas access road	• Removal of invasive species and planting of native vegetation east of the gas access road	• Removal of access road to reduce habitat fragmentation
Callaway Marsh Site	n/a	• Limited grading of site to support habitat restoration • Removal of flap gate on culvert connecting site to San Gabriel River • Removal of invasive species and planting of native vegetation	n/a
Isthmus LCWA Site	n/a	n/a	• Oil operations removed or consolidated to allow for restoration • Remediation of soils • Limited grading of site to support habitat restoration • Removal of invasive species and planting of native vegetation

2.7.3.2 Ecosystem Restoration

Restored Habitats

In the near term, the Isthmus Bryant site would be graded in limited places to eliminate habitat fragmentation and to create small tidal creeks. The area southeast of the gas access road would be restored to muted tidal salt marsh habitat, while the habitat northwest of the gas access road (on both the Isthmus Bryant and DWP sites) would be restored to transitional habitat. Community volunteers through the LCWA Stewardship Program would be involved in revegetation activities and invasive plant species removal on this site.

In the mid term, wetland enhancements in Callaway Marsh would include invasive vegetation removal and native vegetation restoration in the wetlands and transition zone along the edges of the site, and include modifications to the existing water-control structure (e.g., removing the existing tide gate) to increase the tidal flow to the Callaway Marsh site. Grading would take place in locations as necessary to maximize tidal wetland, while preserving areas for transitional habitat. On the DWP site east of the oil operations access road, invasive vegetation would be removed and native shrubland would be restored.

In the long term, restoration of the Isthmus LCWA site would involve invasive vegetation removal and native vegetation restoration. The southwest portion of the site has lower elevations which would support muted tidal salt marsh vegetation, while the northern portion of the site would support native shrubland habitat. The gas access road through the Isthmus Bryant site would be removed in order to provide better hydrologic connections between Zedler Marsh and the vegetation in the north.

Restoration habitat targets and acreages by phase are presented in **Table 2-8**, *Post-Restoration Habitats and Acreages in Isthmus Area*.

Hydrology and Grading

Marshplain Grading

In the near term, there may be minimal grading activity on the Isthmus Bryant site and the western portion of the DWP site to allow for current high tides to flow from Zedler Marsh further north towards 2nd Street. The existing culverts under the oil operations access road would remain in place to provide some tidal connection to the area north of the road.

In the mid term, some grading in areas of ruderal upland around the perimeter of the Callaway Marsh site (8 to 10 feet MLLW) would be conducted to expand the marsh and increase areas that would be inundated by tidal waters, while maintaining transitional and upland habitat.

Depending on the rate of sea-level rise when the long-term restoration is implemented, the elevations on the Isthmus LCWA site (6 to 15 feet MLLW) may be appropriate for both upland and muted tidal salt marsh habitats in the west near Callaway Marsh. Some grading would be needed to eliminate habitat fragmentation caused by the existing development.

TABLE 2-8
POST-RESTORATION HABITATS AND ACREAGES IN ISTHMUS AREA

		Near Term	Mid Term	Long Term
Habitat Type	**Existing Conditions**	**Proposed Restoration**	**Proposed Restoration**	**Proposed Restoration**
Wetlands[a]	**10.5**	**10.7**	**10.7**	**13.5**
Transitional zone	0.0	3.0	3.8	2.2
Salt flat	1.9	0.2	0.2	0.0
Muted-tidal salt marsh	3.3	5.3	5.2	11.2
Non-tidal salt marsh	3.1	0.1	0.1	0.0
Non-native wetlands	2.2	2.2	1.4	0.0
Uplands	**7.7**	**7.7**	**8.0**	**11.7**
Native shrubland[b]	7.3	7.7	8.0	11.7
Non-native upland	0.4	0.0	0.0	0.0
Non-Natural	**9.8**	**9.7**	**9.7**	**2.9**
Developed (e.g., impervious surfaces)	9.8	9.7	9.7	2.9
Total[c]	**28**	**28**	**28**	**28**

TABLE 2-8
POST-RESTORATION HABITATS AND ACREAGES IN ISTHMUS AREA

		Near Term	Mid Term	Long Term
Habitat Type	**Existing Conditions**	**Proposed Restoration**	**Proposed Restoration**	**Proposed Restoration**

[a] These habitat acreages may or may not be jurisdictional wetlands, but they have plants and/or hydrology that is indicative of wetlands. Jurisdictional surveys would be conducted when individual projects move forward.

[b] Under existing conditions, this category includes recently restored shrubland that is still being weeded and irrigated. However, it is expected that this habitat will evolve to a natural stand in the future.

[c] Acreages do not include the Los Alamitos Pump Station site or the Los Alamitos Retarding Basin site. Acreages presented here assume the construction of an earthen berm which has a slightly larger footprint than a flood wall

2.7.3.3 Flood Risk and Stormwater Management

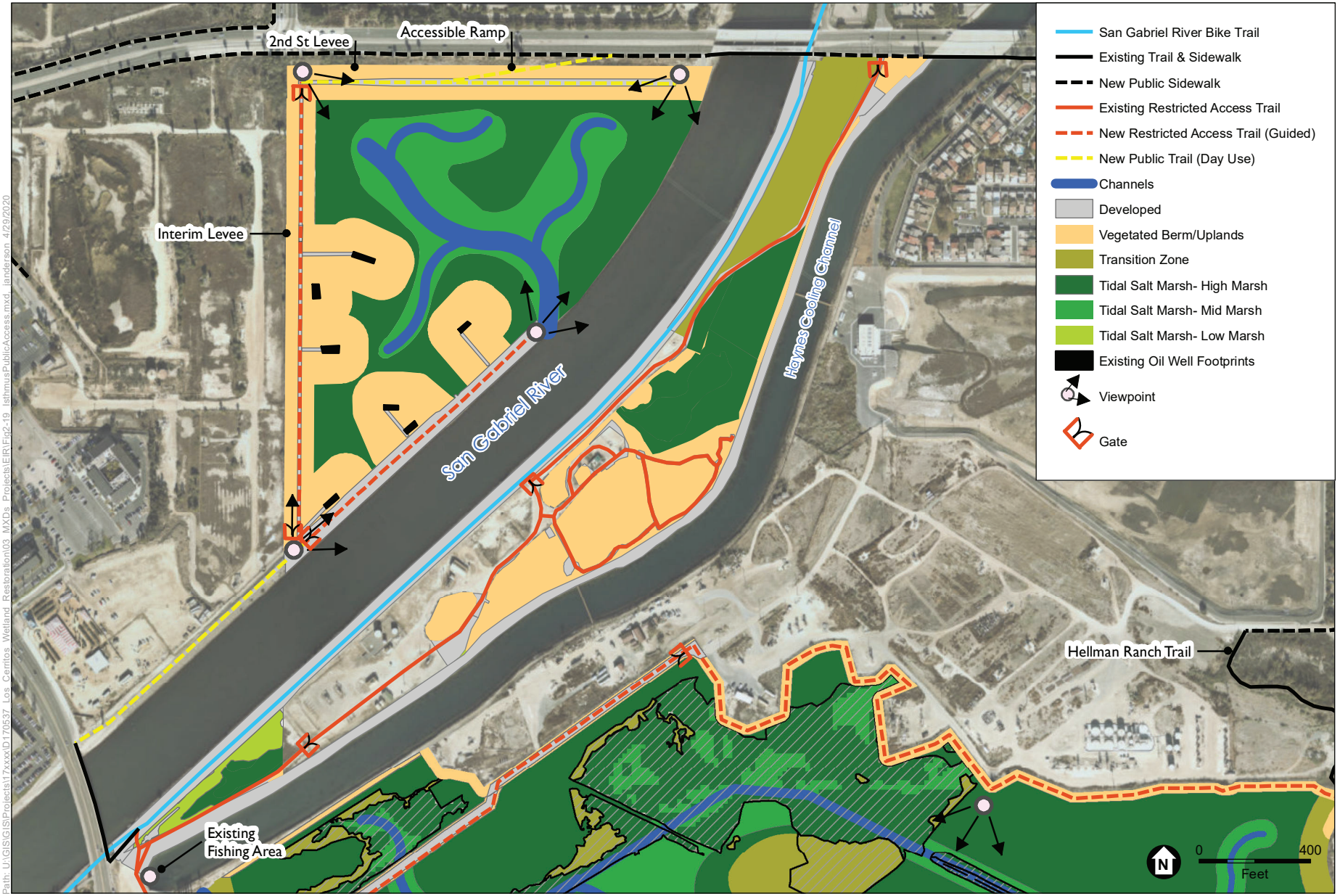
The existing culverts connecting the San Gabriel River to the Zedler and Callaway Marsh sites would be maintained, so no change to the flood risk or stormwater management is anticipated. The increased water levels in Callaway Marsh once the existing gate is removed would require a self-regulating tide gate to limit high water levels or grading to raise the high ground around the site.

2.7.3.4 Public Access and Visitor Facilities

No new public access or visitor facilities are proposed for the Isthmus Area beyond possible installation of additional interpretive signage (**Figure 2-19**, *Proposed Isthmus Area Public Access*). Public access could be improved in the near term by opening the gate along the San Gabriel Trail, and scheduling docent-led tours or walks at Zedler Marsh. Once the Seal Beach Visitor Center and parking lot are constructed as part of restoration of the South Area, the existing road that connects Zedler Marsh to Callaway Marsh and the PCH would provide a new restricted access trail connection between the Seal Beach Visitor Center and Zedler Marsh.

2.7.3.5 Infrastructure and Utility Modification

No new infrastructure or modifications to utilities are proposed for the Isthmus Area in the near- and mid term. In the long term, oil wells and associated oil production infrastructure on the Isthmus LCWA site would need to be decommissioned and removed before restoration can occur. Because there are no agreements in place between the oil operators and LCWA in the Isthmus area, it is expected that overall levels of oil and natural gas production would continue until production decreases to below economically viable levels, after which oil production would stop. When the owner/operators of those oil operations elect to change or close those operations, the changes would be analyzed under separate CEQA documents. The work involved in abandoning oil wells is discussed under the heading Oil Well Abandonment in Section 2.7.6.4, *Implementation Methods*.



SOURCE: NOAA, ESA, LCWA

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 2-19

Proposed Isthmus Area Public Access

ESA

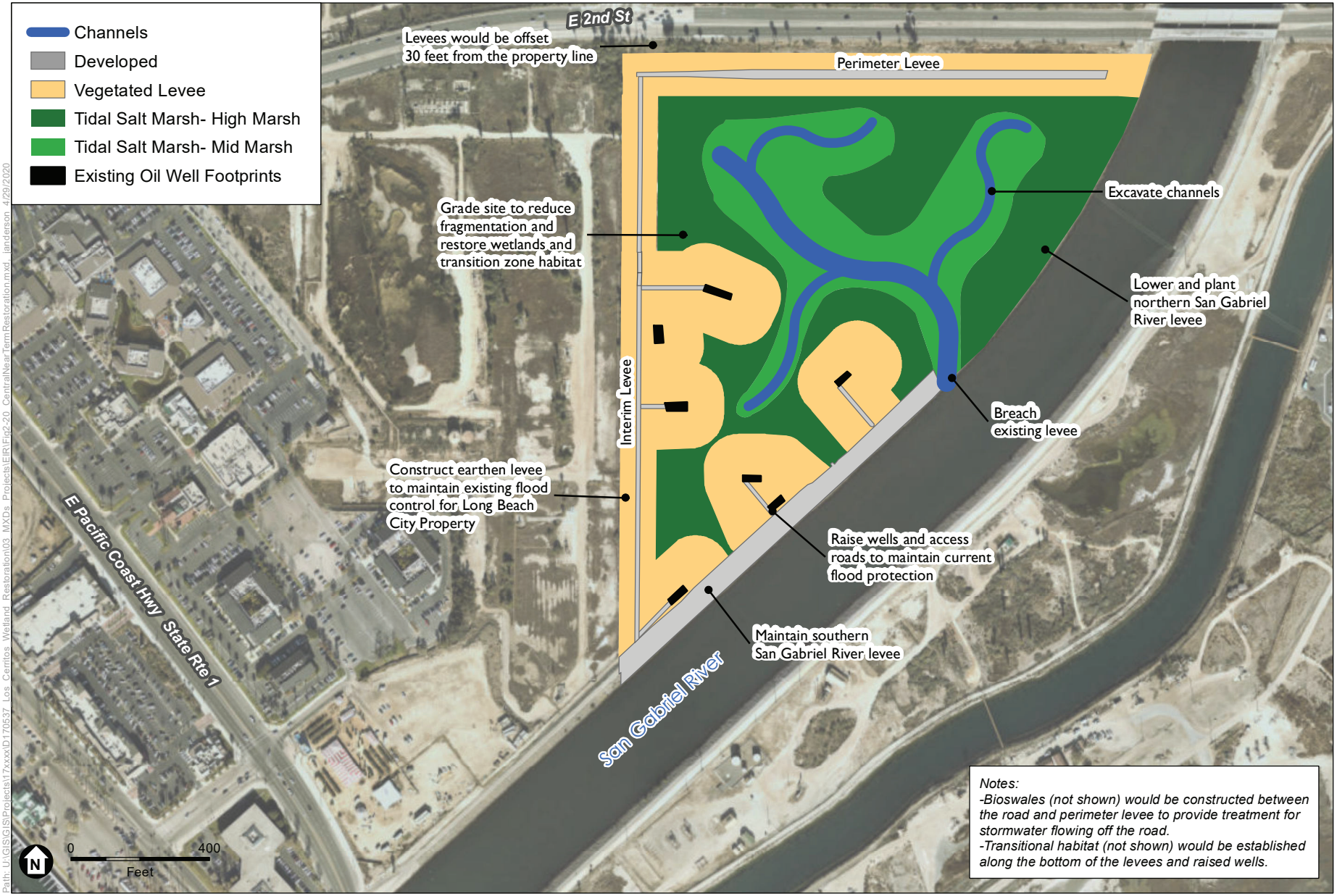
2.7.4 Central Area

2.7.4.1 Phasing

Ecosystem restoration in the Central Area would occur in two phases based on land and oil lease ownership. The Central LCWA site is available for restoration immediately, and discussions between Bryant Dakin, LLC and the LCWA on acquisition of the Central Bryant site for restoration are on-going. The program assumes that both of these properties would be available for restoration in the near term, and the existing oil operations on the Central LCWA site operated by Signal Hill Petroleum, Inc. would be protected in place by proposing to raise the wells out of the floodplain. The Long Beach City Property site and the Pumpkin Patch site are part of the Los Cerritos Wetlands Oil Consolidation and Restoration Project (see Section 2.4.4, *Los Cerritos Wetlands Oil Consolidation and Restoration Project*) and would be available for restoration in the long term.

The near-term phase of the program would be focused on the Central LCWA and Central Bryant sites and would provide the conditions necessary for the reestablishment of coastal salt marsh habitat and associated hydrologic, biogeochemical, and habitat functions (**Figure 2-20**, *Proposed Central Area Near-Term Restoration*). Near-term activities would include:

- Relocating or modifying oil infrastructure and remediation of soils on the Central LCWA site;
- Grading of the sites, including channels, and revegetation of native plants to support a diversity of salt marsh species;
- Removing segments of the existing levee (e.g., breaching the levee and/or lowering a segment) that currently separates the San Gabriel River from non-tidal portions of the Central LCWA and Central Bryant sites;
- Constructing a new earthen levee (Perimeter Levee) along 2nd Street from the San Gabriel River to the intersection with Studebaker Road to protect areas to the north from flooding;
- Constructing a new interim earthen levee (Interim Levee) along the western boundary of the Central LCWA site to protect the areas to the west from flooding and to provide continued access to the wells on the Central LCWA site;
- Providing flood protection for the existing wells on the Central LCWA site by proposing to raise the well pads out of the floodplain; and
- Constructing public trails on levees, including accessible ramps, and viewpoints.



SOURCE: NOAA, ESA, LCWA

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 2-20

Proposed Central Area Near-Term Restoration

ESA

In the long term, the Long Beach City Property site and the Pumpkin Patch site would be restored to tidal salt marsh, including (**Figure 2-21**, *Proposed Central Area Long-Term Restoration*):

- Grading the Long Beach City Property site, including channels, to support a diversity of salt marsh species;
- Removing the northern segment of the Interim Levee on the Central LCWA site to connect the restored habitats on the Central LCWA site to the non-tidal portions of the Long Beach City Property site;
- Constructing a new earthen levee (Perimeter Levee) along 2nd Street between the intersection with Studebaker Road to Shopkeeper Road on the Long Beach City Property site and then along Shopkeeper Road to the existing San Gabriel River levee on the Long Beach City Property and Pumpkin Patch sites to protect areas to the north and west from flooding; and
- Constructing public trails on levees, accessible ramps, stairs, and viewpoints.

Table 2-9, *Central Area Phasing*, summarizes the activities associated with each phase.

Impacts associated with habitat restoration on the Long Beach City Property and Pumpkin Patch sites will be evaluated under this PEIR. See the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse No. 2016041083) and CCC Staff Report conditions for impacts associated with soil remediation, oil consolidation, and construction of the new pipeline system and utility corridor.

2.7.4.2 Ecosystem Restoration

Restored Habitats

The proposed program would restore connectivity of the San Gabriel River with a broader wetland floodplain across the Central LCWA, Central Bryant, and Long Beach City Property sites by removing segments of the existing levees on the north bank of the river and creating a tidal channel network. Sub-tidal and intertidal channels would extend from the San Gabriel River into the vegetated tidal wetlands, providing habitat diversity and tidal circulation. Grading would occur across the Central Area to lower the elevation of upland roads and pads to wetland elevations, if needed. The San Gabriel River Levee north of the breach would be lowered to create additional habitat.

The Perimeter Levee would slope from upland down through transitional marsh habitat (area not shown in Figure 2-22)[7] to salt marsh at a 3:1 H:V slope (**Figure 2-22**, *Artistic Renderings of Central Area Perimeter Levee*, top cross-section).

In the long term, the area west of the Perimeter Levee would be restored to brackish marsh by focusing local run-off into this location and removing invasive plants.

Restoration habitat targets and acreages by phase and option are presented in **Table 2-10**, *Post-Restoration Habitats and Acreages in Central Area*.

[7] There would be a roughly 6-foot strip of transitional habitat along the Perimeter Levee totaling 0.7 acres



SOURCE: NOAA, ESA, LCWA

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 2-21

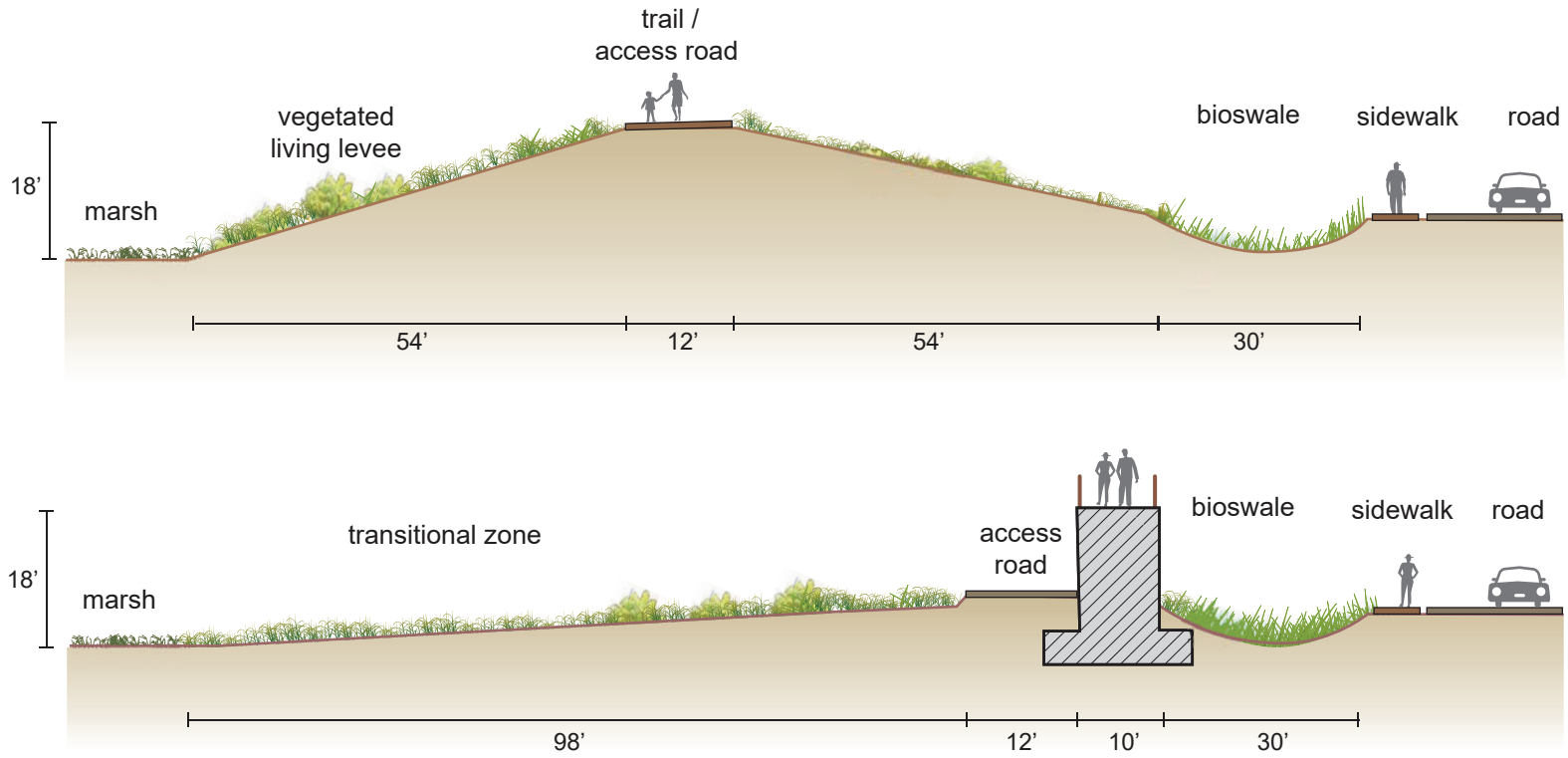
Proposed Central Area Long-Term Restoration

ESA

TABLE 2-9
CENTRAL AREA PHASING

	Near Term (0–10 ears)	Mid Term (10–20 years)	Long Term (20+ years)
Central LCWA Site and Central Bryant Site	• Remediation of soils and relocation or modifying oil infrastructure • Grading of site to support habitat restoration • Construction of earthen levee to protect Long Beach City Property site (Interim Levee) and 2nd Street (Perimeter Levee) • Raising existing wells to protect them • Breaching the San Gabriel River Levee and reconnecting the river to the restored marsh • Construction of public trails on levees and accessible ramps • Construction of viewpoints	n/a	• Removal of the Interim Levee and excavation of a tidal channel from the Central LCWA/Central Bryant site to the Long Beach City Property site
Long Beach City Property Site	• Construction of an aboveground pipeline system and underground utility corridor along 2nd Street from Studebaker Road down to and along Shopkeeper Road • Removal of tank farm and 95% of pipelines	n/a	• Removal of oil operations and remediation of soils to allow for restoration • Grading of site to support habitat restoration • Construction of earthen levee to protect 2nd Street and Shopkeeper Road (Perimeter Levee) • Excavation of a tidal channel from the Central LCWA/Central Bryant site to the Long Beach City Property site • Construction of public trails on levees, accessible ramps, and stairs • Construction of viewpoints
Pumpkin Patch Site	n/a	n/a	• Removal of oil operations, including 95% of pipelines and remediation of soils to allow for restoration of the site • Construction of earthen levee to protect the western portion of the Pumpkin Patch site (Perimeter Levee)

Grey text represents project features that interact with this program, but that are evaluated as part of the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR



SOURCE: ESA, 2019

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 2-22
Artistic Rendering Levees

ESA

LAX/D170537.00 - Los Cerritos Wetlands Restoration Program EIR/05 Graphics-GIS-Modeling/Illustrator

TABLE 2-10
POST-RESTORATION HABITATS AND ACREAGES IN CENTRAL AREA

Habitat Type	Existing Conditions	Near Term Proposed Restoration	Long Term Proposed Restoration
Wetlands[a]	**68.6**	**63.7**	**64.2**
Transitional zone	0.0	0.7	1.1
Salt flat	3.9	1.0	0.0
Tidal salt marsh	0.0	20.2	42.6
Non-tidal salt marsh	42.1	19.3	0.0
Brackish wetlands	3.7	3.7	2.1
Intermittently flooded brackish pond	0.4	0.4	0.0
Non-Native wetlands	1.4	0.6	0.0
Subtidal	17.2	17.8	18.5
Uplands	**7.4**	**3.2**	**0.0**
Native shrubland	0.2	0.1	0.0
Non-native upland	7.2	3.1	0.0
Managed Habitats	**0.0**	**14.2**	**23.8**
Bioswale	0.0	1.2	3.5
Vegetated levees/berms	0.0	12.9	20.4
Non-Natural	**31.9**	**26.6**	**20.4**
Disturbed habitat	0.1	0.0	0.0
Developed (e.g., impervious surfaces)	31.8	26.6	20.4
Total	**108**	**108**	**108**

[a] These habitat acreages may or may not be jurisdictional wetlands, but they have plants and/or hydrology that is indicative of wetlands. Jurisdictional surveys would be conducted when individual projects move forward.

Hydrology and Grading

Further project design and analysis is needed to determine the exact method for providing tidal connection from the San Gabriel River to the Central LCWA site and the flood management features that would be needed to maintain or reduce the current level of flood risk. To address this uncertainty, this PEIR analyzes the possible range of tidal connections and flood management features in order to provide flexibility for the future design. See Chapter 5, *Alternatives*, for alternatives considered and further evaluated, which includes alternatives with a culvert connection between the Central Area and the San Gabriel River levee instead of a full connection to the river. A culvert connection would limit storm flows and decrease storm water levels, which would result in lower levee heights and result in a smaller overall footprint.

Marshplain Grading

Existing dirt road severely fragment the site ecologically and hydrologically, with elevations ranging from 6 to 10 feet MLLW on the Central LCWA and Central Bryant sites. Grading would be done in the near term to eliminate this fragmentation and establish a broad, natural marshplain, with elevations ranging between 4 to 7 feet MLLW. The excavated material would be used to

construct the new Perimeter Levee, but additional material would be needed, which could come from restoration of the South Area (Section 2.7.2, *South Area*).

Depending on the rate of sea-level rise when the long-term restoration is implemented, some areas on the Long Beach City Property site may need to be filled to raise elevations to create sustainable habitat over time with sea-level rise. Existing elevations range from 2 to 8 feet MLLW, which, depending on the amount of sea-level rise that has occurred when the restoration is implemented, would correspond to subtidal, mudflat, and low salt marsh. Grading or filling could be done to raise elevations to mid or high salt marsh with some areas of low marsh and mudflat along the tidal channels.

Tidal Channels

In the near term, new tidal channels would be excavated between the San Gabriel River and the Interim Levee to create a sinuous and branching network of tidal channels through the wetlands. The largest channels (widest and deepest) would connect up to the breach and be subtidal in elevation. The smaller channels throughout the rest of the salt marsh would be intertidal and would drain at low tide.

Perimeter Levee

The upland perimeter around the restored wetlands would be raised to function as a flood risk management levee. The levee would be constructed with a top width of 12 feet and would be approximately 4,800 feet long, running from the San Gabriel River Levee adjacent to the 2nd Street bridge, west on 2nd Street, and south on Shopkeeper Road to tie into the existing levee. The Perimeter Levee would have a slope of approximately 3:1 horizontal: vertical (H:V) down to restored salt marsh at roughly 6 feet MLLW and the same slope down to the road on the back, which would give it a footprint of 120 feet in width. The levee would be offset from the property boundaries by 30 feet to allow for road drainage to the area between the road and the levee and to limit settlement impacts (e.g., the weight of the levee impacting the surrounding area) to existing utilities along 2nd Street and Shopkeeper Road, which would remain in place. The offset would also provide space for the pipeline and utility corridor proposed as part of the Los Cerritos Wetlands Oil Consolidation and Restoration Project. The levee crest elevation is expected to be approximately 24 feet MLLW, or roughly 6 feet (in the east) to 11 feet (in the west) above 2nd Street (since the road slopes down from the river) and roughly 11 feet above Shopkeeper Road, as described in greater detail below in Section 2.7.4.3, *Flood Risk and Stormwater Management*. The levee would include a 12-foot-wide road on the top that would serve the dual purpose of providing access for maintenance of the levee and a public access trail (Figure 2-22).

The first part of the levee along the eastern portion of 2nd Street from the bridge to the intersection with Studebaker Road (roughly 1,500 feet) would be constructed in the near term and would tie into the Interim Levee. Approximately 65,000–72,000 cubic yards of fill would be placed in the near term to construct this portion of the Perimeter Levee. The remaining Perimeter Levee (roughly 3,400 feet) would be constructed in the long term, when the Long Beach City Property site is available for restoration. Approximately 158,000–180,000 cubic yards of fill would be placed in the long term for the construction of the Perimeter Levee along 2nd Street

from the intersection of Studebaker Road to Shopkeeper Road and down along Shopkeeper Road, south to the Pumpkin Patch site.

Interim Levee

During the near-term ecosystem restoration, an Interim Levee would be constructed along the eastern Long Beach City Property boundary on the Central LCWA site. The levee crest elevation is expected to be approximately 21 feet MLLW, or 15 feet above marshplain elevation, as described in greater detail below in Section 2.7.4.3, *Flood Risk and Stormwater Management*.

The Interim Levee would have 3:1 H:V side slopes on both sides. The levee would be constructed with a top width of 12 feet and would include a 12-foot-wide maintenance access road and a public access trail on top. Approximately 62,000–68,000 cubic yards of fill would be placed in the near term to construct the approximately 1,600-foot-long Interim Levee.

In the long term, the northern portion of the Interim Levee (the area north of the existing wells) would be removed to allow tidal connection between the Central LCWA site and the Long Beach City Property site. The material removed from the Interim Levee (17,000–19,000 cubic yards) would be used to construct the Perimeter Levee.

Well Access and Flood Control

The proposed program would grade well pads and access roads up to 19 feet MLLW (13 feet above marshplain elevation) (see below in Section 2.7.4.3, *Flood Risk and Stormwater Management*) with slopes of 3:1 H:V down to the surrounding marshplain. The access roads could be consolidated to reduce the extent in the salt marsh.

2.7.4.3 Flood Risk and Stormwater Management

The restoration and grading descriptions above describe how levee grading would support restoration functions. The sections below detail the flood risk and stormwater management functions of levees and drainage features of the proposed program.

Levees

In the Central Area, the proposed program includes a new levee along 2nd Street and Shopkeeper Road to function as a flood risk management levee, a modified Los Angeles County Drainage Area project feature. This levee would replace the existing west San Gabriel River Levee and maintain or improve the existing level of flood risk protection for 2nd Street and Shopkeeper Road from San Gabriel River flooding. The new levee would tie into the existing San Gabriel River Levee upstream and downstream of the restoration. The levee would be set at approximately 24 feet NAVD (18 feet above marshplain elevation) which includes 5 feet of sea-level rise above the existing level of flood protection (19 feet NAVD). The Interim Levee would include protection for 2 feet of sea-level rise (21 feet NAVD crest elevation), assuming it would only be required until the long-term restoration is implemented.

The Central Area is expected to primarily be a backwater area, or an area of little or no current, during flood events, and erosion potential is expected to be limited along most of the levee reach.

The new levees may incorporate buried soil cement or rock protection of the levee core with vegetation on the slopes.

Oil Operation Flood Risk Management

Well pads and access roads in the Central LCWA and Central Bryant sites would be graded to 19 feet NAVD (13 feet above marshplain elevation) to match the existing level of flood risk protection provided by the San Gabriel River Levees. The access roads would tie the high-elevation well pads to the existing and Interim Levees.

Water-Control Structures

The existing culvert on the Long Beach City Property site connecting the site to the San Gabriel River during high tides would be left in place. The culvert would continue to allow some minor flow into the site at high tides and would provide some drainage to the site.

Stormwater Management

With the construction of the proposed levees, storage volume for the excess overflow drainage from the roads would be eliminated. Replacement stormwater storage volume would be provided by creating low areas (e.g., basins or swales) between the roads and the proposed levee. These storage basins or bioswales would be sized to accommodate the local area drainage. These basins would also function as water quality treatment measures for a portion of the runoff from the existing paved areas.

2.7.4.4 Public Access and Visitor Facilities

The proposed program would develop and improve public access, recreation, and interpretative opportunities within the Central Area in the near term, as shown in **Figure 2-23**, *Proposed Central Area Near-Term Public Access*, and in the long term, as shown in **Figure 2-24**, *Proposed Central Area Long-Term Public Access*.

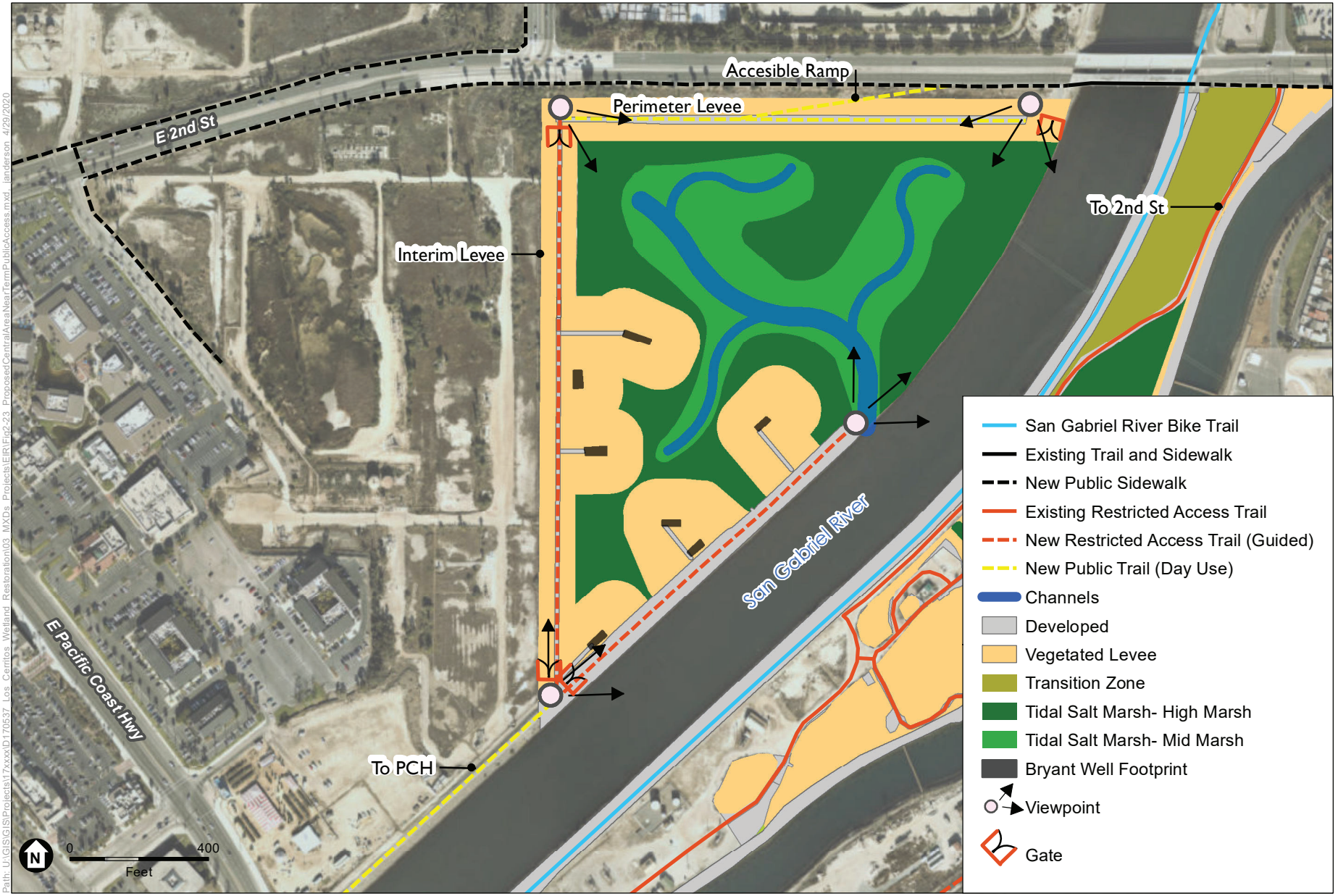
Parking

The main parking for the Central Area would be existing on-street parking along Shopkeeper Road.

Trails and Overlooks

A 12-foot-wide road would be constructed along the top of the near-term Perimeter and Interim Levees. The road on the near-term Perimeter Levee (parallel to 2nd Street) would serve multiple purposes as a maintenance access road and a public trail. It would be open to the public from dawn to dusk and would have an accessible ramp sloping up from the sidewalk along 2nd Street to the top of the levee. There would be two overlooks constructed at either end of the near-term Perimeter Levee (Figure 2-24).

The road on top of the Interim Levee (north-south between 2nd Street and the San Gabriel River Levee) would not be open to the public due to the oil operations but could be restricted to docent-led use only with gates on either end. An additional overlook would be constructed where the Interim Levee ties into the existing San Gabriel River Levee and could be accessed by the public along the existing levee from the PCH. Access would be restricted on the existing levee from the Interim Levee to the breach due to oil operations.



SOURCE: NOAA, ESA, LCWA

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 2-23

Proposed Central Area Near-Term Public Access

ESA



SOURCE: NOAA, ESA, LCWA

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 2-24

Proposed Central Area Long-Term Public Access

ESA

In the long term, the Central Area restoration would expand to the west, which would change and expand the public access opportunities. The maintenance road and public trail on the eastern portion of the Perimeter Levee along 2nd Street would be extended west after the rest of the Perimeter Levee is constructed (see Section 2.7.4.3, *Flood Risk and Stormwater Management*, under *Levees*). The new trail segment would have an accessible ramp and stairs up from the parking along Shopkeeper Road (Figure 2-24). A set of stairs would also be added at the northwest corner of the Perimeter Levee, near the crosswalk, to facilitate direct access from the North Area and Long Beach Visitor Center (see Section 2.7.5, *North Area*).

Sidewalk Improvements

Sidewalk improvements could be implemented in accordance with the City of Long Beach standards along the south side of 2nd Street, improving public access around the perimeter below the levee. All construction for these improvements could occur within the existing right-of-way. A crosswalk would be added at the intersection of Shopkeeper Road and 2nd Street to improve public access between the North Area, Long Beach Visitor Center, and Central Area.

2.7.4.5 Infrastructure and Utility Modification

As proposed in the Termination of Oil and Gas Lease and Grant of Easement agreement between Signal Hill Petroleum, Inc., and the LCWA, Signal Hill Petroleum, Inc. would relocate or modify aboveground pipelines and utilities on the Central LCWA site and remediate soils that have been impacted by oil operations to accommodate the restoration. Thus, restoration in the near term would include pipeline relocation, but not well relocation. Additionally, outside of this agreement, existing Signal Hill Petroleum, Inc. wells would be protected in place by proposing to raise the wells out of the floodplain to 19 feet NAVD, 13 feet above marshplain elevation. When Signal Hill Petroleum, Inc. elect to modify their oil operations, the changes would be analyzed under a separate CEQA document.

The decommissioning of oil wells and associated oil production infrastructure on the Long Beach City Property site and the Pumpkin Patch site is discussed in the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse No. 2016041083).

Pipeline Removal

Pipelines to be demolished on the Central LCWA site would be identified and marked in the field and permanently isolated from sections of the system that would continue operating. Many of these pipelines occur in wetland areas. The pipelines would be removed in compliance with applicable standards required by CalGEM and Department of Toxic Substances Control (DTSC) Removal of pipelines could involve excavation of contaminated soil. If contaminated soil is encountered, the material would be tested and assessed to determine remediation options in compliance with applicable regulatory standards.

Raising Wells

To raise the oil well pads, the wells would be temporarily taken off production and all equipment would be removed from each well (pumping units, concrete pads, electrical equipment, etc.). A temporary retrievable plug would be placed in each well and a casing riser would be installed. Once the well pad grading and construction are complete, the wells would go back into production.

Well Abandonment

In the long term, the oil wells and associated oil production infrastructure on the Central LCWA site may be decommissioned and removed as part of restoration activities. Because there are no agreements in place between the oil operators and LCWA on the Central LCWA site for oil well abandonment, it is expected that overall levels of oil and natural gas production would continue until production decreases to below economically viable levels, after which oil production would stop. When the owner/operators of those oil operations elect to change or close those operations, the changes would be analyzed under separate CEQA documents. The work involved in abandoning oil wells is discussed under the heading Oil Well Abandonment in Section 2.7.6.4, *Implementation Methods*.

2.7.5 North Area

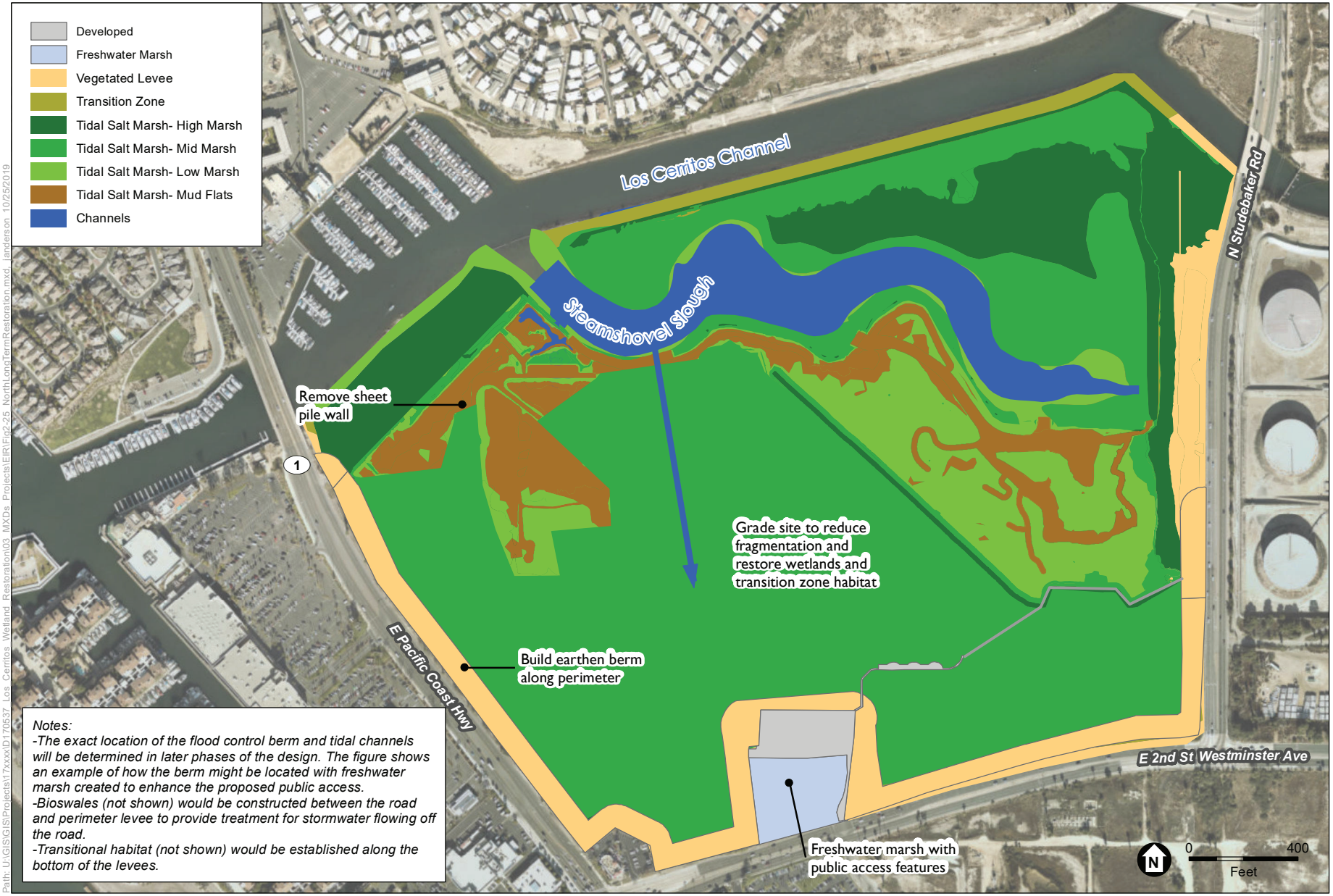
2.7.5.1 Phasing

Ecosystem restoration on the Alamitos Bay Partners site and Southern Synergy Oil Field site would occur in the long-term phase based on land and oil lease ownership (see the description of near-term phase activities in Section 2.4.4, *Los Cerritos Wetlands Oil Consolidation and Restoration Project*). The Northern Synergy Oil Field site is part of the Los Cerritos Wetlands Oil Consolidation and Restoration Project and would be restored in the near-term phase.

Long-term activities would include (**Figure 2-25**, *Proposed North Area Long-Term Restoration*):

- Remediating soils (e.g., on-site treatment, excavation and removal, or cap in place) that have been impacted by oil operations on the Alamitos Bay Partners site;
- Grading the Alamitos Bay Partners site and the Southern Synergy Oil Field site, including excavation to create channels, and revegetation to support a diversity of marsh, transitional, and upland habitats;
- Constructing a new earthen levee or flood wall along the Southern Synergy Oil Field and Alamitos Bay Partners sites to protect 2nd Street and Pacific Coast Highway from flooding;
- Excavating a tidal channel from the Northern Synergy Oil Field site to the Southern Synergy Oil Field site to increase tidal connection in the Southern Synergy Oil Field site; and
- Removing the sheet pile wall along the Alamitos Bay Partners site.

Table 2-11, *North Area Phasing*, summarizes the activities associated with each phase.



SOURCE: Mapbox, LCWA

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 2-25

Proposed North Area Long-Term Restoration

ESA

TABLE 2-11
NORTH AREA PHASING

	Near Term (0–10 years)	Mid Term (10–20 years)	Long Term (20+ years)
Northern Synergy Oil Field Site	• Remediation of soils and relocation of oil infrastructure • Construction of a new berm and sheet pile wall barrier along the southern limits of the site • Grading tidal channels to support habitat restoration • Removal of segments of the existing berm separating Steamshovel Slough from the site	n/a	n/a
Southern Synergy Oil Field Site	• Development of the Long Beach Visitor Center and parking lot from existing office building • Construction of trail, sidewalk enhancements, and bikeway improvements	n/a	• Remediation of soils and relocation oil infrastructure • Removal of the sheet pile wall barrier constructed in the near term • Grading of site to support habitat restoration • Construction of earthen levee or flood wall to protect 2nd Street and Pacific Coast Highway • Excavation of a tidal channel from the Northern Synergy Oil Field site to the Southern Synergy Oil Field site
Alamitos Bay Partners Site	n/a	n/a	• Remediation of soils and relocation oil infrastructure • Grading of site to support habitat restoration

Grey text represents project features that interact with this project, but that were evaluated as part of the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR

2.7.5.2 Ecosystem Restoration

Restored Habitats

Salt marsh and transitional wetland grading would occur across the southern portion of the Southern Synergy Oil Field site and the Alamitos Bay Partners site to lower the elevation of on-site roads and abandoned oil well pads to wetland elevations, where needed. Elevations would be graded to create a mix of habitats, including subtidal, intertidal salt marsh, transitional zones, and upland. Tidal channels would be excavated to connect to the northern portion of the site and bring tidal flows south. The proposed sheetpiling between the northern and southern portions of the site would be removed in the long term.

Restoration habitat targets and acreages are presented in **Table 2-12**, *Post-Restoration Habitats and Acreages in North Area*.

TABLE 2-12
POST-RESTORATION HABITATS AND ACREAGES IN NORTH AREA

Habitat Type	Existing Conditions	Long Term Proposed Restoration
Wetlands[a]	**40.2**	**67.1**
Salt flat	9.8	0.0
Tidal salt marsh	0.0	63.1
Non-tidal salt marsh	30.4	0.0
Freshwater wetland	0.0	2.1
Subtidal	0.0	2.0
Uplands	**10.2**	**0.0**
Native shrubland	1.2	0.0
Non-native upland	9.0	0.0
Managed Habitats	**0.0**	**11.1**
Vegetated berms	0.0	11.1
Non-Natural	**22.8**	**1.7**
Disturbed habitat	1.4	0.0
Developed (e.g., impervious surfaces)	21.4	1.7
Total[b]	**73**	**80**

[a] These habitat acreages may or may not be jurisdictional wetlands, but they have plants and/or hydrology that is indicative of wetlands. Jurisdictional surveys would be conducted when individual projects move forward.
[b] Acreages do not include the Northern Synergy Oil Field site.

Hydrology and Grading

Marshplain Grading

Existing on-site road and oil well pad elevations range from 6 to 8 feet MLLW and severely fragment the site ecologically and hydrologically. Grading would be done to eliminate this fragmentation and establish a broad, natural marshplain. At current sea level, the elevations of the rest of the site (3 to 6 feet MLLW) would generally support mudflat, low marsh, and mid marsh habitats. Depending on the amount of sea-level rise that has occurred when the restoration is implemented, these lower areas of the site may support different habitats (e.g., mudflat or subtidal). The soil generated by removing roads, pads, and berms and excavating new tidal channels could be used beneficially on site to create more mid and high marsh and/or gently sloping transition and upland habitats. Conversely, additional material could be brought in from off site to raise elevations.

Establish Tidal Channels

Tidal channels would be excavated between the northern and southern area in order to increase tidal exchange in the latter. The tidal channels would expand tidal influence and convert areas from non-tidal to tidal wetlands.

Construction of a Flood Control Berm

A new earthen berm or flood wall would be constructed in the long term along the perimeter of the southern edge of the Southern Synergy Oil Field Site and Alamitos Bay Partners site. An example berm location is depicted in Figure 2-25, but would be refined as part of the design process. A berm would support some upland habitat while a flood wall would allow for more wetland area.

2.7.5.3 Flood Risk and Stormwater Management

The restoration and grading descriptions above describe how grading would support restoration functions. The sections below detail the flood risk and stormwater management functions of berms and drainage features of the proposed program for the North Area.

Berms/Flood Walls

In the long term, the proposed program would require a berm or flood wall to protect roadways and adjacent infrastructure from flooding. The new berm or flood wall would tie into high ground along Studebaker Road in the east, and the PCH bridge in the west. The exact location of this program component will be determined in later phases of the design, subsequent to the preparation of this PEIR, but an example berm location is depicted in Figure 2-25. The elevation of the berm crest or flood wall would be set based on the existing level of flood protection plus an allowance for sea-level rise, as is appropriate at the time of implementation.

Stormwater Management

With the construction of the proposed berm or flood wall, storage for the overflow of stormwater draining from the roads would be reduced. Room for stormwater storage between the road and berm or flood wall would be provided by creating low areas (basins or swales) between the roads and the proposed levee. These storage basins or bioswales would be sized to accommodate the local area drainage. These basins would also function as water quality treatment measures for a portion of the runoff from the existing paved areas.

2.7.5.4 Public Access and Visitor Facilities

No public access improvements would be constructed within the North Area as part of this program. The Los Cerritos Wetlands Oil Consolidation and Restoration project would include new public access opportunities (see Section 2.4.4, *Los Cerritos Wetlands Oil Consolidation and Restoration Project*, for further information). The Los Cerritos Wetlands Oil Consolidation and Restoration Project (State Clearinghouse No. 2016041083) includes the development of a parking lot at the Long Beach Visitor Center.

2.7.5.5 Infrastructure and Utility Modification

In the long term, the oil wells and associated oil production infrastructure on the Alamitos Bay Partners site would need to be decommissioned and removed before restoration can occur. Because there are no agreements in place between the oil operators and LCWA on the Alamitos Bay Partners site, it is expected that overall levels of oil and natural gas production would continue until production decreases to below economically viable levels, after which oil

production would stop. When the owner/operators of those oil operations elect to change or close those operations, the changes would be analyzed under separate CEQA documents. The work would involve plugging and abandoning oil wells. and is discussed under the heading Oil Well Abandonment in Section 2.7.6.4, *Implementation Methods*. Infrastructure on the Southern Synergy Oil Field Site would be removed as part of the Los Cerritos Wetlands Oil Consolidation and Restoration Project (State Clearinghouse No. 2016041083).

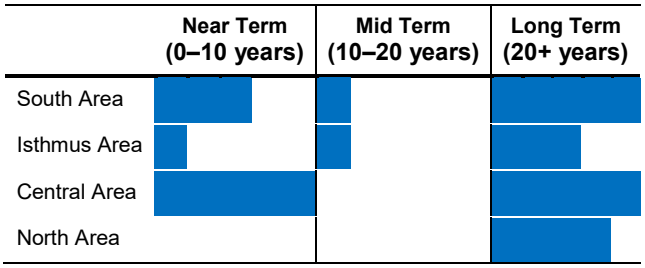
2.7.6 Implementation and Restoration Process

Implementation would include: clearing and grubbing, grading and soil transport across and off-site, soil remediation, levee lowering and breaching, revegetation, construction of flood risk and stormwater management facilities, access roads/trails, the visitor center and utility modifications.

2.7.6.1 Schedule

Table 2-13, *Restoration Schedule*, shows the proposed construction schedule for the program. Each phase of the proposed program will take multiple years to complete construction activities and with multiple years anticipated between each phase.

TABLE 2-13
RESTORATION SCHEDULE



2.7.6.2 Earthwork Quantity Estimates

Table 2-14, *Approximate Earthwork Soil Volume for Near Term*, summarizes the earthwork quantity estimates for the program in the near term. **Table 2-15**, *Approximate Earthwork Soil Volume for Long Term*, summarizes the earthwork quantity estimates for the program in the long term, by area. Levee dimensions would be refined during final design as needed to meet Corps requirements, including Section 14 of the Rivers and Harbors Act and Section 408 requirements for modifications to Corps-approved flood risk management systems. The final volume of fill placement for levee construction would depend on the final design and the actual conditions during restoration (e.g., the compatibility of excavated soils). High estimates of potential fill volumes are analyzed in this document; actual fill volumes may be less.

TABLE 2-14
APPROXIMATE EARTHWORK SOIL VOLUME FOR NEAR TERM

Feature/Action	Cut Quantity (cy)	Fill Quantity (cy)
Central Area		
Central Area Perimeter Levee, near term	0	78,000–86,000
Interim Levee	0	74,000–82,000
Raising Wells and Access Roads	0	108,000
Central LCWA and Central Bryant Marsh Grading	44,000–82,000	0
Total	**44,000–82,000**	**260,000–276,000**
South LCWA Perimeter Berm	0	18,000
South LCWA Marsh Grading (avoiding high-functioning marsh habitat)	315,000–412,000	assume no fill needed
Total	**358,000–494,000**	**278,000–294,000**
Total cut/fill balance	**64,000–216,000 cy excess material**	

TABLE 2-15
APPROXIMATE EARTHWORK SOIL VOLUME FOR LONG TERM

Feature/Action	Cut Quantity (cy)	Fill Quantity (cy)
North Area		
North Area Berm	0	155,000
Southern Synergy Oil Field and Alamitos Bay Partners Sites Marsh Grading		100–135,000
Total	**0**	**155,000–290,000**
Total cut/fill balance	**155,000–290,000 cy material needed**	
Central Area		
Central Area Perimeter Levee, long term		190,000–216,000
Interim Levee Removal (northern portion)	17,000–19,000	
Long Beach City Property Site Marsh Grading		1,000–47,000
Total	**17,000–19,000**	**191,000–263,000**
Total cut/fill balance	**172,000–246,000 cy material needed**	
South Area		
Hellman Retained Site Marsh Grading	0–88,000	0–2,000
Total cut/fill balance	**2,000 cy material needed–88,000 cy material cut**	

This table does not include the excess fill from Table 2-14, which could be used to offset the needed material in the long term.

Excavation in the South LCWA site to lower the area to marshplain is expected to generate between 315,000 and 412,000 cubic yards of soil, depending on final marshplain grading. In the near term, approximately 178,000 to 232,000 cubic yards of soil would be needed in the Central LCWA site, depending on final levee design, levee compaction, and final marshplain grading. The extra material generated from the South LCWA site could be stockpiled for the long term, when the Central Area would need 172,000 to 246,000 cubic yards of material. Based on these estimate ranges, there could be 62,000 cubic yards of excess material to export or a need to import 163,000 cubic yards of material. The future design should seek to balance cut and fill as much as possible on site.

In the long term, approximately 155,000 to 290,000 cubic yards of material would be needed to raise the Southern Synergy Oil Field and Alamitos Bay Partners sites and to construct the North Area berm. Based on the final marshplain grading design, the Hellman Retained site could generate 88,000 cubic yards of material or require 2,000 cubic yards of fill. The future designs of these sites should seek to balance cut and fill as much as possible on site.

Although quantities for cut and fill have been estimated for the conceptual design, exact calculations of how much excess fill would be generated by the excavation of wetlands areas will be determined in the final levee design process in cooperation with LACFCD and the Corps.

2.7.6.3 Stockpiling and Excess Fill Placement

In the near term, soil excavated from the South LCWA site could be stockpiled on the Long Beach City Property site, in order to stockpile the soils for long-term construction of the perimeter levee as discussed in Section 2.7.4, *Central Area*. In the near term, soil not needed for levee construction would be placed in upland areas or exported (see *Off-Site Soil Export* under Section 2.7.6.4, *Implementation Methods*, on the following pages).

2.7.6.4 Implementation Methods

Earthwork and Soil Transport

Much of the proposed program's earthwork would be accomplished by traditional land-based equipment (e.g., scrapers and excavators); however, marine construction equipment may also be used. Wetland restoration earthwork also would require some special equipment and implementation methods, as high groundwater and weak soils can preclude use of traditional land equipment. Specialized equipment and construction methods that may be needed, along with more typical techniques, are described in **Table 2-16**, *Equipment and Earthwork Methods for Wetland Restoration*.

Soil transport would be accomplished using scrapers and loaders, haul and dump trucks, track excavators and dozers, trucks or other low ground pressure equipment, or by hydraulic dredge. **Table 2-17**, *Soil Transport Methods between Sites*, summarizes possible methods for transporting soil between the South, Isthmus, Central and North Areas that the restoration contractor could use to cross the San Gabriel River, including a temporary floating crossing or using existing roadways.

Levee and Berm Lowering and Breaching

Levee and berm lowering would involve a phased removal of earth to maximize the quantity that is moved prior to breaching and to limit the risk of uncontrolled breaching. The restoration contractor would be required to sequence work to prevent site inundation, and typically would do this by leaving a small raised area (e.g., a "check berm") until final earthwork. Final earthwork often consists of dozer operation to quickly remove the check berm and side cast earth into the site. This last work may be timed for a neap tide (i.e., least difference between low and high tides) and staged to maintain access and egress along portions of the berm. Alternatively, the contractor could use steel sheet pile coffer dams along the levee to allow for levee lowering during all tide levels.

TABLE 2-16
EQUIPMENT AND EARTHWORK METHODS FOR WETLAND RESTORATION

Equipment	Earthwork Methods
Special Equipment and Methods for Wetland Restoration	
Low ground pressure equipment	Smaller, lighter equipment with large surface area tires or treads that reduces bearing pressure.
Mats	Timber planks (thick) lashed together and moved by bucket-type equipment.
Long-reach excavator	Track or wheel mounted excavator with a long arm and small bucket to allow extended reach to over 40 feet.
Clamshell and dragline crane	Usually track mounted, can reach 60 feet or more.
Amphibious excavator	Can float and can excavate in shallow standing water.
Rotary ditcher	Excavates with rotating wheels that spray sediment across adjacent areas, resulting in a narrow ditch. Typically pulled behind other equipment but can be self-propelled.
Floating equipment	Cranes and excavators can be floated on barges for both transport and operation. Equipment can be trucked in and assembled to work in land-locked water bodies.
Hydraulic dredge	A water and sediment mixture can be excavated and pumped.
More Common Construction Equipment	
Grader	
Truck	
Loader	
Backhoe	
Generator Set	
Drill Rig	
Forklift	

TABLE 2-17
SOIL TRANSPORT METHODS BETWEEN SITES

Method	Application
Barge/floating crossing	Straight between the South Area and the Isthmus Area (across the Haynes Cooling Channel) or between the Isthmus Area and the Central Area (across the San Gabriel River)
Existing roadways	From the South Area along the PCH to 2nd Street to reach either the Southern Synergy Oil Field site or the Long Beach City Property site; through the Long Beach City Property site to reach the Central LCWA and Central Bryant sites.
Temporary bridge	Between the Isthmus Area and the Central Area (across the San Gabriel River)

Breaching would also be phased, similar to levee and berm lowering. Breaching usually is accomplished by two long-reach excavators working on the lowered berm on either side of the breach to be excavated. At first, earth would be loaded onto trucks and taken elsewhere. Once the berm section is reduced to the point of incipient breaching at the next high tide, the operation usually shifts into a high production rate mode with excavated material sidecast. Often, other excavators and low-ground pressure dozers rehandle the sidecast earth and displace it farther away from the breach, thereby limiting the height of the side cast and maximizing the excavation rate. The work continues until the breach is excavated or the tides approach the levee surface.

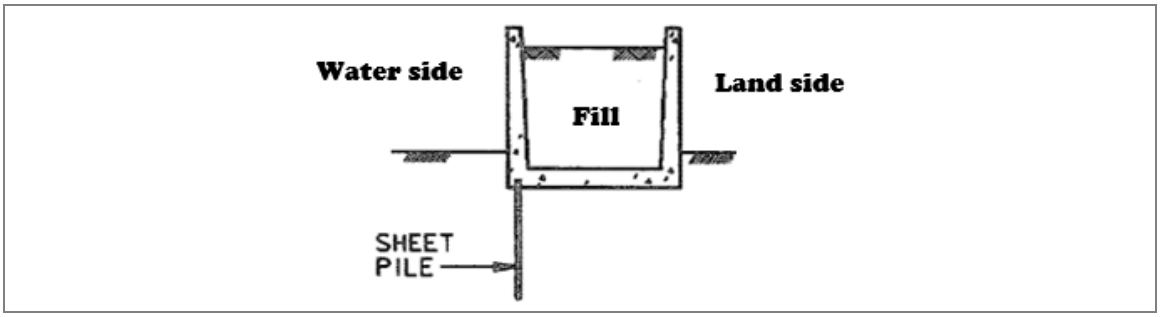
Construction Period Levee Stability

Levee stability would be addressed by staged construction with geotechnical recommendations. Levee construction often requires a phased construction to compensate for settlement and to avoid overloading the subgrade and causing shear failure (e.g., sliding failure) and mass movements. The increased weight of an earth levee typically would result in consolidation of underlying soils and settlement. The increased weight also would increase the shear stresses in the foundation soils, and can cause shear failure and deformation, and compromise the levee construction. Consequently, levee construction often requires a second construction phase one or more years later to compensate for settlement.

Flood Wall Construction

To construct a flood wall, existing soil would be excavated and backfilled with selected native or imported earth. The backfill would be placed in thin, uniform lifts (e.g., 6-inch vertical thickness) and compacted under controlled moisture conditions to achieve a dense mat with adequate strength and limited permeability to groundwater flow. This construction would require temporary construction shoring and dewatering. Alternatively, or in addition to over-excavation and engineered backfill, in-situ earth densification techniques could be employed, such as deep-soil-mixing, where grout is injected and mixed with the soil.

Next, the gravity structure foundation would be constructed. The foundation would include a cut-off wall to control seepage. This could be a steel-sheet pile wall driven into the ground a distance approximately equal to the height of the wall (**Figure 2-26**, *Example of Sheet Pile Cut-off Wall*), although deeper embedment may be needed, depending on the engineering properties of the soils and the structural scheme. The cut-off wall would need to connect to the flood wall and, hence, would be part of the wall or embedded into cast-in-place concrete wall. A deep-pile foundation might be selected due to weak soils and seismic design criteria (earthquake loads). The precast piles would be driven into the ground by impact or vibratory hammer and crane, or cast-in-drilled-hole (CIDH) piles would be employed. The CIDH piles avoid impact driving, but drilling mud and water control would be required. The required pile length would be determined through further analysis, but lengths of at least 40 feet are assumed. The number of piles would be related to the mass and geometry of the structure and therefore, the height of the wall, engineering properties of the soils, and the seismic design criteria, which would be determined during design.

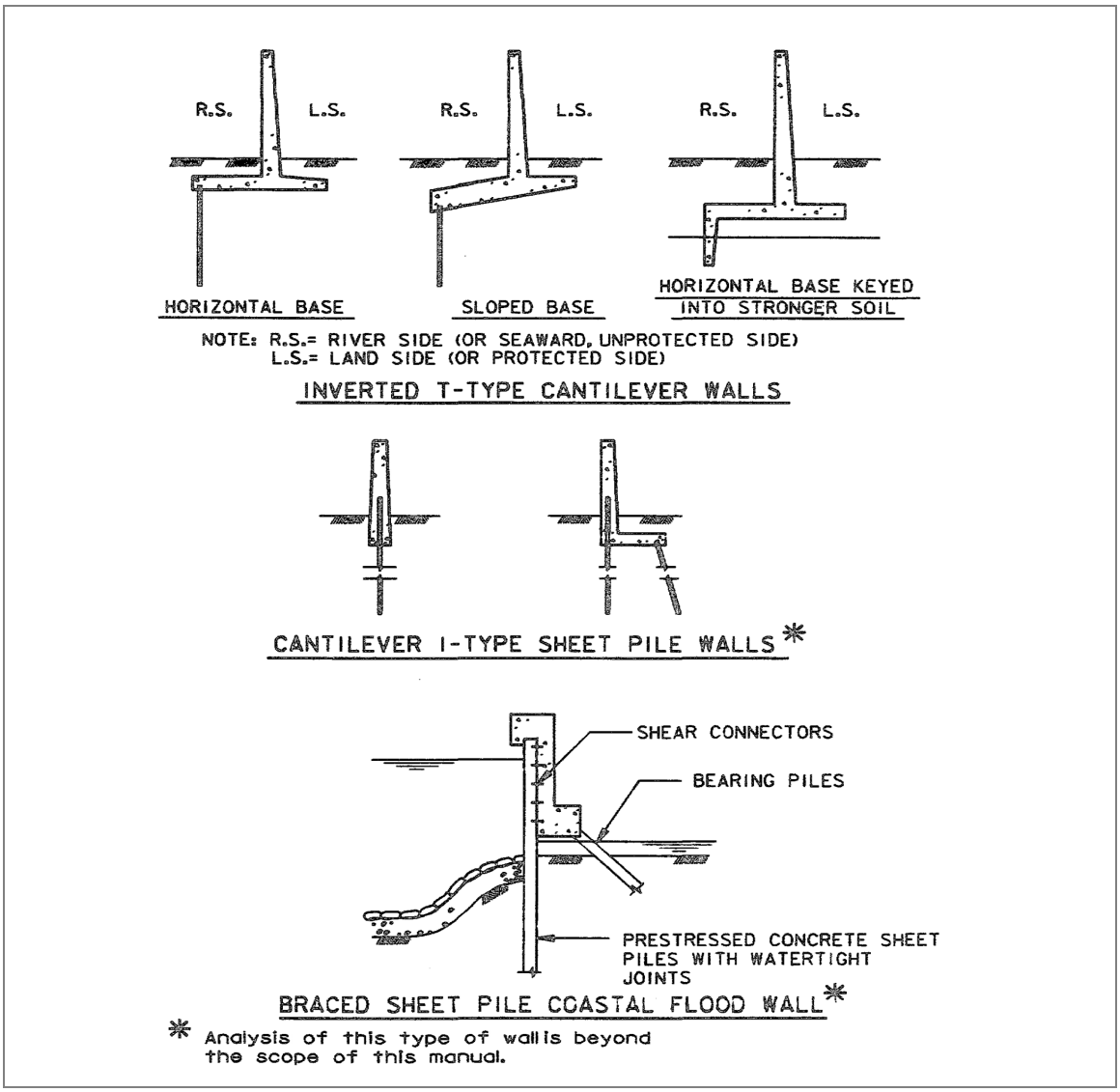


SOURCE: USACE, 1989

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 2-26
Example of Sheet Pile Cut-Off Wall

Finally, the wall structure itself would be constructed. For short wall heights (e.g., 5 feet tall), the wall configuration would consist primarily of a single vertical element, connected to the below-grade cutoff wall via a cantilever (single vertical member), or an "I-wall" or "T-wall" geometry (**Figure 2-27**, *Example of "I" and "T" Type Flood Walls*). As shown in **Figure 2-28**, *Example of "I" and "T" Type Flood Walls on Earth Levees*, these "short" flood walls are also used in concert with earthen levees (USACE, 2000). A cellular or other more massive structure would be used for taller wall heights. If a cellular sheet pile structure is employed (**Figure 2-29**, *Example of Cellular Sheet Pile Flood Wall*), steel sheets would be used and horizontal steel beams (typically called "wales") and or caps (typically cast-in-place concrete) could be added to brace the sheet piles. King-piles of greater size and strength could be arrayed within the cell walls. Earth or other fill would be placed in the cells. Architectural treatments would be employed for aesthetics and public access.



SOURCE: USACE, 1989

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 2-27
Example of "I" and "T" Type Flood Walls

EM 1110-2-1913
30 Apr 2000

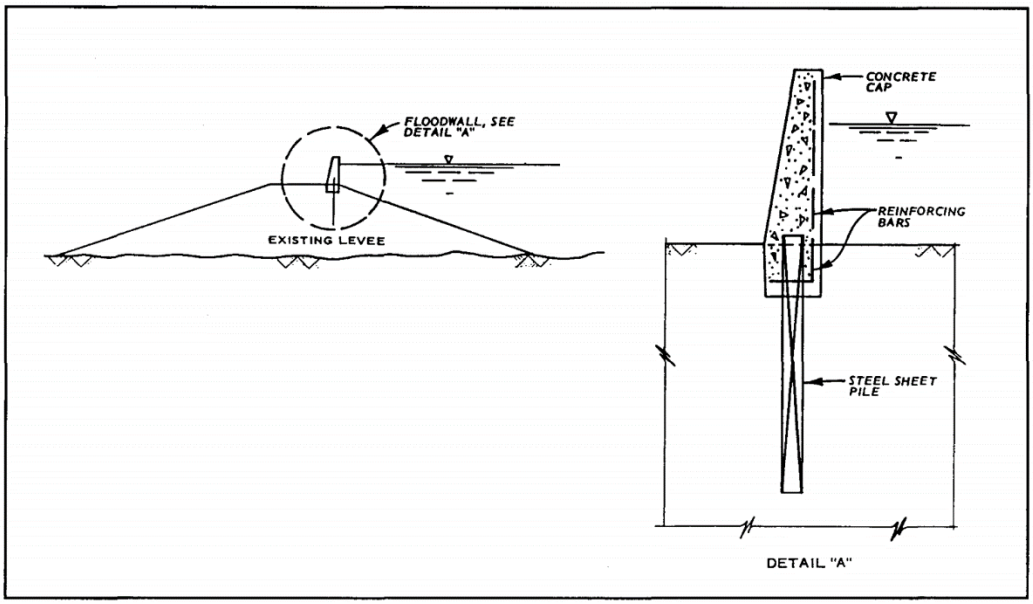


Figure 8-7. I-type floodwall-levee enlargement

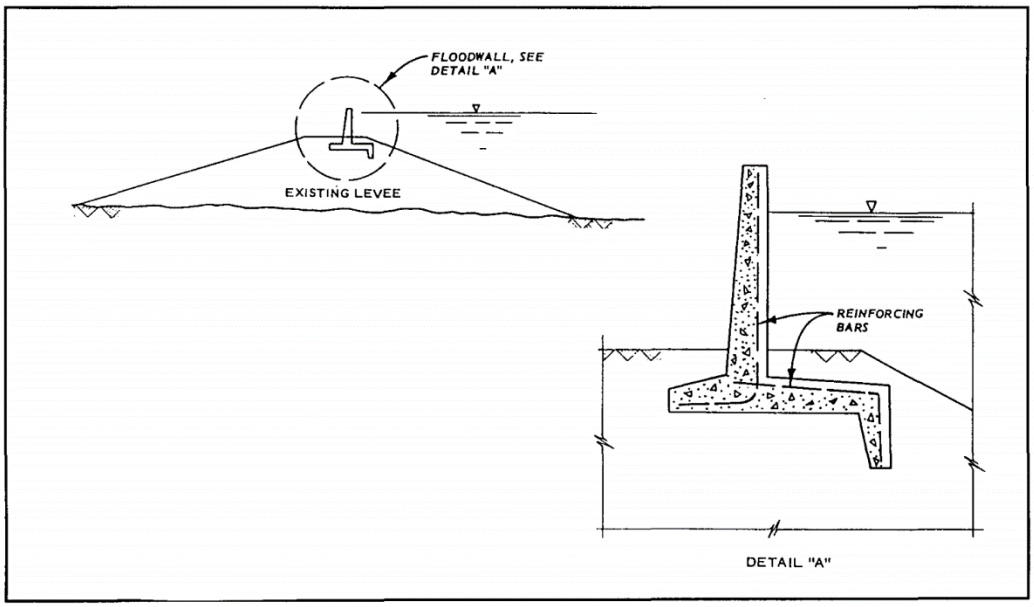


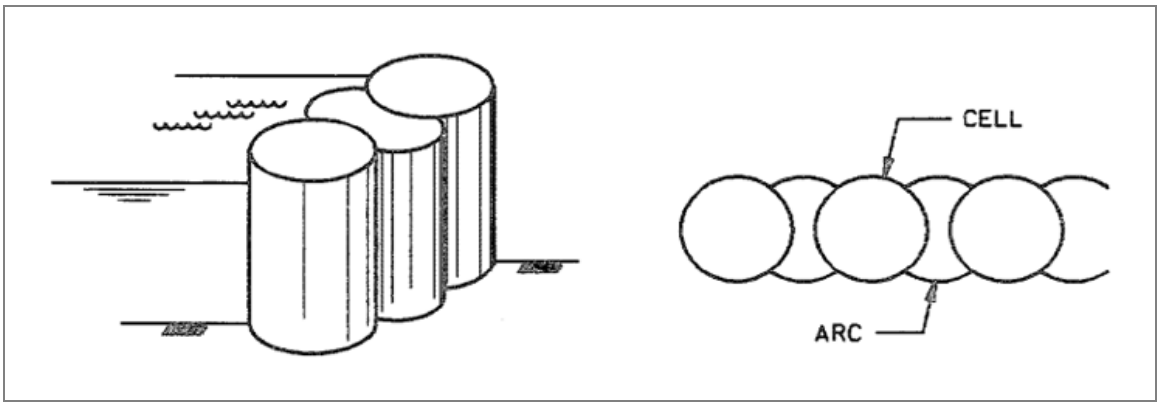
Figure 8-8. Inverted T-type floodwall-levee enlargement

8-15

SOURCE: USACE, 2000

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 2-28
Example of "I" and "T" Type Flood Walls on Earth Levees



SOURCE: USACE, 1989

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 2-29
Example of Cellular Sheet Pile Flood Wall

Off-Site Soil Export

In the proposed program, some excavated soil could be exported from the site. There are three options for off-site soil export and disposal:

1. Export via trucks with disposal at local landfills, the most likely of which could include Scholl Canyon Landfill in the City of Glendale, Frank R Bowerman Landfill in Irvine, and/or Olinda Alpha Landfill in Brea;
2. Export via barge to the Port of Long Beach or Port of Los Angeles, transfer to trucks for upland disposal at local landfills; or
3. Export via barge to an off-shore disposal location, potentially including the Los Angeles ocean disposal site off the coast from San Pedro (LA-2) or the Newport Bay ocean disposal site off the coast from Newport Beach (LA-3), each of which is managed by the United States Environmental Protection Agency (USEPA).

Clearing and Grubbing

Vegetation would be biologically monitored, cleared, and grubbed prior to grading. Native plants and seeds/cuttings may be salvaged and reused for revegetation of restored areas. Invasive-nonnative plants would be stockpiled on site and treated (e.g., composted). If possible, the preferred approach would be to bury non-native plant material in upland fill areas at a depth below which the nonnative vegetation or seedbank could reestablish. Non-native plant material may also be exported and disposed of off-site as described above (e.g., Options 1 and 2).

Non-native Plant Material Treatment

After grading, non-native plants would be removed prior to and concurrent with revegetation to ensure native habitat enhancement. Specifically, invasive non-native species populations designated as High by California Invasive Plant Council would be targeted for removal. If other invasive non-native plant species listed as having a moderate or limited impact by the California Invasive Plant Council are present, they would be removed if, based on the CDFW's review, they are negatively affecting habitat and/or restoration efforts at the site.

Recommendations contained in the California Invasive Plant Council Weed Workers Handbook and website (2014) and at the U.S. Department of Agriculture (http://plants.usda.gov/java/noxiousDriver) would be followed. Mechanical removal is the preferred method of removing invasive species; accordingly, invasive plant species removal would occur using mechanical methods to the maximum extent possible. This method of removal would be used in areas where the associated ground disturbance would not adversely affect sensitive wildlife species. Plant materials that are removed would be removed entirely and disposed of carefully, including stems and all root fragments, to prevent regeneration or spread. In general, removal would be performed during the late winter or early spring when soils are moist enough to remove entire plants without breaking the roots. Invasive species would be removed before the species set seed. When this is not feasible, seed heads would be removed from plants prior to removing the stems and roots. Seed heads of invasive species would be placed in plastic trash bags and removed from the site for proper disposal.

If mechanical or hand removal methods are tried and found to be ineffective after two years of repeated treatment, or the problem is too widespread for hand removal to be practical, then chemical controls would be implemented as described below. For some species, particularly woody species or large-biomass species (e.g., pampas grass), mowers, chainsaws, or other handheld equipment may be used if the eradication method would not adversely affect sensitive wildlife species.

Invasive plant materials that are removed would be disposed of carefully to prevent regeneration or spread. For plants that are not in seed, the material could be left on site to decompose. For any plants with seed, they would be removed from the site in a manner that does not disperse seed (in plastic bags for example) and disposed of at an off-site disposal area.

Herbicides would be used in accordance with manufacturers' application guidelines for specific species when manual and mechanical removal methods are not effective, and may be used in conjunction with physical removal methods for species that are known to be difficult to control. The program's restoration contractor would prepare an herbicide treatment plan for each treated invasive species, including such information as the type of herbicide to be used, application rates, and timing of treatment. Herbicides would be applied using a localized spot-treatment method and applied in a manner that would eliminate or reduce drift onto native plants. Herbicides would be applied to cut stumps for larger plants or large clumps of herbaceous non-native species that cannot effectively be removed. In all such cases, they would be used only to the extent necessary to support native plant establishment and limit adverse impacts to sensitive species and habitats. For sites within 100 feet of a wetland or stream, herbicides approved by USEPA for use near wetlands and streams, such as the glyphosate-based Rodeo® or the imazapyr-based Habitat® would be used. Herbicides would not be used when rain is predicted within 24 hours after application or if wind conditions are not appropriate for application, and herbicide application would not resume again until 72 hours after rain. Herbicide rates would vary depending on the size of the plants treated. Any use of herbicides would also be in full accordance with any applicable rules and restrictions, including any restrictions in the Local Coastal Program.

Revegetation of Graded and Disturbed Areas

Restoration of target habitats will require active revegetation, including irrigation, soil conditioning and amendments, and weed control. Topsoil management during grading will be important to monitor for the suitability of target vegetation. For instance, upland habitats (coastal sage scrub, ~~grassland,~~ levee plantings) will require soils with a low salt content. Soils could be amended or leached of salts through irrigation. High-clay soils that are not compacted will be used for salt marsh and other wetland habitats.

Soils would be prepared before plant establishment. Soil preparation would include proper drainage, nutrient and mycorrhizae content, and erosion control. Top soils in all areas to be planted could be tested prior to being placed to assess whether they would support the target plant community. Soils that are not appropriate for vegetation establishment could then be placed elsewhere, buried, or amended, as feasible. Typical soil amendments may include compost, mycorrhizae, and fertilizer. Excess fertilizer application can favor the establishment of generalist non-native plant species over locally adapted native plant species; however, a minimal amount of fertilizer may be necessary to establish native plants if soil quality is found to be particularly poor and low in nutrients. If found to be necessary, amendments would be tilled into the upper 8 to 12 inches of soil.

All seed and plant material will be collected from local sources, preferably from Los Cerritos Wetlands when possible. Seeds will not be collected from other restoration sites, only natural populations. Potential sites for seed collection could include, but are not limited to: El Segundo Dunes Preserve, Bolsa Chica Ecological Reserve, Upper Newport Bay Ecological Reserve, Ballona Wetlands, Mugu Lagoon, and Seal Beach National Wildlife Refuge. Seeds would be collected by hand during the appropriate season for each species and would be propagated at a local native plant nursery and/or the on-site nursery adjacent to Zedler Marsh.

A temporary drip or spray irrigation system would be installed to provide water to the plantings during the establishment period following plant or seed installation.

Wetland and Transitional Areas

The restored salt marsh would be re-vegetated through a combination of seeding and installation of nursery stock. Restoration would include soil amendments (to alter soil texture and nutrients), irrigation, and weed control, under an adaptive management approach.

Revegetation activities in non-tidal wetlands and transitional areas would include removing or controlling invasive plant species and seeding/planting native plant species. Invasive-nonnative plant species would be removed or treated according to the protocols described in Section 2.7.6.4, *Implementation Methods*, under *Nonnative Plant Material Treatment*.

In tidal wetlands, irrigation would be used to lower soil salinity and aid establishment. Regular irrigation would be required during the first spring and first summer after planting. After the plants are established, irrigation would no longer be required. Irrigation water sources are described below.

Upland Areas

Upland and transition zone plants would be irrigated in the wet season as needed to supplement natural rainfall. Irrigation in uplands should last only for the first one or two years with the precise duration, frequency, and amount of water used dependent upon annual precipitation, temperatures, and vegetation type.

Water Sources for Restoration and Irrigation

Domestic Water Meters

Water meters can be installed by the utility providers from the existing domestic water mains surrounding the program boundary. These mains are relatively large for irrigation use and available for new water meter services. Construction impacts would be limited to the one to two days required for each meter and lateral installation.

In addition to water meters installed by utility providers, existing fire hydrants can provide domestic water service to the program site. A temporary utility company provided meter would be attached onto one of the hydrant outlets for access to potable water. If the hydrants are on the side of the street opposite the program boundary, either a temporary pipeline crossing of the street or filling of water trucks at the meter and transfer by vehicle would be required.

Recycled Water Meters

A meter service connection to existing recycled water mains could be provided. The quality of the recycled water is intended for irrigation use and meets California Title 22 standards. Depending on the tolerance of the proposed plant palette for the quality of recycled water available, the water service lifespan could be continued during the plant establishment period.

Oil Well Abandonment

When the owner/operators of oil operations in the program area elect to change or close those operations, the changes would be analyzed under separate CEQA documents. The closure procedures and impacts analysis would be similar to those described and analyzed within this PEIR.

Well Abandonment

The process of abandoning a well would include bringing in a workover rig to remove downhole piping and setting cement plugs to isolate the producing zones. The wellhead would then be removed and the well casing cut and capped approximately 5 feet below grade. All concrete cellar material and piping would be removed. The well abandonment process would take between 30 and 45 workdays to complete.

Investigate and Remediate Contamination Associated with Oil Wells

During well abandonment, heavy petroleum hydrocarbons (e.g., crude oil) may be present in near-surface soil. This represents incidental contamination from normal oil field activities, such as spills of work-over fluid, small oil spills, or leaks, or from contamination left in sumps commonly placed next to oil wells to collect and circulate drilling muds. Before the wells are drilled and after well abandonment, the appropriate oil company and its consultants would investigate potential oil contamination in near-surface soils (down to 15 feet below ground surface). If significant amounts of petroleum are found, the oil company and its contractor would

remediate or remove the contamination for off-site disposal. Each investigation would take up to 2 weeks to complete; remediation work at each site may continue for up to 2 months.

Soil Remediation

Based on the Phase 1[8] findings, there is likely potential that the program sites have been impacted from past oil operations. These include the presence of petroleum hydrocarbons and bi-products in on-site soils and sediment. Impacted soils may therefore require management and potential remediation depending on constituent concentrations and regulatory action levels. The concentration and extent of impacted soils will be better defined as part of a Phase 2 investigation. Potential remediation activities may include in-situ treatment/remediation, removal and disposal at a permitted facility, and/or stabilization and containment. The remediation approaches will be developed following the investigation to further define the levels and extent of contamination that will inform the project design and remediation approach.

2.7.7 Monitoring and Adaptive Management

The complexity of a large-scale restoration, with ecological and funding objectives, constraints, and the presence of sensitive habitats and species, necessitates careful implementation of restoration within a monitoring and adaptive management program.

Adaptive management is an iterative process of decision making in the face of uncertainty, with the aim of reducing uncertainty over time through monitoring. Since ecological restoration involves many variables, especially in systems as large and complex as the Los Cerritos Wetlands, there is uncertainty in how the project would perform. Designing and implementing this project using an adaptive management approach would lead to better outcomes and help the project meet its goals.

The adaptive management approach relies on monitoring data to regularly assess progress of the site towards achieving the project goals. If the data shows the project is off-track, certain actions are taken (e.g., tweaking techniques and/or later designs) to achieve the project goals.

Small-scale experiments and pilot projects will be implemented that seek to address gaps in scientific knowledge regarding habitat, wildlife, and restoration and enhancement activities. Results of these experiments will be used to inform adaptive management for the proposed program and potentially for other restoration sites in the region and beyond.

2.7.7.1 Monitoring Program

The goal of monitoring is to inform the adaptive management process and assess progress toward meeting performance criteria. Careful restoration planning, including identification of important data gaps and collection of pre-project data, would help in setting appropriate performance criteria. Performance criteria for the project may be set in a variety of ways, but typically include input from regulatory and permitting agencies. Suitable reference sites, such as Seal Beach National Wildlife Refuge, may also be appropriate for informing performance criteria.

[8] Environmental assessments of soils are conducted in two phases.

Restoration sites evolve and mature over timelines that are longer than typical monitoring periods. Monitoring of the site into the future would inform adaptive management, provide important data for informing future phases of restoration at the site, and contribute to a better understanding of restoration trajectories for practitioners throughout southern California. Furthermore, opportunities to partner with local universities and other research institutions will be identified to implement research activities in suitable areas of the program.

Monitoring would focus on the major biotic and abiotic factors that drive habitat development and ecosystem function—in particular, those factors that can be manipulated and managed or those parameters that can be used to gauge habitat development and ecosystem function (Thom et al. 2010). Protocols for collection and analyses of monitoring data would be developed for the level of accuracy necessary to assess achievement of performance criteria and inform adaptive management.

2.7.7.2 Adaptive Management

Successful adaptive management would first require baseline monitoring in order to fill data gaps and refine the restoration design. Consistent with the U.S. Department of Interior Technical Guide for Adaptive Management (2009), an adaptive management plan would be prepared prior to program implementation to track restoration success relative to performance criteria and determine when criteria have been met, and then restoration would proceed to its next phase. Performance criteria would be set for both biotic (e.g., native and non-native plant cover, wildlife use, etc.) and abiotic (e.g., hydrology, soil conditions, etc.) factors, and monitoring data related to these factors would inform adaptive management.

Triggers for any remedial adaptive management actions would be based on significant deviation from, or a lack of progress toward, achieving the performance criteria outlined for each monitoring parameter, coupled with an evaluation of the trajectories of habitat development or directions of change. For many aspects of biotic community development, it may take several years for trends to become apparent, and changes in management should allow for sufficient time for trends to become apparent. If it is determined that progress toward performance criteria is not measurable, or that the habitat appears to be progressing toward an alternative state, the project team would evaluate the cause of the problem and the trajectory of habitat development, and determine whether intervention would be desirable.

In some cases, habitat development would be on track to meet long-term performance criteria and no remedial actions would be warranted. In other cases, it may be determined that additional monitoring parameters are necessary to determine the cause of poor performance. Once the causes of poor performance are identified, appropriate changes in management would be investigated and implemented. Any modifications implemented as a result of this process would be subject to quantitative monitoring and analysis specifically designed to evaluate the effectiveness of such modifications or changes in management.

2.7.8 Operation and Maintenance Activities

2.7.8.1 Habitats and Vegetation

The restored areas would be planted or seeded after earthmoving finishes. Vegetation maintenance, irrigation, and weeding would be required for all habitats after restoration. Removal of invasive species would occur on site in perpetuity through the combination of a volunteer program and long-term management of the site using methods similar to those used during implementation.

2.7.8.2 Trash Removal Efforts

Trash removal would occur as needed within the restored wetlands by hand. LACFCD operates and maintains trash booms and nets in other flood control channels and a similar boom/net could be installed upstream of the Central Area across the San Gabriel River. If a trash boom/net was installed, it is anticipated that LACFCD or LCWA would inspect the trash net weekly and remove trash from the boom/net as necessary. Alternatively, a trash net could be installed across the breach into the Central Area.

2.7.8.3 Perimeter Levees and Berms

The Perimeter Levee and berms would require limited maintenance, such as inspections annually and after significant storm events (i.e., 10-year event or greater). The levees would also require periodic repaving of the access road and trail, replacement or repair of installed fencing, replacement or repair of any overlook or educational equipment placed along the walking trail, trash collection and graffiti removal, and any other vandalism repair. Minor erosion prevention measures may be needed for both the levees and berms, periodically. It is anticipated that responsibility for operation and maintenance activities would be allocated between LACFCD and LCWA.

2.7.8.4 Flood Walls

Operations and maintenance of flood walls would be determined along with the structure design and approval process. As part of this process, the entity responsible for the flood control facility and its function would be identified. Monitoring of the flood wall for deterioration would consist of regular and post-flood condition assessments. The condition assessments would also consider the ground in the vicinity of the flood wall, and identify any signs of instability, cracking, seepage, erosion, etc. Regular surveys could be desired to confirm that the structure settlement is within expectations and rotations and deflections are within tolerances. Exposed steel would require painting, and concrete cracks and spalls would be repaired.

Monitoring and maintenance of levees and flood walls is required, and hence access for construction equipment is an important design consideration. Also, dryside (e.g., the side of the wall closest to the roads) groundwater and drainage control are required. These elements are represented by the access road and bioswale components in Figure 2-24.

Access from the dryside to the wetside (e.g., the side of the wall closest to the marsh) by vehicles including construction equipment would require gates or an embankment or bridge.

2.7.8.5 Water-Control Structures

The existing culverts from the San Gabriel River are operated and maintained by LACFCD (USACE 1999). Operation and maintenance of the existing culverts would continue after restoration.

The existing siphon from Alamitos Bay to the Haynes Cooling Channel is owned and operated by LADWP. Once the Haynes Cooling Channel is decommissioned, it could be transferred to the LCWA, in which case, the LCWA would be responsible for operation and maintenance. This would likely include regular inspections and general maintenance. Long-term management of sediment and fouling organisms may also be required to maintain tidal flow.

For new water-control structures, annual maintenance would be needed to ensure proper operation, similar to current operation and maintenance of the existing structures. Gates and weirs may be adjusted seasonally for habitat management. Obstructions would be removed when necessary. If sedimentation in the channel limits the functionality of the water-control structures, a low ground pressure excavator would be used to remove the sediment. A temporary access route, 35-feet wide, would be created to access any areas of sediment build up within the channels using mats to provide equipment access. Since the channels will be sized based on their proposed tidal conveyance, sediment build up in the channels is not expected.

2.7.8.6 Stormwater Management Features

Maintenance of bioswales is expected to be limited to non-native vegetation removal and pruning, as needed. Non-native plant removal would include work with hand tools such as shovels, rakes, hatchets, wheel barrows, and small trucks for hauling of equipment and spoils. It is expected that these efforts would occur once a year for the lifespan of the program.

2.7.8.7 Parking Lots

Hours of operation for public use of the new parking lots, trails, and visitor center would be from sunrise to sunset and may be limited in duration. Parking areas would be locked after hours.

2.8 Required Approvals

LCWA intends to use this PEIR to consider implementation of the proposed Los Cerritos Wetlands Restoration Plan. As the Lead Agency, LCWA may use this PEIR to adopt the proposed Los Cerritos Wetlands Optimized Restoration Plan, make Findings regarding identified impacts, and, if necessary, adopt a Statement of Overriding Considerations regarding these impacts. Subsequent to the preparation of this PEIR, LCWA may develop more detailed designs that would serve to implement the proposed program activities described in Section 2.7, *Program Characteristics*. As individual restoration projects are fully developed, LCWA would conduct CEQA analysis for individual projects as appropriate or may determine that no additional CEQA analysis is required. Oil operators would prepare separate CEQA analysis once they elect to change or close their operations.

Restoration activities associated with the more detailed design would require discretionary approval from multiple agencies. These agencies and their permits/approvals are described in **Table 2-18**, *Required Permits and Approvals*. The specific permits/approvals necessary for each project activity will vary depending on the nature and location of the activity.

TABLE 2-18
REQUIRED PERMITS AND APPROVALS

Approving Agency	Approval
Los Cerritos Wetlands Authority	Certification of the Final PEIR, adoption of the Mitigation Monitoring and Reporting Plan, easements, land exchange agreements, purchase and sale agreements
City of Seal Beach	Site plan review, grading permits, building permits, encroachment permits
City of Long Beach	Site plan review, grading permits, building permits, local coastal development permits, encroachment permits
City of Los Angeles Department of Water and Power	Encroachment permits
Los Angeles County Department of Public Works and Flood Control District	Encroachment permits
Sanitation Districts of Los Angeles County	Construction permit
Orange County Public Works	Encroachment permits
South Coast Air Quality Management District	Permits to construct and operate
Santa Ana Regional Water Quality Control Board	Permits to construct and operate
Los Angeles Regional Water Quality Control Board	Section 401 Permit, National Pollution Discharge Elimination System, Storm Water Pollution Prevention Plan
California Department of Fish and Wildlife (CDFW)	Section 1602 Streambed Alteration Agreement
California State Lands Commission	Encroachment permits
Caltrans	Encroachment permits
California Coastal Commission (CCC)	Coastal Development Permit (CDP) in City Seal Beach Consolidated ~~Coastal Development Permit~~CDP in City of Long Beach or a Local CDP for areas within the City of Long Beach's jurisdiction and a CCC CDP for areas within the CCC's retained jurisdiction
U.S. Army Corps of Engineers	Clean Water Act Section 404 Permit, Rivers and Harbors Act Sections 9 and 10 Permits, Clean Water Act Section 408 Permit
U.S. Fish and Wildlife Service and National Marine Fisheries Service	Endangered Species Act Section 7 Consultation

Discretionary permits, reviews, and approvals are potentially required for proposed program implementation. This does not necessarily represent a comprehensive list of all possible discretionary permits/approvals required. Other additional permits, reviews, or approvals may be required for the proposed program. LCWA will work closely with all of the approving agencies to maintain communication and coordination throughout the implementation of program activities and receipt of the various permits/approvals.

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SECTION 3.2
Air Quality

3.2.1 Introduction

This section evaluates the potential air quality impacts associated with construction activities, mobile sources, and other aspects the proposed program's construction and operations that have the potential to generate criteria air pollutant emissions. The objectives of this analysis are to:

- Evaluate the construction and operational criteria air pollutant emissions associated with program level restoration process and the potential for regional air quality impacts based on applicable standards and thresholds;
- Identify air quality benefits from improving habitat areas and restoring wetlands;
- Provide, if needed, air quality mitigation measures as required to meet applicable air quality standards and thresholds as specified by the South Coast Air Quality Management District (SCAQMD).

The information presented in this section is based on the analysis conducted in the *Air Quality Technical Report* (ESA 2019), which is included as Appendix B to this PEIR). All information sources used are included as citations within the text; sources are listed in Section 3.2.7, *References*.

3.2.2 Environmental Setting

3.2.2.1 Regional and Local Air Quality

The program area is located within the South Coast Air Basin (Air Basin). The Air Basin is an approximately 6,745-square-mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east (SCAQMD, 2012). The Air Basin consists of Orange County, Los Angeles County (excluding the Antelope Valley portion), and the western, non-desert portions of San Bernardino and Riverside counties, in addition to the San Gorgonio Pass area in Riverside County. The terrain and geographical location determine the distinctive climate of the Air Basin, as it is a coastal plain with connecting broad valleys and low hills.

The Air Basin lies in the semi-permanent high-pressure zone of the eastern Pacific Ocean. The usually mild climatological pattern is interrupted by periods of hot weather, winter storms, or Santa Ana winds. The extent and severity of criteria pollutant concentrations in the Air Basin is a function of the area's natural physical characteristics (weather and topography) and anthropogenic influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and dispersion of

pollutants throughout the Air Basin, making it an area of high pollution potential. The Air Basin's meteorological conditions, in combination with regional topography, are particularly conducive to the formation and retention of ozone (O_3), which is a secondary pollutant that forms through photochemical reactions in the atmosphere. Thus, the greatest air pollution impacts throughout the Air Basin typically occur from June through September. This condition is generally attributed to the emissions occurring in the Air Basin, light winds, and shallow vertical atmospheric mixing. These factors reduce the potential for pollutant dispersion causing elevated air pollutant levels. Pollutant concentrations in the Air Basin vary with location, season, and time of day. Concentrations of O_3, for example, tend to be lower along the coast, higher in the near inland valleys, and lower in the far inland areas of the Air Basin and adjacent desert (SCAQMD, 2012).

Criteria Air Pollutants and Ozone Precursors

Certain air pollutants have been recognized to cause notable health problems and consequential damage to the environment either directly or in reaction with other pollutants, due to their presence in elevated concentrations in the atmosphere. Such pollutants have been identified as criteria air pollutants and regulated as part of the overall endeavor to prevent further deterioration and facilitate improvement in air quality. The following criteria pollutants are regulated by the United States Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB), and are subject to emissions control requirements adopted by federal, state, and local regulatory agencies. Ambient air quality standards (AAQS) have been established to limit the pollutant health impacts discussed below, and air district mass emission significance thresholds have been established that tie to the achievement and maintenance of the AAQS (SCAQMD, 2017).

Ozone (O_3): Ozone is a secondary pollutant formed by the chemical reaction of volatile organic compounds (VOCs) and nitrogen oxides (NO_X) in the presence of sunlight under favorable meteorological conditions, such as high temperature and stagnation episodes. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable. According to the USEPA, ozone can cause the muscles in the airways to constrict potentially leading to wheezing and shortness of breath (USEPA, 2018a). Ozone can make it more difficult to breathe deeply and vigorously; cause shortness of breath and pain when taking a deep breath; cause coughing and sore or scratchy throat; inflame and damage the airways; aggravate lung diseases such as asthma, emphysema and chronic bronchitis; increase the frequency of asthma attacks; make the lungs more susceptible to infection; continue to damage the lungs even when the symptoms have disappeared; and cause chronic obstructive pulmonary disease (USEPA, 2018a). Long-term exposure to ozone is linked to aggravation of asthma, and is likely to be one of many causes of asthma development and long-term exposures to higher concentrations of ozone may also be linked to permanent lung damage, such as abnormal lung development in children (USEPA, 2018a). The USEPA states that people most at risk from breathing air containing ozone include people with asthma, children, older adults, and people who are active outdoors, especially outdoor workers (USEPA, 2018a). Children are at greatest risk from exposure to ozone because their lungs are still developing and they are more likely to be active outdoors when ozone levels are high, which increases their exposure (USEPA, 2018a). According to CARB, studies show that children are no more or less

likely to suffer harmful effects than adults; however, children and teens may be more susceptible to ozone and other pollutants because they spend nearly twice as much time outdoors and engaged in vigorous activities compared to adults (CARB, 2018). Children breathe more rapidly than adults and inhale more pollution per pound of their body weight than adults. As such, children are less likely than adults to notice their own symptoms and avoid harmful exposures (CARB, 2018). Further research may be able to better distinguish between health effects in children and adults (CARB, 2018).

Volatile Organic Compounds (VOCs): VOCs are organic chemical compounds of carbon and are not "criteria" pollutants themselves; however, they contribute with NO_X to form ozone, and are regulated to prevent the formation of ozone (USEPA, 2017b). According to CARB, some VOCs are highly reactive and play a critical role in the formation of ozone, other VOCs have adverse health effects, and in some cases, VOCs can be both highly reactive and have adverse health effects (CARB, 2016b). VOCs are typically formed from combustion of fuels and/or released through evaporation of organic liquids, internal combustion associated with motor vehicle usage, and consumer products (e.g., architectural coatings, etc.) (CARB, 2016b).

Nitrogen Dioxide (NO_2): NO_X is a term that refers to a group of compounds containing nitrogen and oxygen. The primary compounds of air quality concern include NO_2 and nitric oxide (NO). Ambient air quality standards have been promulgated for NO_2, which is a reddish-brown, reactive gas (CARB, 2019b). The principle form of NO_X produced by combustion is NO, but NO reacts quickly in the atmosphere to form NO_2, creating the mixture of NO and NO_2 referred to as NO_X (CARB, 2019b). Major sources of NO_X include emissions from cars, trucks and buses, power plants, and off-road equipment (USEPA, 2016b). The terms NO_X and NO_2 are sometimes used interchangeably. However, the term NO_X is typically used when discussing emissions, usually from combustion-related activities, and the term NO_2 is typically used when discussing ambient air quality standards. Where NO_X emissions are discussed in the context of the thresholds of significance or impact analyses, the discussions are based on the conservative assumption that all NO_X emissions would oxidize in the atmosphere to form NO_2. According to the USEPA, short-term exposures to NO_2 can potentially aggravate respiratory diseases, particularly asthma, leading to respiratory symptoms (such as coughing, wheezing or difficulty breathing). Longer exposures to elevated concentrations of NO_2 may contribute to the development of asthma and potentially increase susceptibility to respiratory infections, leading to hospital admissions and emergency room visits (USEPA, 2016b). According to CARB, controlled human exposure studies show that NO_2 exposure can intensify responses to allergens in allergic asthmatics (CARB, 2019b). In addition, a number of epidemiological studies have demonstrated associations between NO_2 exposure and premature death, cardiopulmonary effects, decreased lung function growth in children, respiratory symptoms, emergency room visits for asthma, and intensified allergic responses (CARB, 2019b). Infants and children are particularly at risk from exposure to NO_2 because they have disproportionately higher exposure to NO_2 than adults due to their greater breathing rate for their body weight and their typically greater outdoor exposure duration. In adults, the greatest risk is to people who have chronic respiratory diseases, such as asthma and chronic obstructive pulmonary disease (CARB, 2019b). CARB states that much of the information on distribution in air, human exposure and dose, and health effects is specifically for NO_2 and there is only limited information for NO and NO_X, as well as large uncertainty in relating health effects to NO or NO_X exposure (CARB, 2019b).

Carbon Monoxide (CO): CO is primarily emitted from combustion processes and motor vehicles due to the incomplete combustion of fuel, such as natural gas, gasoline, or wood, with the majority of outdoor CO emissions from mobile sources (CARB, 2019a). According to the USEPA, breathing air with a high concentration of CO reduces the amount of oxygen that can be transported in the blood stream to critical organs like the heart and brain. At very high levels of CO, which can occur indoors or in other enclosed environments, CO can cause dizziness, confusion, unconsciousness, and death (USEPA, 2016a). Very high levels of CO are not likely to occur outdoors; however, when CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease because these people already have a reduced ability for getting oxygenated blood to their hearts and are especially vulnerable to the effects of CO when exercising or under increased stress (USEPA, 2016a). In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain also known as angina (USEPA, 2016a). According to CARB, the most common effects of CO exposure are fatigue, headaches, confusion, and dizziness due to inadequate oxygen delivery to the brain (CARB, 2019a). For people with cardiovascular disease, short-term CO exposure can further reduce their body's already compromised ability to respond to the increased oxygen demands of exercise, exertion, or stress; inadequate oxygen delivery to the heart muscle leads to chest pain and decreased exercise tolerance (CARB, 2019a). Unborn babies, infants, elderly people, and people with anemia or with a history of heart or respiratory disease are most likely to experience health effects with exposure to elevated levels of CO (CARB, 2019a).

Sulfur Dioxide (SO_2): According to the USEPA, the largest source of sulfur dioxide (SO_2) emissions in the atmosphere is the burning of fossil fuels by power plants and other industrial facilities while smaller sources of SO_2 emissions include industrial processes such as extracting metal from ore; natural sources such as volcanoes; and locomotives, ships and other vehicles and heavy equipment that burn fuel with a high sulfur content (USEPA, 2018b). In 2006, California phased-in the ultra-low-sulfur diesel regulation limiting vehicle diesel fuel to a sulfur content not exceeding 15 parts per million (ppm), down from the previous requirement of 500 parts per million, substantially reducing emissions of sulfur from diesel combustion (CARB, 2004). According to the USEPA, short-term exposures to SO_2 can harm the human respiratory system and make breathing difficult (USEPA, 2018b). According to CARB, health effects at levels near the state one-hour standard are those of asthma exacerbation, including bronchoconstriction accompanied by symptoms of respiratory irritation such as wheezing, shortness of breath and chest tightness, especially during exercise or physical activity and exposure at elevated levels of SO_2 (above 1 ppm) results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality (CARB, 2019c). Children, the elderly, and those with asthma, cardiovascular disease, or chronic lung disease (such as bronchitis or emphysema) are most likely to experience the adverse effects of SO_2 (CARB, 2019c; USEPA, 2018b).

Particulate Matter (PM10 and PM2.5): Particulate matter air pollution is a mixture of solid particles and liquid droplets found in the air (USEPA, 2018c). Some particles, such as dust, dirt, soot, or smoke, are large or dark enough to be seen with the naked eye while other particles are so small they can only be detected using an electron microscope (USEPA, 2018c). Particles are defined by their diameter for air quality regulatory purposes: inhalable particles with diameters that are generally 10 micrometers and smaller (PM10); and fine inhalable particles with diameters that

are generally 2.5 micrometers and smaller (PM2.5) (USEPA, 2018c). Thus, PM2.5 comprises a portion or a subset of PM10. Sources of PM10 emissions include dust from construction sites, landfills and agriculture, wildfires and brush/waste burning, industrial sources, and wind-blown dust from open lands (CARB, 2017). Sources of PM2.5 emissions include combustion of gasoline, oil, diesel fuel, or wood (CARB, 2017). PM10 and PM2.5 may be either directly emitted from sources (primary particles) or formed in the atmosphere through chemical reactions of gases (secondary particles) such as SO_2, NO_X, and certain organic compounds (CARB, 2017). According to CARB, both PM10 and PM2.5 can be inhaled, with some depositing throughout the airways; PM10 is more likely to deposit on the surfaces of the larger airways of the upper region of the lung while PM2.5 is more likely to travel into and deposit on the surface of the deeper parts of the lung, which can induce tissue damage, and lung inflammation (CARB, 2017). Short-term (up to 24 hours' duration) exposure to PM10 has been associated primarily with worsening of respiratory diseases, including asthma and chronic obstructive pulmonary disease, leading to hospitalization and emergency department visits (CARB, 2017). The effects of long-term (months or years) exposure to PM10 are less clear, although studies suggest a link between long-term PM10 exposure and respiratory mortality. The International Agency for Research on Cancer published a review in 2015 that concluded that particulate matter in outdoor air pollution causes lung cancer (IARC, 2014). Short-term exposure to PM2.5 has been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days and long-term exposure to PM2.5 has been linked to premature death, particularly in people who have chronic heart or lung diseases, and reduced lung function growth in children (CARB, 2017). According to CARB, populations most likely to experience adverse health effects with exposure to PM10 and PM2.5 include older adults with chronic heart or lung disease, children, and asthmatics. Children and infants are more susceptible to harm from inhaling pollutants such as PM10 and PM2.5 compared to healthy adults because they inhale more air per pound of body weight than do adults, spend more time outdoors, and have developing immune systems (CARB, 2017).

Lead (Pb): Major sources of lead emissions include ore and metals processing, piston-engine aircraft operating on leaded aviation fuel, waste incinerators, utilities, and lead-acid battery manufacturers (USEPA, 2017a). In the past, leaded gasoline was a major source of lead emissions; however, the removal of lead from gasoline has resulted in a decrease of lead in the air by 98 percent between 1980 and 2014 (USEPA, 2017a). Lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems and the cardiovascular system, and affects the oxygen carrying capacity of blood. (USEPA, 2017a) The lead effects most commonly encountered in current populations are neurological effects in children, such as behavioral problems and reduced intelligence, anemia, and liver or kidney damage (CARB, 2019d). Excessive lead exposure in adults can cause reproductive problems in men and women, high blood pressure, kidney disease, digestive problems, nerve disorders, memory and concentration problems, and muscle and joint pain (CARB, 2019d).

Non-Criteria Air Pollutants

In addition to criteria air pollutants and ozone precursors, the state and local air districts regulate non-criteria pollutants that contribute to adverse air quality and health effects, which are discussed below.

Toxic Air Contaminants: Toxic air contaminants (TACs) are generally defined as those contaminants that are known or suspected to cause serious health problems, but do not have a corresponding ambient air quality standard. TACs are also defined as an air pollutant that may increase a person's risk of developing cancer and/or other serious health effects; however, the emission of a toxic chemical does not automatically create a health hazard. Other factors, such as the amount of the chemical, its toxicity, how it is released into the air, the weather, and the terrain, all influence whether the emission could be hazardous to human health. TACs are emitted by a variety of industrial processes such as petroleum refining, electric utility and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust and may exist as PM10 and PM2.5 or as vapors (gases). TACs include metals, other particles, gases absorbed by particles, and certain vapors from fuels and other sources.

The emission of toxic substances into the air can be damaging to human health and to the environment. Human exposure to these pollutants at sufficient concentrations and durations can result in cancer, poisoning, and rapid onset of sickness, such as nausea or difficulty in breathing. Other less measurable effects include immunological, neurological, reproductive, developmental, and respiratory problems. Pollutants deposited onto soil or into lakes and streams affect ecological systems and eventually human health through consumption of contaminated food. The carcinogenic potential of TACs is a particular public health concern because many scientists currently believe that there is no "safe" level of exposure to carcinogens. Any exposure to a carcinogen poses some risk of contracting cancer.

Diesel Particulate Matter: According to the 2006 California Almanac of Emissions and Air Quality, the majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being particulate matter from the exhaust of diesel-fueled engines, i.e., diesel particulate matter (DPM). The State of California has identified DPM as a TAC. However, DPM differs from other TACs in that it is not a single substance, but rather a complex mixture of hundreds of substances.

Diesel exhaust is composed of two phases, gas and particle, and both phases contribute to the health risk. The gas phase is composed of many of the urban hazardous air pollutants, such as acetaldehyde, acrolein, benzene, 1,3-butadiene, formaldehyde and polycyclic aromatic hydrocarbons. The particle phase is also composed of many different types of particles by size or composition. Fine and ultra-fine diesel particulates are of the greatest health concern, and may be composed of elemental carbon with adsorbed compounds such as organic compounds, sulfate, nitrate, metals and other trace elements. Diesel exhaust is emitted from a broad range of diesel engines: the on road diesel engines of trucks, buses and cars and the off-road diesel engines that include locomotives, marine vessels and heavy duty equipment. Although DPM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present.

The most common exposure to DPM is breathing the air that contains diesel exhaust. The fine and ultra-fine particles are respirable (similar to PM2.5), which means that they can avoid many of the human respiratory system defense mechanisms and enter deeply into the lung. Exposure to

DPM comes from both on-road and off-road engine exhaust that is either directly emitted from the engines or lingering in the atmosphere.

Diesel exhaust causes health effects from both short-term or acute exposures, and long-term chronic exposures. The type and severity of health effects depends upon several factors including the amount of chemical exposure and the duration of exposure. Individuals also react differently to different levels of exposure. There is limited information on exposure to just DPM but there is enough evidence to indicate that inhalation exposure to diesel exhaust causes acute and chronic health effects.

Acute exposure to diesel exhaust may cause irritation to the eyes, nose, throat and lungs, some neurological effects such as lightheadedness. Acute exposure may also elicit a cough or nausea as well as exacerbate asthma. Chronic exposure to diesel PM in experimental animal inhalation studies have shown a range of dose-dependent lung inflammation and cellular changes in the lung and immunological effects. Based upon human and laboratory studies, there is considerable evidence that diesel exhaust is a likely carcinogen. Human epidemiological studies demonstrate an association between diesel exhaust exposure and increased lung cancer rates in occupational settings.

Other Emissions (Odors)

Odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). Offensive odors are unpleasant and can lead to public distress, generating citizen complaints to local governments. Although unpleasant, offensive odors rarely cause physical harm. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source, wind speed, direction, and the sensitivity of receptors.

3.2.2.2 Existing Pollutant Levels at Nearby Monitoring Stations

Criteria Air Pollutants

The SCAQMD maintains a network of air quality monitoring stations located throughout the Air Basin to measure ambient pollutant concentrations. The program area is in the South Los Angeles County Coastal Source-Receptor Area (SRA) 4. The monitoring station most representative of the program area is the Long Beach (Hudson) Monitoring Station (South Coastal Los Angeles County 3 location). Criteria pollutants monitored at this station include CO, O_3, NO_2, PM10, and SO_2. However, PM2.5 and lead are not monitored at this station. The second most representative monitoring station for these pollutants is the South Coastal Los Angeles County 2 location. The most recent data available from the SCAQMD for these monitoring stations is from years 2013 to 2018. The pollutant concentration data for these years are summarized in **Table 3.2-1**, *Ambient Air Quality Data*.

TABLE 3.2-1
AMBIENT AIR QUALITY DATA

Pollutant/Standard	2013	2014	2015	2016	2017	2018
O_3 (1-hour)						
Maximum Concentration (ppm)	0.090	0.087	0.087	0.079	0.082	0.074
Days > CAAQS (0.09 ppm)	0	0	0	0	0	0
O_3 (8-hour)						
Maximum Concentration (ppm)	0.069	0.072	0.066	0.059	0.068	0.063
4th High 8-hour Concentration (ppm)	0.057	0.061	0.056	0.055	0.062	0.053
Days > CAAQS (0.070 ppm)	0	1	0	0	0	0
Days > NAAQS (0.075 ppm)	0	0	0	0	0	0
NO_2 (1-hour)						
Maximum Concentration (ppm)	0.0813	0.1359	0.1018	0.0756	0.0895	0.0853
98th Percentile Concentration (ppm)	0.0713	0.0848	0.0644	0.0663	0.0729	0.0627
Days > CAAQS (0.18 ppm)	0	0	0	0	0	0
NO_2 (Annual)						
Annual Arithmetic Mean (0.030 ppm)	0.0215	0.0207	0.0198	0.0185	0.0179	0.0173
CO (1-hour)						
Maximum Concentration (ppm)	—	4.0	3.3	3.3	3.9	2.0
Days > CAAQS (20 ppm)	—	0	0	0	0	0
Days > NAAQS (35 ppm)	—	0	0	0	0	0
CO (8-hour)						
Maximum Concentration (ppm)	2.6	2.6	2.2	2.2	2.6	1.7
Days > CAAQS (9 ppm)	0	0	0	0	0	0
Days > NAAQS (9 ppm)	0	0	0	0	0	0
SO_2 (1-hour)						
Maximum Concentration (ppm)	0.0151	0.0375	0.0126	0.0178	0.0197	0.0105
99th Percentile Concentration (ppm)	0.0116	0.0118	0.0063	0.0012	0.0143	0.0094
Days > CAAQS (0.25 ppm)	0	0	0	0	0	0
Days > NAAQS (0.075 ppm)	0	0	0	0	0	0
PM10 (24-hour)						
Maximum Concentration ($\mu g/m^3$)	—	—	80	75	79	84
Samples > CAAQS (50 $\mu g/m^3$)	—	—	6	8	9	1
Samples > NAAQS (150 $\mu g/m^3$)	—	—	0	0	0	0
PM10 (Annual Average)						
Annual Arithmetic Mean (20 $\mu g/m^3$)	—	—	31.5	31.9	33.3	23.9
PM2.5 (24-hour)						
Maximum Concentration ($\mu g/m^3$)	42.9	52.2	48.3	28.93	56.3	47.10
98th Percentile Concentration ($\mu g/m^3$)	24.6	27.2	31.2	22.05	31.10	27.70
Samples > NAAQS (35 $\mu g/m^3$)	1	2	4	0	5	2
PM2.5 (Annual)						
Annual Arithmetic Mean (12 $\mu g/m^3$)	10.97	10.72	10.26	9.62	11.02	11.15
Lead						
Maximum 30-day average ($\mu g/m^3$)	0.012	0.012	0.010	0.008	0.010	0.006
Samples > CAAQS (1.5 $\mu g/m^3$)	0	0	0	0	0	0

NOTES:

ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter; CAAQS = California Ambient Air Quality Standards; NAAQS = National Ambient Air Quality Standards

SOURCE: South Coast Air Quality Management District. Historical Data by Year. Available online at: http://www.aqmd.gov/home/air-quality/air-quality-data-studies/historical-data-by-year. Accessed June 2019.

Toxic Air Contaminants

Concentrations of TACs are also used as indicators of ambient air quality conditions. A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations.

The public's exposure to TACs is a significant public health issue in California. The Air Toxics "Hotspots" Information and Assessment Act is a state law requiring facilities to report emissions of TACs to air districts. The program is designated to quantify the amounts of potentially hazardous air pollutants released, the location of the release, the concentrations to which the public is exposed, and the resulting health risks. The State Air Toxics Program (Assembly Bill 2588) identified over 200 TACs, including the 188 TACs identified in the CAA. The USEPA has assessed this expansive list of toxics and identified 21 TACs as Mobile Source Air Toxics (MSATs). MSATs are compounds emitted from highway vehicles and non-road equipment. Some toxic compounds are present in fuel and are emitted to the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline. USEPA also extracted a subset of these 21 MSAT compounds that it now labels as the six priority MSATs: benzene, formaldehyde, acetaldehyde, diesel particulate matter/diesel exhaust organic gases, acrolein, and 1,3-butadiene. While these six MSATs are considered the priority transportation toxics, USEPA stresses that the lists are subject to change and may be adjusted in future rules.

Between July 2012 and June 2013, the SCAQMD conducted the Multiple Air Toxics Exposure Study (MATES IV), which is a follow-up to previous air toxics studies conducted in the SCAB. The MATES IV Final Report was issued in May 2015. The study, based on actual monitored data throughout the SCAB, consisted of a monitoring program, an updated emissions inventory of TACs, and a modeling effort to characterize carcinogenic risk across the SCAB from exposure to TACs. The study concluded that the average of the modeled air toxics concentrations measured at each of the monitoring stations in the SCAB equates to a background cancer risk of approximately 418 per million based on the average of 10 fixed monitoring sites and 367 per million based on a population-weighted average risk. The risk is primarily due to diesel exhaust, which is about 65 percent lower for the average of 10 fixed monitoring sites and 57 percent lower for the population-weighted risk than the previous MATES III cancer risk (SCAQMD 2015, ES-2-3). Subsequent to the SCAQMD's risk calculations estimates performed for MATES IV, the California Environmental Protection Agency Office of Environmental Health Hazard Assessment (OEHHA) *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* (OEHHA Guidance) updated the methods for estimating cancer risks (OEHHA 2015). The updated method utilizes higher estimates of cancer potency during early life exposures and uses different assumptions for breathing rates and length of residential exposures. When combined together, SCAQMD staff estimates that risks for the same inhalation exposure level will be about 2.5 to 2.7 times higher using the updated methods. This would be reflected in the average lifetime air toxics risk estimated from the monitoring sites data going from 418 per

million to 1,023 per million the average of 10 fixed monitoring sites and from 367 per million to 897 per million for the population-weighted risk (SCAQMD 2015, 2-11). Under the updated OEHHA methodology, adopted in March 2015, the relative reduction in risk from the MATES IV results compared to MATES III would be the same (about 65 percent reduction in risk).

Approximately 68 percent of the airborne carcinogenic risk is attributed to diesel particulate emissions matter (DPM), approximately 22 percent to other toxics associated with mobile sources (including benzene, butadiene, and formaldehyde), and approximately 10 percent is attributed to stationary sources (which include industries and other certain businesses, such as dry cleaners and chrome plating operations) (SCAQMD 2015, ES-2). The study also found lower ambient concentrations of most of the measured air toxics compared to the levels measured in the previous study conducted during 2004 and 2006. Specifically, benzene and 1,3-butadiene, pollutants generated mainly from vehicles, were down 35 percent and 11 percent, respectively (SCAQMD 2015, 6-1). The reductions were attributed to air quality control regulations and improved emission control technologies. In addition to air toxics, MATES IV included continuous measurements of black carbon and ultrafine particles (particles smaller than 0.1 micron in size), which are emitted by the combustion of diesel fuels. Sampling sites located near heavily-trafficked freeways or near industrial areas were characterized by increased levels of black carbon and ultrafine particles compared to more rural sites.

3.2.2.3 Sensitive Receptors

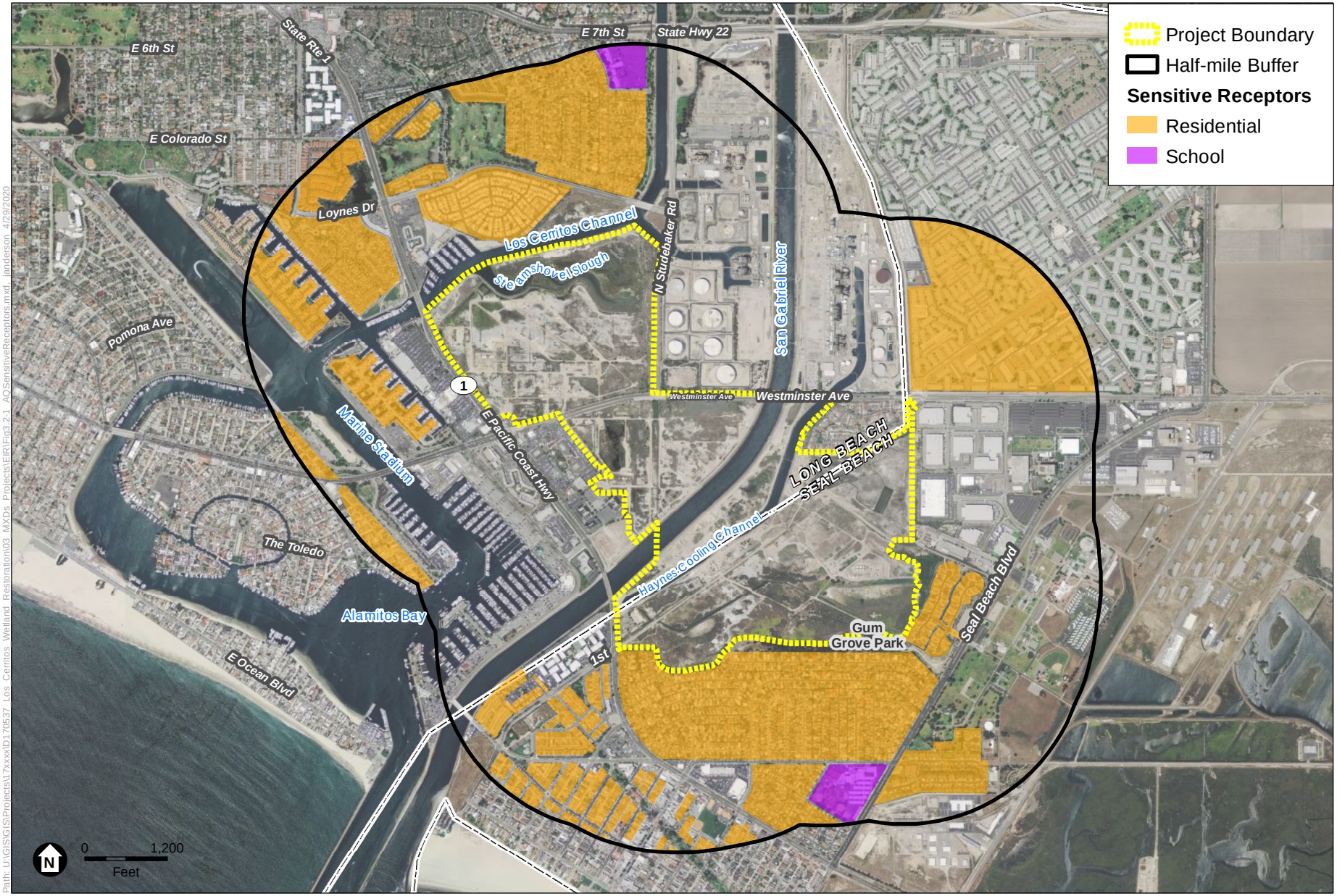
Certain population groups, such as children, elderly, and acutely and chronically ill persons (especially those with cardio-respiratory diseases), are considered more sensitive to the potential effects of air pollution than others. The nearest sensitive land uses to the program area are shown in **Figure 3.2-1**, *Air Quality Sensitive Receptors*, and include the following:

- JH McGaugh Elementary School: 1,800 feet south from program boundary
- Charles F Kettering Elementary School: 2,000 feet north from program boundary
- Long Beach VA Hospital: 5,165 feet northwest from the program boundary (not shown on map)
- Residential neighborhoods (including the Leisure World retirement community) to the north, east, south, and west of the program boundary. Residential neighborhoods to the south are immediately adjacent to the program boundary.

3.2.3 Regulatory Framework

3.2.3.1 Federal

The federal Clean Air Act of 1963 was the first federal legislation regarding air pollution control and has been amended numerous times in subsequent years, with the most recent amendments occurring in 1990. At the federal level, the USEPA is responsible for implementation of certain portions of the Clean Air Act including mobile source requirements. Other portions of the Clean Air Act, such as stationary source requirements, are implemented by state and local agencies.



SOURCE: Mapbox, LCWA

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 3.2-1

Air Quality Sensitive Receptors

ESA

The Clean Air Act establishes federal air quality standards, known as National Ambient Air Quality Standards (NAAQS) and specifies future dates for achieving compliance. The 1990 Amendments to the Clean Air Act identify specific emission reduction goals for areas not meeting the NAAQS. These amendments require both a demonstration of reasonable further progress toward attainment and incorporation of additional sanctions for failure to attain or to meet interim milestones. Title I (Nonattainment Provisions) and Title II (Mobile Source Provisions) of the Clean Air Act are most applicable to the development and operations of the proposed program. Title I provisions were established with the goal of attaining the NAAQS for the following criteria pollutants: (1) O_3; (2) NO_2; (3) CO; (4) SO_2; (5) PM10; and (6) Pb. The NAAQS were updated in 1997 to include separate standards for PM2.5, which is a subset of PM10 emissions. **Table 3.2-2**, *Ambient Air Quality Standards*, shows the NAAQS currently in effect for each criteria pollutant.

The proposed program is located within the South Coast Air Basin, which is an area designated as non-attainment because it does not currently meet NAAQS for certain pollutants regulated under the Clean Air Act. Currently, the Air Basin does not meet the NAAQS for O_3 and PM2.5 and is classified as being in non-attainment for these pollutants. The Air Basin is in non-attainment for PM10 California Ambient Air Quality Standards (CAAQS) in both Los Angeles and Orange counties. The Los Angeles County portion of the Air Basin is designated as non-attainment for the lead NAAQS while the Orange County portion of the Air Basin is designated as attainment for lead NAAQS. **Table 3.2-3**, *South Coast Air Basin Attainment Status*, lists the criteria pollutants and their relative attainment status.

The Clean Air Act also specifies future dates for achieving compliance with the NAAQS and mandates that states submit and implement a State Implementation Plan (SIP) for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards would be met. The 1990 amendments to the Clean Air Act identify specific emission reduction goals for basins not meeting the NAAQS. These amendments require both a demonstration of reasonable further progress toward attainment and incorporation of additional sanctions for failure to attain or to meet interim milestones.

Title II of the Clean Air Act pertains to mobile sources, such as cars, trucks, buses, and planes. Reformulated gasoline, automobile pollution control devices, and vapor recovery nozzles on gas pumps are a few of the mechanisms the USEPA uses to regulate mobile air emission sources. The provisions of Title II have resulted in tailpipe emission standards for vehicles, which have strengthened in recent years to improve air quality. For example, the standards for NO_X emissions have been lowered substantially, and the specification requirements for cleaner burning gasoline are more stringent.

TABLE 3.2-2
AMBIENT AIR QUALITY STANDARDS

Pollutant	Average Time	California Standards[a]		National Standards[b]		
		Concentration[c]	Method[d]	Primary[c,e]	Secondary[c,f]	Method[g]
O_3[h]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
NO_2[i]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemi-luminescence	100 ppb (188 µg/m^3)	None	Gas Phase Chemi-luminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		53 ppb (100 µg/m^3)	Same as Primary Standard	
CO	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	None	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10mg/m^3)		9 ppm (10 mg/m^3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
SO_2[j]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)[9]
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[j]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[j]	—	
PM10[k]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
PM2.5[k]	24 Hour	No Separate State Standard		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3 [k]	15 µg/m^3	
Pb[l,m]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)[m]	Same as Primary Standard	
	Rolling 3-Month Average[m]	--		0.15 µg/m^3		

TABLE 3.2-2
AMBIENT AIR QUALITY STANDARDS

Pollutant	Average Time	California Standards[a]		National Standards[b]		
		Concentration[c]	Method[d]	Primary[c,e]	Secondary[c,f]	Method[g]
Visibility Reducing Particles[n]	8 Hour	Extinction coefficient of 0.23 per kilometer — visibility of ten miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		**No Federal Standards**		
Sulfates (SO_4)	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[l]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

NOTES:

[a] California standards for O_3, CO (except 8-hour Lake Tahoe), SO_2 (1 and 24 hour), NO_2nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[b] National standards (other than O_3, PM10, PM2.5, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For PM2.5, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

[c] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[d] Any equivalent procedure which can be shown to the satisfaction of CARB to give equivalent results at or near the level of the air quality standard may be used.

[e] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

[f] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[g] Reference method as described by the USEPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the USEPA.

[h] On October 1, 2015, the national 8-hour O_3 primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[i] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb.

[j] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated non-attainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

[k] On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3.

[l] CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[m] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated non-attainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

[n] In 1989, CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

SOURCE: CARB 2016a.

TABLE 3.2-3
SOUTH COAST AIR BASIN ATTAINMENT STATUS

Pollutant	National Standards (NAAQS)	California Standards (CAAQS)
O_3 (1-hour standard)	N/A[a]	Non-attainment
O_3 (8-hour standard)	Non-attainment – Extreme	Non-attainment
CO	Attainment	Attainment
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
PM10	Attainment	Non-attainment
PM2.5	Non-attainment – Serious	Non-attainment
Lead (Pb)	Non-attainment (Los Angeles County)[b]; Unclassified/Attainment (Orange County)	Attainment
Visibility Reducing Particles	N/A	Unclassified
Sulfates	N/A	Attainment
Hydrogen Sulfide	N/A	Attainment
Vinyl Chloride[c]	N/A	Attainment

NOTES: N/A = not applicable

[a] The NAAQS for 1-hour ozone was revoked on June 15, 2005, for all areas except Early Action Compact areas.

[b] Partial Non-attainment designation – Los Angeles County portion of the Air Basin only for near-source monitors.

[c] In 1990, the California Air Resources Board identified vinyl chloride as a toxic air contaminant and determined that it does not have an identifiable threshold. Therefore, the California Air Resources Board does not monitor or make status designations for this pollutant.

SOURCES: California Air Resources Board, Area Designations Maps/State and National, last reviewed December 28, 2018. Available at http://www.arb.ca.gov/desig/adm/adm.htm. Accessed June 2019;
South Coast Air Quality Management District, *National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) Attainment Status for South Coast Air Basin*, February 2016. Accessed June 2019.

3.2.3.2 State

California Air Resources Board

CARB, a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, CARB conducts research, sets the CAAQS, complies emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emission standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the federal government and local air districts. The SIP is required for the state to take over implementation of the federal Clean Air Act from the USEPA.

California Clean Air Act

The California Clean Air Act, signed into law in 1988, requires all areas of the state to achieve and maintain the CAAQS by the earliest practical date. The CAAQS apply to the same criteria pollutants as the federal Clean Air Act but also include state-identified criteria pollutants, which

include sulfates, visibility-reducing particles, hydrogen sulfide, and vinyl chloride. CARB has primary responsibility for ensuring the implementation of the California Clean Air Act, responding to the federal Clean Air Act planning requirements applicable to the state, and regulating emissions from motor vehicles and consumer products within the state. Table 3.2-2 shows the CAAQS currently in effect for each of the criteria pollutants as well as the other pollutants recognized by the state. As shown in Table 3.2-2, the CAAQS include more stringent standards than the NAAQS for most of the criteria air pollutants.

Health and Safety Code Section 39607(e) requires CARB to establish and periodically review area designation criteria. Table 3.2-3 provides a summary of the attainment status of the Air Basin for both Los Angeles and Orange Counties with respect to the state standards. The Air Basin is designated as attainment for the California standards for sulfates, hydrogen sulfide, and vinyl chloride.

On-Road and Off-Road Vehicle Rules

In 2004, CARB adopted an Airborne Toxic Control Measure (ATCM) to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other vehicle emissions (Title 13 California Code of Regulations [CCR], Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than 5 minutes at any given time.

In 2008, CARB approved the Truck and Bus regulation to reduce NO_X, PM10, and PM2.5 emissions from existing diesel vehicles operating in California (13 CCR, Section 2025). The requirements were amended in December 2010 and apply to nearly all diesel fueled trucks and busses with a gross vehicle weight rating greater than 14,000 pounds. For the largest trucks in the fleet, those with a gross vehicle weight rating greater than 26,000 pounds, there are two methods to comply with the requirements. The first way is for the fleet owner to retrofit or replace engines, starting with the oldest engine model year, to meet 2010 engine standards, or better. This is phased over 8 years, starting in 2015 and would be fully implemented by 2023, meaning that all trucks operating in the state subject to this option would meet or exceed the 2010 engine emission standards for NO_X and particulate matter by 2023. The second option, if chosen, requires fleet owners, starting in 2012, to retrofit a portion of their fleet with diesel particulate filters achieving at least 85 percent removal efficiency, so that by January 1, 2016, their entire fleet is equipped with diesel particulate filters. However, diesel particulate filters do not typically lower NO_X emissions. Thus, fleet owners choosing the second option must still comply with the 2010 engine emission standards for their trucks and buses by 2020.

In addition to limiting exhaust from idling trucks, CARB recently promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower (hp), such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The regulation adopted by the CARB on July 26, 2007, aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models (13 CCR, Section 2449). Implementation

is staggered based on fleet size (which is the total of all off-road horsepower under common ownership or control), with the largest fleets to begin compliance by January 1, 2014. Each fleet must demonstrate compliance through one of two methods. The first option is to calculate and maintain fleet average emissions targets, which encourages the retirement or repowering of older equipment and rewards the introduction of newer cleaner units into the fleet. The second option is to meet the Best Available Control Technology (BACT) requirements by turning over or installing Verified Diesel Emission Control Strategies (VDECS) on a certain percentage of its total fleet horsepower. The compliance schedule requires that BACT turn overs or retrofits (VDECS installation) be fully implemented by 2023 in all equipment in large and medium fleets and across 100 percent of small fleets by 2028.

3.2.3.3 Regional

South Coast Air Quality Management District

As indicated previously, the cities of Seal Beach and Long Beach are located within the South Coast Air Basin (Air Basin). The SCAQMD has jurisdiction over an area of approximately 10,743 square miles. This area includes all of Orange County, Los Angeles County except for the Antelope Valley, the non-desert portion of western San Bernardino County, and the western and Coachella Valley portions of Riverside County. The Air Basin is a sub-region of the SCAQMD jurisdiction. While air quality in this area has improved, the Air Basin requires continued diligence to meet air quality standards.

Air Quality Management Plan

The SCAQMD has adopted a series of Air Quality Management Plans (AQMP) to meet the CAAQS and NAAQS. The 2012 AQMP incorporates the latest scientific and technological information and planning assumptions, including regional growth projections to achieve federal standards for air quality in the Air Basin. It incorporates a comprehensive strategy aimed at controlling pollution from all sources, including stationary sources, and on-road and off-road mobile sources. The 2012 AQMP includes new and changing federal requirements, implementation of new technology measures, and the continued development of economically sound, flexible compliance approaches. Additionally, it highlights the significant amount of emissions reductions needed and the urgent need to identify additional strategies, especially in the area of mobile sources, to meet all federal criteria pollutant standards within the timeframes allowed under the federal Clean Air Act (SCAQMD, 2012).

The key understanding of the 2012 AQMP is to bring the Air Basin into attainment with the NAAQS for the 24-hour PM2.5 standard. It also intensifies the scope and pace of continued air quality improvement efforts toward meeting the 2024 8-hour O3 standard deadline with new measures designed to reduce reliance on the federal Clean Air Act Section 182(e)(5) long-term measures for NO_X and VOC reductions The SCAQMD expects exposure reductions to be achieved through implementation of new and advanced control technologies as well as improvement of existing technologies.

The SCAQMD Governing Board adopted the 2016 AQMP on March 3, 2017. CARB approved the AQMP on March 23, 2017. Key elements of the 2016 AQMP include implementing fair-share

emissions reductions strategies at the federal, state, and local levels; establishing partnerships, funding, and incentives to accelerate deployment of zero and near-zero-emissions technologies; and taking credit from co-benefits from greenhouse gas (GHG), energy, transportation and other planning efforts (SCAQMD, 2017). The strategies included in the 2016 AQMP are intended to demonstrate attainment of the NAAQS for the federal non-attainment pollutants O_3 and PM2.5 (SCAQMD, 2016). Similar to the 2012 AQMP, the 2016 AQMP relies on "…aggressive mobile source control strategy supplemented with focused and strategic stationary source control measures" (SCAQMD, 2017, p. 4-1). The 2016 AQMP also recognizes the reduction in traditional air pollutants which occur as a "co-benefit" with the reduction in climate change-related pollutants achieved through GHG emission reduction programs and policies (SCAQMD, 2016). Vehicles and appliances (boilers, water heaters, space heaters, etc.) used in the construction and operation of the proposed program would comply with applicable regulations. While the 2016 AQMP was adopted by the SCAQMD and CARB, it has not yet received USEPA approval for inclusion in the SIP. Therefore, until such time as the 2016 AQMP is approved by the USEPA, the 2012 AQMP remains the applicable AQMP for federal purposes; however, this analysis considers both the 2012 and 2016 AQMP as appropriate.

Air Quality Guidance Documents

The SCAQMD published the CEQA Air Quality Handbook to provide local governments with guidance for analyzing and mitigating project-specific air quality impacts (SCAQMD, 1993). The CEQA Air Quality Handbook provides standards, methodologies, and procedures for conducting air quality analyses in EIRs and was used extensively in the preparation of this analysis. However, the SCAQMD is currently in the process of replacing the CEQA Air Quality Handbook with the Air Quality Guidance Handbook. While this process is underway, the SCAQMD recommends that lead agencies avoid using the screening tables in Chapter 6 (Determining the Air Quality Significance of a Project) of the CEQA Air Quality Handbook and instead recommends using other approved models to calculate emissions from land use projects, such as the California Emissions Estimator Model (CalEEMod) software. The SCAQMD has published a guidance document called the *Final Localized Significance Threshold Methodology* that is intended to provide guidance in evaluating localized effects from mass emissions during construction and operations (SCAQMD, 2008). The SCAQMD adopted additional guidance regarding PM2.5 in a document called Final Methodology to Calculate Particulate Matter (PM)2.5 and PM2.5 Significance Thresholds (SCAQMD, 2006). This latter document has been incorporated by the SCAQMD into its CEQA significance thresholds and Localized Significance Threshold Methodology.

Regulations and Rules

Several SCAQMD rules adopted to implement portions of the AQMP may apply to construction or operation of the proposed program. The proposed program may be subject to the following SCAQMD rules and regulations:

Regulation IV – Prohibitions: This regulation sets forth the restrictions for visible emissions, odor nuisance, fugitive dust, various air emissions, fuel contaminants, start-up/shutdown

exemptions and breakdown events. The following is a list of rules which may apply to the proposed program:

- **Rule 401 – Visible Emissions:** This rule states that a person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade as that designated No. 1 on the Ringelmann Chart or of such opacity as to obscure an observer's view (US Bureau of Mines, 1967).
- **Rule 402 – Nuisance:** This rule states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.
- **Rule 403 – Fugitive Dust:** This rule requires projects to prevent, reduce or mitigate fugitive dust emissions from a site. Rule 403 restricts visible fugitive dust to the project property line, restricts the net PM10 emissions to less than 50 $\mu g/m^3$ and restricts the tracking out of bulk materials onto public roads. Additionally, projects must utilize one or more of the best available control measures (identified in the tables within the rule). Mitigation measures may include adding freeboard to haul vehicles, covering loose material on haul vehicles, watering, using chemical stabilizers and/or ceasing all activities. Finally, a contingency plan may be required if so determined by the USEPA.

Regulation XI – Source Specific Standards: Regulation XI sets emissions standards for different specific sources. The following is a list of rules which may apply to the proposed program:

- **Rule 1113 – Architectural Coatings:** This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.
- **Rule 1166. Volatile organic compound emissions from decontamination of soil procedures and requirements:** This rule sets requirements to control the emissions of VOC from excavating, grading, handling, and treating VOC-contaminated soil as a result of leakage from storage or transfer operations, accidental spillage, or other deposition.
- **Rule 1186 – PM10 Emissions from Paved and Unpaved Roads, and Livestock Operations:** This rule applies to owners and operators of paved and unpaved roads and livestock operations. The rule is intended to reduce PM10 emissions by requiring the cleanup of material deposited onto paved roads, use of certified street sweeping equipment, and treatment of high-use unpaved roads (see also **Rule 403**).

Regulation XIV – Toxics and Other Non-Criteria Pollutants: Regulation XIV sets requirements for new permit units, relocations, or modifications to existing permit units which emit toxic air contaminants or other non-criteria pollutants, including the following rules:

- **Rule 1466 – Control of Particulate Emissions from Soils with Toxic Air Contaminants:** This rule specifies how to minimize off-site fugitive dust emissions containing TACs during earth-moving activities from sites that meet the applicability requirement. Requirements include monitoring and minimizing the generation of emissions during excavation, grading,

handling, treating, stockpiling, transferring, and removing of soil that contains applicable toxic air contaminants.

3.2.3.4 Local

Seal Beach General Plan

The City of Seal Beach General Plan, adopted in December 2003, does not contain a stand-alone air quality element. Rather, the City is able to comply with SCAQMD's AQMP through its Land Use Element, which "organizes land uses in relation to the circulation system, promotes commercial and industrial land uses with convenient access to transportation, and provides a Land Use Plan that promotes a favorable relationship between jobs and housing" (City of Seal Beach, 2003). In addition, the Circulation Element sets a goal to minimize air pollution through development of regional transportation facilities and a transportation demand management system. A reduction in vehicle miles traveled would have a resulting beneficial impact to air quality emissions.

Long Beach General Plan: Air Quality Element

The City of Long Beach adopted an "Air Quality Element," (adopted December 3, 1996) as part of the City's General Plan. The Air Quality Element, "identifies a series of policies, programs, and strategies that encourage fewer vehicle trips, increased opportunities for alternative transportation modes and fuels, and land use patterns that can be efficiently served by a diversified transportation system (Long Beach, 1996)." The following goals and policies are relevant to the proposed program:

Air Quality Element—1996

Goal 6.0: Minimize particulate emissions from the construction and operation of roads and buildings, from mobile sources, and from the transportation, handling and storage of materials.

Policy 6.1: Control Dust. Further reduce particulate emissions from roads, parking lots, construction sites, unpaved alleys, and port operations and related uses.

Goal 7.0: Reduce emissions through reduced energy consumption.

3.2.4 Significance Thresholds and Methodology

3.2.4.1 Significance Thresholds

For the purposes of this Program Environmental Impact Report (PEIR) and consistency with Appendix G of the *CEQA Guidelines*, the proposed program would have a significant impact on air quality if it would:

a. Conflict with or obstruct implementation of the applicable air quality plan;

b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard;

c. Expose sensitive receptors to substantial pollutant concentrations; or

d. Result in other emissions (such as those leading to odors adversely affecting a substantial number of people).

The *CEQA Guidelines* Section 15064.7 indicates that significance criteria established by the applicable air quality management district or air pollution control district, when available, may be relied upon to make determinations of significance. SCAQMD has set thresholds for both construction and operational emissions, as described in the Air Quality Technical Report (SCAQMD, 2019). A project with daily emission rates below these thresholds would be considered to have a less than significant impact to air quality.

3.2.4.2 Methodology

Existing Emissions

For the purposes of this program-level analysis, it is conservatively assumed that the program activities would result in all net new emissions. Most of the program area is either vacant or an active oil field. Existing emissions from oil fields within the boundaries of the Los Cerritos Wetlands Oil Consolidation and Restoration Project (State Clearinghouse Number 2016041083), located on the Southern Synergy Oil Field site and the Long Beach City Property site in the northern and central portion of the program area, were found to be minimal and have already been addressed in a previously certified EIR, and therefore are not analyzed in this PEIR. As the program activities would restore habitats and eventually decommission and remove existing oil operations, the net change for emissions in the long term could be negative. However, this would be difficult to quantify since the exact timing and commitments to cease oil operations in the future is unknown. As a conservative approach, no existing emissions were subtracted from estimated program emissions before comparison to emission thresholds.

Construction Emissions

Daily regional emissions during construction are forecasted by assuming a worst-case scenario year for the maximum acreage to be disturbed in one year. The emissions are estimated using the CalEEMod (Version 2016.3.2) software, an emissions inventory software, which is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professions to quantify potential criteria pollutant emissions from a variety of land use projects. CalEEMod was developed in collaboration with the air districts of California. Regional data (e.g., 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 considered to be an accurate and comprehensive tool for quantifying air pollutant emissions from land use projects throughout California and is recommended by the SCAQMD.

The input values used in this analysis were adjusted to account for the nature of wetlands restoration activities and referenced the equipment and assumptions used for the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse Number 2016041083) for consistency. Specialized construction equipment was added as appropriate according to the activities listed in Chapter 2, *Project Description*, of this PEIR. An off-road

equipment list is shown in Table 5 of the *Air Quality Technical Report*, provided in Appendix B of this PEIR.

Construction haul and vendor truck emissions were evaluated using regional heavy-duty truck emission factors from the CARB on-road vehicle emissions factor model (EMFAC), with emission factors from the USEPA-approved EMFAC2017 model used for the analysis. Subphases of construction would include demolition and site preparation, grading/excavation for levees, drainage/utilities/subgrade, building construction for the visitor center, paving for access roads and parking, and architectural coating for the visitor center and traffic markings. The demolition and site preparation includes removal of pipelines, tanks, and other oil infrastructure within the Alamitos Bay Partners site and Central LCWA site. Waste is assumed to be hauled to the Montebello landfill located approximately 23 miles away. The main wetland restoration activities are covered in the grading/excavation subphase, which includes construction, modifying, and removing berms as well as establishing tidal channels. It is assumed that a tug boat would be used to pull the barges for soil transport and that there would be two crew/survey boats at most on any given day. The proposed program may use either a tugboat or a combination of a tugboat and trucks to transport soil. However, the use of a tugboat for soil transport would generate greater emissions of VOC, NO_X, CO, and SO_2 compared to trucks (see Table 3.2-4, *Maximum Unmitigated Regional Construction Emissions [Pounds per Day]*, below). Therefore, it is more conservative to assume soil transport by tugboat compared to truck travel. Tugboat emissions were calculated using emission factors from USEPA marine engine rules for Tier 2 engines. Emission factors were multiplied by the number of vessels and estimated hours of operation per day for usage and travel to and from the program area. Calculations are included in Appendix A of the Air Quality Technical Report provided in Appendix B, of this PEIR. These off-shore emissions (tugboats and other crew/survey boats) were added to the on-shore emissions for the grading/excavation subphase. For building construction and paving, for the purposes of this program-level air quality analysis, it is estimated that approximately 2,000 square feet of visitor center space and 50 parking spaces would be required to serve the program area. Emissions from these activities are estimated by construction subphase.

Fugitive emissions from paved and unpaved roads are calculated in CalEEMod using emission factors for off-road equipment from CARB's OFFROAD model and on-road vehicles from CARB's EMFAC model (CARB, 2019e). All unpaved demolition and construction areas shall be wetted (i.e., three times daily unless soils already contain equivalent moisture content) during excavation and construction, and temporary dust covers shall be used where needed to reduce dust emissions and meet SCAQMD District Rule 403. Wetting would reduce fugitive dust emissions by 61 percent.

The maximum daily emissions are estimated values for the worst-case day and do not represent the emissions that would occur for every day of program construction. The construction year was set to 2020 to obtain conservative emission factors for the construction activities. Emission factors decline in later years because of the requirement and development of cleaner and more efficient equipment. The year 2020 would represent a worst case scenario with all of the construction activities occurring simultaneously that are associated with the near-term restoration and public access. Construction activities for the mid-term, and long-term phases were not

modeled specifically, but would likely be less than the modeled 2020 year due to similar construction subphases, but lower emission factors. The maximum daily emissions are compared to the SCAQMD daily regional numeric indicators. Detailed construction equipment lists, construction scheduling, and emissions calculations are provided in Appendix A of the Air Quality Technical Report, provided in Appendix B, of this PEIR.

Localized impacts to air quality were not analyzed quantitatively in this program-level document due to the uncertainty of the timing and exact locations of the construction activities. Rather, local air quality was discussed qualitatively with regard to the potential for localized impacts.

Potential odor impacts are evaluated by conducting a screening-level analysis followed by a more detailed analysis as necessary. The screening-level analysis consists of reviewing the program site plan and project description to identify new or modified odor sources. If it is determined that the proposed program would introduce a potentially significant new odor source or modify an existing odor source, then downwind sensitive receptor locations are identified, and a site-specific analysis is conducted to determine potential impacts.

Operational Emissions

The operational emissions are estimated using the CalEEMod software. CalEEMod was used to forecast the daily regional emissions from mobile sources that would occur during long-term program operations. The operational year was set to 2021 for a conservative emissions estimate. This consists mostly of truck trips for maintenance of the trails and wetlands and emissions from passenger vehicles from visitors. The analysis relied on the Institute of Transportation Engineers (ITE) Manual, 10th Edition "Public Park" category trip rates (i.e., denoted in the ITE Manual as "Land Use [LU] 411").

Area source emissions are based on natural gas (building heating and water heaters), landscaping equipment, and consumer product usage (including paints) rates provided in CalEEMod for the visitor center building, which was assumed to be up to 2,000 square feet of floor area.

Operational air quality impacts are presented as net new emissions. As discussed previously, no existing emissions were subtracted from estimated program emissions before comparison to emission thresholds given desire for a conservative approach. Program activities would restore habitats and eventually decommission and remove existing oil operations potentially resulting in a net change in emissions in the long term that could be negative, but cannot be accurately evaluated at this program-level given the uncertainty of the timing of specific restoration activities in the program area. The maximum daily emissions from operation of the proposed program are compared to the SCAQMD daily regional numeric indicators. Detailed operational emissions calculations are provided in Appendix A of the Air Quality Technical Report, provided in Appendix B of this PEIR.

As stated in Chapter 1, *Introduction*, on March 8, 2019, the Los Cerritos Wetlands Authority sent a Notice of Preparation to responsible, trustee, and federal agencies, as well as to organizations, and individuals potentially interested in the proposed program to identify the relevant

environmental issues that should be addressed in the PEIR. Issues related to air quality were identified.

3.2.5 Program Impacts and Mitigation Measures

Impact AQ-1: The proposed program would result in a significant impact if the proposed program would conflict with or obstruct implementation of the applicable air quality plan.

The SCAQMD is required, pursuant to the Clean Air Act, to reduce emissions of criteria pollutants for which the Air Basin is in non-attainment of the NAAQS (e.g., O_3 and PM2.5). The Air Basin is also in non-attainment of the CAAQS (e.g., O_3, PM10, and PM2.5). The SCAQMD's AQMP contains a comprehensive list of pollution control strategies directed at reducing emissions and achieving the NAAQS and CAAQS. These strategies are developed, in part, based on regional growth projections prepared by the SCAG. Projects that are consistent with the assumptions used in the AQMP do not interfere with attainment because the growth is included in the projections utilized in the formulation of the AQMP. Thus, projects, uses, and activities that are consistent with the applicable growth projections and control strategies used in the development of the AQMP would not jeopardize attainment of the air quality levels identified in the AQMP, even if they exceed the SCAQMD's numeric indicators. As noted above, while the 2016 AQMP was adopted by the SCAQMD and CARB, it has not yet received USEPA approval for inclusion in the SIP. Therefore, until such time as the 2016 AQMP is approved by the USEPA, the 2012 AQMP remains the applicable AQMP for federal purposes, however, this analysis considers both the 2012 and 2016 AQMP as appropriate.

Criteria for determining the proposed program's consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section 12.3 of the SCAQMD's CEQA Air Quality Handbook, and include the following:

- Consistency Criterion No. 1: The proposed project will not result in an increase in the frequency or severity of existing air quality violations, or cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

The violations to which Consistency Criterion No. 1 refers are the CAAQS and the NAAQS. Daily regional emissions during construction are estimated by subphase for a worst case scenario year. For the purposes of the analysis, the construction year was assumed to be 2020. Actual construction for the proposed program will vary over the three phases of near-, mid-, and long-term (next 10 years, 10-20 years, and 20+ years). As discussed below under Impact AQ-2, maximum daily emissions from construction activities would exceed the SCAQMD regional threshold for NO_X (Table 3.2-4). Regional construction emissions of NO_X would be mitigated to less than significant after mitigation (Table 3.2-7, *Maximum Mitigated Regional Construction Emissions [Pounds per Day]*, below). However, as discussed below under Impact AQ-3, localized impacts to sensitive receptors at the program-level during construction would be considered potentially significant. Operational emissions would be less than significant (Table 3.2-4) and no mitigation measures would be required. Therefore, while incorporation of mitigation would reduce regional construction emissions to less than significant, the proposed

program could still potentially result in significant localized construction impacts and as such, could conflict with Criterion No. 1 and would result in a potentially significant impact for construction emissions.

- Consistency Criterion No. 2: The proposed project will not exceed the assumptions in the AQMP or increments based on the years of the project build-out phase.

Under Consistency Criterion No. 2, the AQMP contains air pollutant reduction strategies based on the SCAG's latest growth forecasts, and SCAG's growth forecasts were defined in consultation with local governments and with reference to local general plans. The SCAQMD recommends that lead agencies demonstrate that a project would not directly obstruct implementation of an applicable air quality plan and that a project be consistent with the assumptions upon which the air quality plan is based. During construction, the proposed program would be required to comply with CARB requirements to minimize short-term emissions from on-road and off-road diesel equipment, and with SCAQMD's regulations for controlling fugitive dust and other construction emissions. Compliance with these requirements is consistent with and meets or exceeds the AQMP requirements for control strategies intended to reduce emissions from construction equipment and activities.

Construction would occur sporadically over the next 20+ years across the 503-acre program area. Construction subphases and the required number of workers would vary over the near-, mid-, and long-term phasing of the proposed program. Because the construction would only occur for short periods of time in each location, construction emissions and duration would still be considered short-term and, therefore, would not conflict with the AQMP. For operations, the proposed program would restore wetlands and habitat areas which would reduce emissions in the long term from the existing environmental setting as oil operations cease. The proposed program would not increase population growth as it includes no housing and would generate a minimal number of jobs for maintenance of the facilities. The improvements to pedestrian access would help decrease vehicle miles traveled region-wide as it provides a recreational area near existing residential communities in the cities of Seal Beach and Long Beach thereby reducing the need to travel long distances for recreation (see Figure 3.2-1). Program emissions would be only a small percentage of overall Basin-wide emissions (Table 3.2-6, *Comparison of Program-Level Operational Emissions and SCAB Emissions [Tons per Year]*, below). Therefore, the proposed program would not conflict with Criterion No. 2.

Because the proposed program could conflict with Criterion No. 1, there would be a significant impact from conflicting with or obstructing implementation of the applicable air quality plan.

Mitigation Measure

Mitigation Measure AQ-1 (as described below under Impact AQ-2).

Significance after Mitigation

Significant and Unavoidable (construction); Less than Significant (operation)

Impact AQ-2: The proposed program would have in a significant impact if a cumulatively considerable net increase of any criteria pollutant for which the program region is non-attainment under an applicable federal or state ambient air quality standard.

Construction

The South Coast Air Basin is in non-attainment of the NAAQS for O_3 and PM2.5 and also in non-attainment of the CAAQS for O_3, PM10, and PM2.5. As shown in **Table 3.2-4**, *Maximum Unmitigated Regional Construction Emissions (Pounds per Day)*, there would be exceedances to the SCAQMD daily regional threshold for NO_X during individual construction subphases. In addition, there is potential for subphases to overlap as well, thereby worsening the exceedances for NO_X, but likely not causing a new exceedance. The emissions for CO, SO_2, PM10, and PM2.5 would not be exceeded even if all subphases of construction occurred at the same time. Construction emissions would vary temporally and spatially as the exact construction schedules, staging areas, and work plans are not known at this time. Despite the long construction duration for near-term, mid-term, and long-term activities, emissions from a singular activity would not be concentrated in one place for an extended duration. It is anticipated that a project-level analyses would be conducted when more specific construction information is known. At a program level, construction emissions could potentially exceed the SCAQMD daily regional thresholds for the nonattainment ozone precursor emissions (i.e., NO_X), construction impacts would be potentially significant and mitigation measures would be required.

TABLE 3.2-4
MAXIMUM UNMITIGATED REGIONAL CONSTRUCTION EMISSIONS (POUNDS PER DAY)

Source	VOC	NO_X	CO	SO_2	PM10[a]	PM2.5[a]
Construction Subphases						
Demolition and Site Preparation	4	38	27	<0.1	27	6
Grading/Excavation – Combined On-Shore and Off-Shore	17	172	116	28	44	13
On-Shore Emissions	*6*	*67*	*43*	*<0.1*	*41*	*9*
Off-Shore Emissions	*11*	*105*	*73*	*28*	*4*	*4*
Drainage/Utilities/Subgrade	2	22	22	<0.1	1	1
Building Construction	2	20	18	<0.1	2	1
Paving	3	14	15	<0.1	1	1
Architectural Coating[b]	5	2	2	<0.1	<0.1	<0.1
Combined Regional (On-Site and Off-Site) Emissions[c]	**33**	**268**	**200**	**28**	**76**	**22**
SCAQMD Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Over (Under)	(42)	168	(350)	(122)	(74)	(33)
Exceeds Thresholds?	No	**Yes**	No	No	No	No

NOTES:

Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Appendix A of the Air Quality Technical Report, provided in Appendix B of this PEIR.

[a] Emissions include fugitive dust control measures consistent with SCAQMD Rule 403.

[b] Architectural coating emissions for VOC are assumed by CalEEMod to paint the entire 10,000-square-foot floor area in 1 day. VOC emissions have been adjusted to spread out the painting over 20 days.

[c] Emissions from all subphases are combined to simulate a worst case scenario where all construction activities are occurring simultaneously.

SOURCE: ESA, *Air Quality Technical Report*, 2019.

Construction Health Impacts from Regional Emissions (Friant Ranch Case)

The accumulation and dispersion of air pollutant emissions within an air basin is dependent upon the size and distribution of emission sources in the region and meteorological factors such as wind, sunlight, temperature, humidity, rainfall, atmospheric pressure, and topography. As expressed in the *amicus curiae* brief submitted for the *Sierra Club v. County of Fresno* case (*Friant Ranch* case) (SJVAPCD, 2015), the air districts established and recommend CEQA air quality analysis of criteria air pollutants use significance thresholds that were set at emission levels tied to the region's attainment status, based on emission levels at which stationary pollution sources permitted by the air district must offset their emissions. Such offset levels allow for growth while keeping the cumulative effects of new sources at a level that will not impede attainment of the NAAQS. The health risks associated with exposure to criteria pollutants are evaluated on a regional level, based on the region's attainment of the NAAQS. Moreover, the formation of ozone occurs through a complex photo-chemical reaction between NO_X and ROG in the atmosphere with the presence of sunlight. The impacts of ozone are typically considered on a basin-wide or regional basis and not on a localized basis. The mass emissions significance thresholds used in CEQA air quality analysis are not intended to be indicative of human health impacts that a project may have (SCAQMD, 2012; SJVAPCD, 2015). Therefore, the proposed program's exceedance of the mass regional emissions threshold prior to mitigation (i.e., proposed program construction NO_X exceedance) from program-related activities does not necessarily indicate that the proposed program would cause or contribute to the exposure of sensitive receptors to ground-level concentrations in excess of health-protective levels. Nonetheless, as indicated above, proposed program construction would require the implementation of feasible mitigation measures to reduce the NO_X exceedance. As shown below, Mitigation Measure AQ-1 would reduce construction emission impacts to less than significant, which would also minimize construction-related air pollution health effects.

The health-based ambient air quality standards for ozone are established as concentrations of ozone and not as tonnages of their precursor pollutants (i.e., ROG and NO_X). It is not necessarily the tonnage of pollutants that causes human health effects, but the concentration of the resulting pollutants, such as ozone. Because of the complexity of ozone formation and the non-linear relationship of ozone concentration with its precursor gases, and given the state of environmental science modeling in use at this time, it is not practical to determine whether, or the extent to which, a single project's precursor (i.e., ROG and NO_X) emissions would potentially result in the formation of secondary ground-level ozone and the geographic and temporal distribution of such secondary formed emissions. Meteorology, the presence of sunlight, seasonal impacts, and other complex photochemical factors all combine to determine the ultimate concentration and location of ozone (SCAQMD 2012; SJVAPCD 2015). Running the regional-scale photochemical grid model used for predicting ozone attainment with the emissions from any individual project can be done, but it would not yield reliable information regarding a measurable increase in ozone concentrations sufficient to accurately quantify ozone-related health effects. Based on this information, a general description of the adverse health effects resulting from the program-level criteria pollutants, which is discussed previously, is all that can be feasibly provided at this time.

Operation

As shown in **Table 3.2-5**, *Maximum Unmitigated Regional Operational Emissions (Pounds per Day)*, all operational criteria air pollutants emissions would be well below the SCAQMD regional thresholds during operation. Operational emissions are mainly generated from mobile sources including visitors traveling to and from the wetlands for recreation and the employees who work at the visitor center. There would be a minimal amount of emissions from maintenance staff who would need to maintain the trails, access roads, and facilities within the program area. No operational mitigation measures are required.

TABLE 3.2-5
MAXIMUM UNMITIGATED REGIONAL OPERATIONAL EMISSIONS (POUNDS PER DAY)

Source	VOC	NO_X	CO	SO_2	PM10	PM2.5
Phases						
Area	1	<0.1	<0.1	<0.1	<0.1	<0.1
Energy	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mobile	4	4	29	<0.1	5	1
Total	**5**	**4**	**29**	**<0.1**	**5**	**1**
Maximum Regional (On-Site and Off-Site) Emissions	5	4	29	<0.1	5	1
SCAQMD Thresholds	**55**	**55**	**550**	**150**	**150**	**55**
Over (Under)	(50)	(51)	(521)	(150)	(145)	(54)
Exceeds Thresholds?	No	No	No	No	No	No

NOTE:

Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Appendix A of the Air Quality Technical Report, provided in Appendix B, of this PEIR.

SOURCE: ESA, *Air Quality Technical Report*, 2019.

Table 3.2-6, *Comparison of Program-Level Operational Emissions and SCAB Emissions (Tons per Year)*, compares program-level operational emissions with South Coast Air Basin emissions. The net increase in emissions from the proposed program would be minuscule in comparison to basin-wide emissions. SCAQMD presents baseline inventories for 2019, 2022, 2023, 2025, and 2031 in their 2016 AQMP. SCAB emissions from 2031 were chosen for consistency with the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse No. 2016041083) analysis.

TABLE 3.2-6
COMPARISON OF PROGRAM-LEVEL OPERATIONAL EMISSIONS AND SCAB EMISSIONS (TONS PER YEAR)

Source	VOC	NO_X	CO	SO_2	PM10	PM2.5
Program Emissions (Operation)	0.60	0.37	2.75	0.005	0.47	0.13
2031 South Coast Air Basin Emissions	345	214	1,188	18	N/A	65
Program as Percentage of Basin	0.17%	0.17%	0.23%	0.03%	N/A	0.20%

SOURCE: South Coast Air Quality Management District, *Final 2016 Air Quality Management Plan*, Table 3-4E. Available at: http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf. Accessed June 2019.

Mitigation Measure

The proposed program will require implementation of Mitigation Measure AQ-1: Construction NO_X Reduction Measures. Mitigation measure AQ-1 would reduce NO_X and associated health impacts. The emission reductions are shown in **Table 3.2-7**, *Maximum Mitigated Regional Construction Emissions (Pounds per Day)*.

TABLE 3.2-7
MAXIMUM MITIGATED REGIONAL CONSTRUCTION EMISSIONS (POUNDS PER DAY)

Source	VOC	NO_X	CO	SO_2	PM10[a]	PM2.5[a]
Phases						
Demolition and Site Preparation	1	3	29	<0.1	25	4
Grading/Excavation – combined	12	70	119	28	40	10
On-Shore Emissions	*1*	*6*	*46*	*<0.1*	*38*	*7*
Off-Shore Emissions	*11*	*65*	*73*	*28*	*2*	*4*
Drainage/Utilities/Subgrade	<1	2	25	<0.1	<1	<1
Building Construction	1	4	19	<0.1	1	<1
Paving	1	1	18	<0.1	<1	<1
Architectural Coating	3	<1	2	<0.1	<1	<1
Combined Regional (On-Site and Off-Site) Emissions[b]	**18**	**80**	**212**	**28**	**66**	**15**
SCAQMD Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Over (Under)	(57)	(20)	(338)	(122)	(84)	(40)
Exceeds Thresholds?	No	No	No	No	No	No

NOTES:

Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Appendix A of the Air Quality Technical Report, provided in Appendix B of this PEIR.

[a] Emissions include fugitive dust control measures consistent with SCAQMD Rule 403.

[b] Emissions from all subphases are combined to simulate a worst-case scenario where all subphases are occurring simultaneously.

SOURCE: ESA, *Air Quality Technical Report*, 2019.

Mitigation Measure AQ-1: Construction NO_X Reduction Measures. The Applicant for the proposed program shall be responsible for the implementation of the following construction-related NO_X reduction measures:

- Require all off-road diesel-powered construction equipment greater than 50 horsepower (e.g., excavators, graders, dozers, scrappers, tractors, loaders, etc.) to comply with EPA-Certified Tier IV emission controls where commercially available. Documentation of all off-road diesel equipment used for this proposed program including Tier IV certification, or lack of commercial availability if applicable, shall be maintained and made available by the contractor to the local permitting agency (City of Seal Beach and City of Long Beach) for inspection upon request. In addition, all construction equipment shall be outfitted with Best Available Control Technology (BACT) devices certified by the California Air Resources Board (CARB) such as certified Level 3 Diesel Particulate Filter or equivalent. A copy of each unit's certified tier specification, BACT documentation, and CARB or South Coast Air Quality Management District operating permit shall be provided at the time of mobilization of each applicable unit of equipment. If Tier IV construction equipment

is not available, LCWA shall require the contractor to implement other feasible alternative measures, such as reducing the number and/or horsepower rating of construction equipment, and/or limiting the number of individual construction subphases occurring simultaneously. The determination of commercial availability of Tier IV construction equipment shall be made by the City prior to issuance of grading or building permits based on applicant-provided evidence of the availability or unavailability of Tier IV equipment and/or evidence obtained by the City from expert sources such as construction contractors in the region.

- Require all main engines for tugboats to comply with EPA-Certified Tier IV emission controls.
- Eliminate the use of all portable generators. Require the use of electricity from power poles rather than temporary diesel or gasoline power generators.
- Provide temporary traffic controls such as a flag person, during all phases of construction to maintain smooth traffic flow, including during the transportation of oversized equipment and vehicles.
- Provide dedicated turn lanes for movement of construction trucks and equipment on and off-site. The location of these dedicated lanes shall be addressed in the Construction Trip Management Plan.
- Reroute construction trucks away from congested streets or sensitive receptor areas.
- Prohibit the idling of on-road trucks and off-road equipment in excess of 5 continuous minutes, except for trucks and equipment where idling is a necessary function of the activity, such as concrete pour trucks. The Applicant or construction contractor(s) shall post signs at the entry/exit gate(s), storage/lay down areas, and at highly visible areas throughout the active portions of the construction site of the idling limit.
- On-road heavy-duty diesel haul trucks with a gross vehicle weight rating of 19,500 pounds or greater used to transport construction materials and soil to and from the program area shall be engine model year 2010 or later or shall comply with the USEPA 2007 on-road emissions standards.

Significance after Mitigation

Less than Significant with Mitigation (construction); Less than Significant (operation)

Impact AQ-3: The proposed program would result in a significant impact if the program would expose sensitive receptors to substantial pollutant concentrations.

Construction

The South Coast Air Basin is in attainment of the NAAQS for PM10, CO and SO_2, and also in attainment of the CAAQS for CO and SO_2. As shown in Table 3.2-4, the proposed program would not exceed the SCAQMD regional thresholds for these pollutants during construction. Sensitive receptors surround the program area with residents located adjacent to the southern border of the program area (see Figure 3.2-1). Typically, SCAQMD's Localized Significance Threshold (LST) Methodology (June 2003, revised July 2008) relies on on-site mass emission

rate screening tables and project-specific dispersion modeling, where appropriate. The program area includes both Seal Beach, located in Source Receptor Area (SRA) 18 and Long Beach, located in SRA 4.

Construction screening LSTs for both cities are shown in **Table 3.2-8**, *Construction Screening LSTs (Pounds per Day)*, for a 5-acre area and a receptor distance of 50 meters for SRA 4 and 25 meters for SRA 18. Compared to Table 3.2-4, if only on-site emissions (no offshore tugboat and survey boat emissions) are considered, then the unmitigated on-site construction emissions would exceed the construction screening LSTs for NO_X, PM10, and PM2.5.

TABLE 3.2-8
CONSTRUCTION SCREENING LSTS (POUNDS PER DAY)

Source	NO_X	CO	PM10	PM2.5
SRA 4 LST Thresholds (25-meter receptor distance)	123	1,530	14	8
SRA 18 LST Thresholds (25-meter receptor distance)	197	1,711	14	9

NOTE:

LST thresholds are listed for a 5-acre site. Receptor distances were chosen based on the nearest sensitive receptor. Within Seal Beach, there are residences directly south and adjacent to the program boundary. Within Long Beach, there are residences within 50 meters across from the Los Cerritos Channel.

SOURCE: SCAQMD, Table C-1, 2006–2008 Thresholds for Construction and Operation with Gradual Conversion of NO_X to NO_2. Available at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-lst-look-up-tables.pdf?sfvrsn=2.

However, on-site emissions for the proposed program will vary greatly in location and by subphase for the proposed program. Therefore, it is not possible to conduct a quantified localized analysis without speculating due to the uncertainty of the specific locations, timing, and intensity of construction activities, particularly in areas near sensitive receptors. Without a specific quantitative analysis, the impact to sensitive receptors at the program-level during construction would be considered potentially significant.

Operation

During operation, all criteria pollutants would be below the SCAQMD regional thresholds (Table 3.2-5). Operational activities would include mobile trips by visitors and minimal maintenance of the wetlands once established. Passenger vehicles would be spread out within the entire program area as there would be multiple parking areas and overlook terraces. Siting of these locations would account for the potential of ongoing emissions in the vicinity of a sensitive receptor. Therefore, mobile emissions would not be concentrated by any one sensitive receptor. As discussed above, SCAQMD's LST Methodology (June 2003, revised July 2008) relies on on-site mass emission rate screening tables and project-specific dispersion modeling, where appropriate. Operational screening LSTs for the program area are shown in **Table 3.2-9**, *Operational Screening LSTs (Pounds per Day)*, for a 5-acre area and a receptor distance of 25 meters for SRA 4 and 25 meters for SRA 18. Compared to Table 3.2-5, the unmitigated on-site operational emissions would not exceed any of the operational screening LSTs since most of the operational emissions are from mobile sources (off site).

TABLE 3.2-9
OPERATIONAL SCREENING LSTS (POUNDS PER DAY)

Source	NO_X	CO	PM10	PM2.5
SRA 4 LST Thresholds (25-meter receptor distance)	123	1,530	4	2
SRA 18 LST Thresholds (25-meter receptor distance)	197	1,711	4	2

NOTE:

LST thresholds are listed for a 5-acre site. Receptor distances were chosen based on the nearest sensitive receptor. Within Seal Beach, there are residences directly south and adjacent to the program boundary. Within Long Beach, there are residences within 50 meters across from the Los Cerritos Channel.

SOURCE: SCAQMD, Table C-1, 2006–2008 Thresholds for Construction and Operation with Gradual Conversion of NO_X to NO_2. Available at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-lst-look-up-tables.pdf?sfvrsn=2.

Toxic Air Contaminants

A quantitative evaluation of emissions from toxic air contaminants, particularly for program construction activities, would be speculative given the uncertainty of the specific locations, timing, and intensity of construction activities. Therefore, a construction Health Risk Assessment (HRA) cannot be conducted for the program-level analysis without speculating on the locations, timing, and intensity of construction activities. Localized air quality emissions, including toxic air contaminants, would be evaluated quantitatively at the project-level when adequate information is known for individual wetland restoration projects. For example, the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse Number 2016041083) found cancer risk to be less than significant after mitigation. At the program-level, any subsequent projects within the program area would be required to implement Tier IV engines per Mitigation Measure AQ-1. This would reduce NO_X emissions and other TACs (including diesel particulate matter). However, without a specific construction scenario, impacts to toxic air contaminants at the program-level would be considered potentially significant.

Mitigation Measure

Mitigation Measure AQ-1.

Significance after Mitigation

Significant and Unavoidable (construction); Less than Significant (operation)

Impact AQ-4: The proposed program would result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Construction

As shown in Table 3.2-4, construction emissions associated with the proposed program would not exceed the SCAQMD regional significance thresholds for the federal and state attainment pollutants of CO and SO_2, and the federal attainment pollutant of PM10, even if the construction activities were to overlap. With respect to odors, potential activities that may emit odors during construction activities include the use of architectural coatings and solvents and the combustion of diesel fuel in on- and off-road equipment. SCAQMD Rule 1113 would limit the amount of VOCs in architectural

coatings and solvents reducing the potential for odorous emissions. Through mandatory compliance with SCAQMD Rules, no construction activities or materials are expected to create objectionable odors affecting a substantial number of people. Therefore, construction of the proposed program would result in less-than-significant impacts with respect to odors.

Operation

As shown in Table 3.2-4, operational emissions associated with the proposed program would not exceed the SCAQMD regional significance thresholds for the federal and state attainment pollutants of CO and SO_2, and the federal attainment pollutant of PM10. With respect to odors, according to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Odors are regulated by SCAQMD Rule 402 for causing a nuisance. SCAQMD Rule 402 states, "A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property." While the program area contains active oil fields and historic landfills, the proposed program would focus on ecosystem restoration and public access improvements. Because the proposed program would decommission oil wells and pipelines, the impact to odors would be expected to be reduced compared to the existing setting. As a result, the proposed program is not expected to discharge contaminants into the air in quantities that would cause a nuisance, injury, or annoyance to the public or property pursuant to SCAQMD Rule 402. Therefore, the proposed program would not create adverse odors affecting a substantial number of people, and impacts would be less than significant.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

3.2.6 Cumulative Impacts

3.2.6.1 Construction

Per the SCAQMD guidance on cumulative impacts, cumulative significance is based upon project significance (SCAQMD, 2003). As shown in Impact AQ-2, the proposed program would result in potential significant impacts to air quality as program construction activities could result in an exceedance of the SCAQMD regional significance threshold for NO_X emissions during construction. With implementation of feasible mitigation measures, regional construction NO_X emissions would be reduced to less than significant. However, due to the uncertainty of the specific locations, timing, and intensity of construction activities, particularly in areas near sensitive

receptors, without a specific quantitative analysis, the impact to sensitive receptors at the program-level during construction would be considered potentially significant for localized emissions.

Because the City of Seal Beach and City of Long Beach have not adopted their own citywide significance thresholds for air quality impacts, it is appropriate to rely on thresholds established by the SCAQMD (refer to *CEQA Guidelines* Section 15064.7). It would not be meaningful to sum multiple cumulative or related project emissions as there are no thresholds set for comparison. Additionally, regional emissions from a project have the potential to affect the Air Basin as a whole, and it is not possible to establish a geographical radius from a specific project site where potential cumulative impacts from regional emissions would be limited. Therefore, consistent with accepted and established SCAQMD cumulative impact evaluation methodologies, the potential for the proposed program to result in cumulative air quality impacts is assessed based on the SCAQMD thresholds. Thus, given the potentially significant localized construction impact at the project-level, cumulative localized construction air quality impacts would be potentially significant.

Mitigation Measure

Mitigation Measure AQ-1.

Significance after Mitigation

Significant and Unavoidable (construction)

3.2.6.2 Operation

Per the SCAQMD guidance on cumulative impacts, cumulative significance is based upon project significance (SCAQMD, 2003). As shown in Impact AQ-2, program operational impacts to air quality would be less than significant. Operational cumulative impacts would follow the same methodology as demonstrated for construction cumulative impacts. Therefore, the cumulative air quality impacts would be less than significant during operation and mitigation measures would not be required.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

3.2.7 References

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SECTION 3.3
Biological Resources

3.3.1 Introduction

This section evaluates the potential for the proposed program to result in adverse impacts on biological resources related to special-status species, sensitive natural communities, jurisdictional resources, wildlife movement and nursery sites, and consistency with local policies and conservation plans protecting biological resources. The analysis is based on a review of available biological reports of the program area and vicinity, including site-specific investigations conducted for each of the four areas that comprise the proposed program, as well as, relevant regulatory ordinances. This section identifies the potential for both program-level and cumulative environmental impacts to occur, as well as feasible mitigation measures that would minimize or avoid the proposed program's impacts on sensitive biological resources.

Information sources for the analysis presented in this section include the following technical reports:

- *Supplemental Biological Surveys and Mapping for the Los Cerritos Wetlands* (Coastal Restoration Consultants [CRC] 2019 [Appendix C1).
- *Biological Technical Report for Los Cerritos Wetlands Oil Consolidation and Restoration Project* (Glenn Lukos Associates Inc. [GLA]) 2017a [see Appendix C1]).
- *Jurisdictional Delineation for the Los Cerritos Wetlands Oil Consolidation and Restoration Project* (GLA 2017b [see Appendix C1]).
- *Restoration Plan for the Upper Los Cerritos Wetlands Mitigation Bank* (GLA 2017c [see Appendix C2]).
- *Technical Memorandum—Impacts to Areas that Potentially Meet the California Coastal Act (CCA) Definition for Environmentally Sensitive Habitat Areas (ESHA) Associated with the Los Cerritos Wetlands Oil Consolidation and Restoration Project, Long Beach, California* (GLA 2017d [see Appendix C3]).
- *Technical Memorandum—Belding's Savannah Sparrow Surveys for 76.52-Acre Proposed Mitigation Bank at Synergy Oil Field, Long Beach, California* (GLA 2017e [see Appendix C1]).
- *Biological Resources Assessment and Wetland Delineation: Southeast Area Development and Improvement Plan* (Placeworks and VCS Environmental 2016).
- *Los Cerritos Wetlands Conceptual Restoration Plan Habitat Assessment Report* (Tidal Influence 2012).

All information sources used are included as citations within the text; sources are listed in Section 3.3.7, *References*.

3.3.2 Environmental Setting

The proposed program includes the implementation of a restoration program for the Los Cerritos Wetlands Complex located in the South Area, Isthmus Area, Central Area and North Area. These areas within the proposed program coverage area expand into portions of the City of Seal Beach, City of Long Beach, Los Angeles County and Orange County.

3.3.2.1 Literature Review and Field Surveys

Biologists from GLA conducted detailed biological assessments and surveys on the program area (i.e., North and Central Areas) between 2010 and 2017. These surveys included the following: focused surveys for special-status plants and animals; vegetation mapping; delineation and assessment of wetlands and other aquatic resources; and general and focused biological surveys to obtain floral and faunal inventories, including wintering and breeding season surveys for the burrowing owl (*Athene cunicularia*) and focused surveys for special-status plants. In addition, Tidal Influence has conducted informal surveys for special-status species since 2006, including mapping of vegetation, general reconnaissance surveys and habitat assessments in 2011 in the four areas of the proposed program. More recently, CRC conducted supplemental surveys in 2018 that included updated vegetation mapping, a jurisdictional wetlands and waters assessment, mapping of Environmentally Sensitive Habitat Areas (ESHA), focused surveys for three special-status plants, and opportunistic avian observations on the four areas of the proposed program. The LCWA and City of Long Beach have also facilitated surveys for a portion of the Central Area. Additionally, the four areas within the proposed program were evaluated for the presence of waters potentially subject to the jurisdiction of the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), California Department of Fish and Wildlife (CDFW), as well as wetlands as defined under the California Coastal Commission (CCC). These survey efforts have assisted in understanding the sensitive biological resources that occur, or have a potential to occur, in the program area, and the associated technical reports are listed above in Section 3.3.1, *Introduction*.

A summary of the surveys conducted within the program area is described below and further detailed in the biological studies provided in Appendix C1.

Botanical Surveys

In 2019, CRC conducted a review of the California Native Plant Society (CNPS) On-line Inventory and the California Natural Diversity Database (CNDDB) (CRC 2019) to identify special-status plants and wildlife species that have been previously documented in the region. The areas that were queried included the United States Geological Survey (USGS) 7.5’ minute quadrangle map for Anaheim, La Habra, Long Beach, Los Alamitos, Newport Beach, Seal Beach, South Gate and Whittier. The results of these database searches revealed special-status plant species that may have the potential to occur within the proposed program area. A complete list of plant species observed within the program area during CRC’s 2019 assessment is provided in the floral compendium included in the Supplemental Biological Technical Report (Appendix C1).

General Surveys

Numerous botanical surveys and jurisdictional delineations have been conducted within the proposed program area by GLA between 2010 and 2017, and surveys were conducted by Tidal Influence in 2011 and CRC in 2018. During these visits, general botanical surveys were conducted that included detailed plant inventories.

Focused Botanical Surveys

Focused botanical surveys were conducted at the Central Area (Pumpkin Patch site) in 2011, 2013, and 2016; and focused botanical surveys for the North Area (Synergy Oil Field site) were conducted in 2015 and 2016. During the 2015 survey, there was a significant focus on southern tarplant on the North Area (Synergy Oil Field site) because of the substantial numbers observed germinating early in the season that year. These surveys were conducted in accordance with Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFG 2009). Focused botanical surveys were conducted in all four areas in 2018 by CRC but focused only on three species: southern tarplant (*Centromadia parryi* ssp. *australis*), Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), and Lewis' evening primrose (*Camissoniopsis lewisii*). Additionally, botanical surveys and jurisdictional delineations were also performed on the City Property site by AECOM, Tidal Influence, and Vandermost Consulting Services, Inc. (VCS) as set forth in the 2016 Biological Resources Assessment and Wetland Delineation: Southeast Area Development and Improvement Plan (Placeworks and VCS Environmental 2016).

Vegetation Mapping

Vegetation was mapped at the alliance[1] or stand[2] level based on the A Manual of California Vegetation, Second Edition (MCV II) (Sawyer et al. 2009) to the extent possible; however, in some cases, vegetation was characterized based on species dominance. Where applicable, guidelines set forth in Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW 2018b) were implemented during the vegetation mapping efforts.

Wildlife and Habitat Assessments

Habitat assessments were conducted on all four areas within the proposed program in 2011. In addition, focused surveys for burrowing owl were conducted on the North Area (i.e., Synergy Oil Field) and Central Area (i.e., Pumpkin Patch and Central LCWA sites) during the 2015 breeding season and on portions of these areas during the 2016/2017 wintering season. No burrowing owls were detected during these surveys. Focused surveys for Belding's savannah sparrow were conducted in the spring of 2017 to determine the approximate number and extent of breeding territories within the North Area (i.e., Synergy Oil Field). During these focused surveys, and during the habitat assessment conducted in 2011, incidental observations of wildlife, including evidence of presence (e.g., tracks, scat, burrows, etc.), were recorded by field biologists. A

[1] A classification unit of vegetation, containing one or more associations and defined by one or more diagnostic species, often of high cover, in the uppermost layer or the layer with the highest canopy cover.

[2] An actual area of vegetation that is homogenous in species composition and structure and in a uniform habitat.

complete list of wildlife species observed, or that are expected to occur within the proposed program area is provided in the Faunal Compendium (see Appendix C1).

Jurisdictional Delineation

A jurisdictional delineation was conducted for portions of the North and Central Areas in 2016 by GLA, and a supplemental assessment was conducted for the remaining North and Central Areas as well as the Isthmus Area and South Area in 2018 by CRC. The limits of USACE, CDFW and CCC jurisdiction were recorded during the delineation on wetland data sheets (Appendix C1).

The 2016 jurisdictional delineation was conducted using the methodology set forth in the United States Army Corps of Engineers 1987 Wetland Delineation Manual (Wetland Manual) and the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region Version 2.0 (AWS v2.0). While in the field, the limits of USACE/RWQCB/CDFW jurisdiction and wetlands defined by the CCA were recorded using sub-meter GPS technology and/or recorded on a color aerial photograph using visible landmarks.

The 2018 jurisdictional assessment was conducted to identify and map potential federal waters that are likely to be considered jurisdictional by the USACE and potential state waters that are likely to be considered jurisdictional by the RWQCB, CDFW and CCC jurisdiction within the program area. The assessment conducted was not a formal jurisdictional delineation using the USACE 1987 Wetland Delineation Manual and supplementary protocols and guidance documents. The jurisdictional assessment was based on the vegetation mapping done in 2018. Certain vegetation alliances and stands and unvegetated habitats were assumed to be strongly associated with jurisdictional areas.

3.3.2.2 Program Area

South Area

The South Area comprises approximately 206 acres, nearly half of which is mostly unvegetated due to development or regular mowing and disking. Vegetated areas are mostly weedy uplands or tidal and non-tidal pickleweed (*Salicornia pacifica*) wetland. Weedy upland areas are generally dominated by non-native invasive plant species (mustards, grasses, ice plants, and in some areas, weedy species tolerant of salty soils). Descriptions of the vegetation communities within the program area are included in Section 3.3.2.3 below.

The South Area supports a large expanse of tidally influenced wetlands. Tidewater enters the area via a culvert from the San Gabriel River and flows through tidal channels and inundates mud flat, salt marsh and salt flat habitats. The intertidal areas support a wide range of native salt marsh plants. About 70% of the area is heavily disturbed or developed upland, managed for fuel breaks, or weedy upland.

Much of the South Area contains oil facilities that are not subject to tidal influence, and includes areas that support salt marsh alliances and/or areas with non-native ruderal species. The central portion of the area lacks tidal influence and contains the highest concentration of oil facilities including pipeline, tank farms, and numerous pads and roads.

Isthmus Area

The Isthmus Area comprises approximately 26 acres and is long and narrow. It is constrained by complex ownership, flood control structures (the San Gabriel River levee), and other human-made features including the Haynes Cooling Channel, roadways, oil operations, and fuel breaks around oil operations. About one third of the Isthmus is developed (roads and oil operations). The vegetated portions of the site are slightly fragmented and include mainly restoration/mitigation areas, pickleweed marsh, and weedy upland dominated by five-horn smotherweed (*Bassia hyssopifolia*). Other intertidal habitats occur adjacent to the pickleweed marsh and are supported by limited tidal flows delivered via culverts from the San Gabriel River.

Central Area

The Central Area comprises approximately 102 acres and contains a mosaic of wetland alliances mixed with areas disturbed by ongoing oil extraction activities.

North Area

The North Area comprises approximately 155 acres and contains an active oil field with a network of roads, pipelines and other oil field-related amenities. The northern portion of the site contains Steamshovel Slough, an area of tidally influenced southern coastal salt marsh, tidal channels, and mud flats. Steamshovel Slough contains no oil operations and is separated from the oil operation areas by an earthen berm. A tide gate near the mouth of the Steamshovel Slough and series of pipes allow tidal water into western portions of the North Area.

Much of the North Area contains oil facilities that are not subject to tidal influence, and includes areas that support salt marsh alliances and/or areas with non-native ruderal species. The southern portion of the area has tidal influx through leaky tide gates to support limited areas of coastal wetlands vegetation and mudflats and contains the highest concentration of oil facilities including pipeline, tank farms, and numerous pads and roads. This area is diverse, supporting vegetation alliances often consistent with the presence of coastal wetlands, along with areas of non-native herbaceous plants, goldenbush scrub, and non-native herbs.

3.3.2.3 Vegetation Communities

Descriptions of the vegetation associations within the proposed program area have been separated into “upland habitats” and “wetland habitats.” In some cases, certain vegetation associations include both wetland and non-wetland stands (e.g., mulefat scrub) where the upland/wetland status was based on a predominance of wetland indicators such as indicator species, wetland soils and wetland hydrology. **Table 3.3-1**, *Summary of Vegetation Alliances and Land-Cover Types: Program Area*, through **Table 3.3-4**, *Special-Status Plants with Potential to Occur within the Program Area*, summarize the vegetation alliances and land cover types for each of the four areas of the proposed program, followed by detailed descriptions of each individual site. The majority of vegetation data was provided by the CRC (CRC 2019) and supplemented by GLA (GLA 2017a). The CDFW state rankings for natural communities are listed in parenthesis alongside each of the vegetation communities described below. CDFW sensitive natural communities include those communities given a state rank of S1-S3 (CDFW 2019a).

The state rank is a reflection of the condition and imperilment of an element throughout its range within the state. The state ranks are described below and represent a letter+number score that reflects a combination of Rarity, Threat and Trend factors, weighted more heavily on the rarity factors (CDFW 2017a).

S1: Critically Imperiled – Critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.

S2: Imperiled – Imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state.

S3: Vulnerable – Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

S4: Apparently Secure – Uncommon but not rare; some cause for long-term concern due to declines or other factors.

S5: Secure – Common, widespread, and abundant in the state.

? Qualifier: Inexact or Uncertain – A question mark represents a rank qualifier, denoting an inexact or uncertain numeric rank.

SNR: Unranked – State conservation status not yet assessed.

Vegetation alliances that occur within the program area are listed below in **Table 3.3-1**, *Summary of Vegetation Alliances and Land-Cover Types: Program Area*, displayed on **Figure 3.3-1a**, *Vegetation Communities-South Area*, through **Figure 3.3-1d**, *Vegetation Communities – North Area*, and are described below. A brief overview of each individual area is included following the description of vegetation alliances.

Upland Alliances and Land-Cover Types

***Atriplex lentiformis* Shrubland Alliance (S4).** Quailbush (*Atriplex lentiformis*) is a large evergreen shrub and is dominant in the shrub canopy. The canopy is open to intermittent, and the herbaceous layer is variable. Stands occur on heavy salt-affected soils that may be upland, transition, or wetlands. The understory in these areas typically consists of non-native grasses and forbs.

***Baccharis pilularis* Shrubland Alliance (S5).** Coyote brush (*Baccharis pilularis*) is a large drought-tolerant evergreen shrub that tolerates seasonally waterlogged soils. A few small, scattered patches of the vegetation type occur in upland areas. The patches are dominated by coyote brush and the understory typically consists of non-native grasses and forbs.

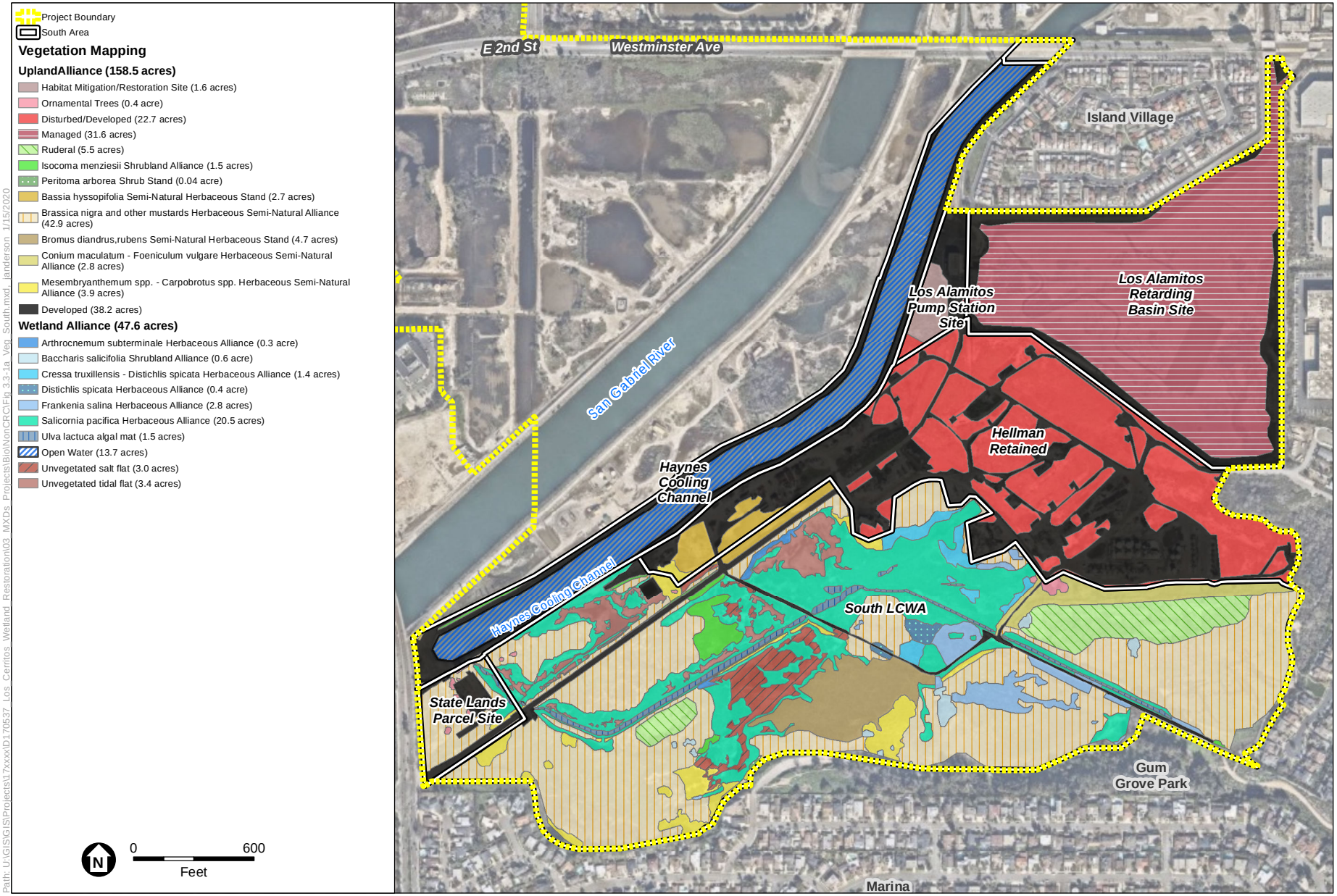
TABLE 3.3-1
SUMMARY OF VEGETATION ALLIANCES AND LAND-COVER TYPES: PROGRAM AREA

Vegetation	South Area (acres)	Isthmus Area (acres)	Central Area (acres)	North Area (acres)	Program Area (acres)
Upland Alliances and Land Covers					
Atriplex lentiformis Shrubland Alliance			0.03		0.03
Baccharis pilularis Shrubland Alliance			0.05	0.41	0.46
Baccharis salicifolia Shrubland Alliance			0.06	1.28	1.34
Baccharis salicina Provisional Shrubland Alliance				0.04	0.04
Bassia hyssopifolia Semi-Natural Herbaceous Stand	2.69	1.87		3.49	8.05
Brassica nigra and other mustards Herbaceous Semi-Natural Alliance	42.94	0.41	2.63		45.98
Bromus diandrus, rubens Semi-Natural Herbaceous Stand	4.67		4.15	8.34	17.16
Carpobrotus edulis or Other Ice Plants Semi-Natural Herbaceous Stands	3.95			2.79	6.74
Centaurea (solstitialis, melitensis) Semi-Natural Herbaceous Stands				2.97	2.97
Conium maculatum – Foeniculum vulgare Herbaceous Semi-Natural Alliance	2.79				2.79
Cortedaria (jubata, selloana) Semi-Natural Herbaceous Stands				0.20	0.20
Developed	38.19	9.13	18.24	2.22	67.78
Disturbed/Developed	22.73		3.32	22.37	48.42
Habitat Mitigation/Restoration Site	1.63	6.39			8.02
Isocoma menziesii Shrubland Alliance	1.52	1.04	0.10	0.62	3.28
Leymus cinereus – Leymus triticoides Herbaceous Alliance			0.18		0.18
Managed	31.60				31.60
Melilotus (indicus, albus) Semi-Natural Herbaceous Stands				0.34	0.34
Mesembryanthemum spp. – *Carpobrotus* spp. Herbaceous Semi-Natural Alliance			0.90		0.90
Ornamental Trees	0.39	0.01	0.55	2.47	3.42
Peritoma arborea Shrub Stand	0.04				0.04
Ricinus communis Semi-Natural Stand			0.49		0.49
Ruderal	5.49				5.49
Sisymbrium irio Semi-Natural Herbaceous Stands				1.34	1.34
Unvegetated Flats (Upland)				4.32	4.32
Upland Alliances Subtotal	*158.63*	*18.85*	*30.7*	*53.20*	*261.38*

TABLE 3.3-1
SUMMARY OF VEGETATION ALLIANCES AND LAND-COVER TYPES: PROGRAM AREA

Vegetation	South Area (acres)	Isthmus Area (acres)	Central Area (acres)	North Area (acres)	Program Area (acres)
Wetland Alliances and Land Covers					
Anemopsis californica – Helianthus nuttallii – Solidago spectabilis Herbaceous Alliance			0.01		0.01
Arthrocnemum subterminale Herbaceous Alliance	0.31		0.01	11.96	12.28
Baccharis salicifolia Shrubland Alliance	0.59		2.74		3.33
Cressa truxillensis – Distichlis spicata Herbaceous Alliance	1.42		0.45	0.54	2.41
Distichlis littoralis Herbaceous Alliance				0.52	0.52
Distichlis spicata Herbaceous Alliance	0.44		10.14	12.08	22.66
Frankenia salina Herbaceous Alliance	2.78	0.51	1.32	0.87	5.48
Open Water	13.67		17.33	0.73	31.73
Salicornia pacifica Herbaceous Alliance	20.45	4.81	26.67	53.07	105.00
Salix gooddingii Woodland Alliance			0.22	0.14	0.36
Schoenoplectus californicus – Typha (angustifolia, domingensis, latifolia) Herbaceous Alliance			3.71		3.71
Schoenoplectus californicus Herbaceous Alliance			0.02		0.02
Spartina foliosa Herbaceous Alliance				1.38	1.38
Tidal Channel				3.18	3.18
Typha domingensis—Herbaceous Alliance				0.11	0.11
Ulva lactuca algal mat	1.55	1.00			2.55
Unvegetated salt flat	2.96	1.88	3.87	0.15	8.86
Unvegetated tidal flat	3.43		0.37	17.55	21.35
Wetland Alliances Subtotal	*47.60*	*8.20*	*66.86*	*102.28*	*224.94*
Total	**206.23**	**27.05**	**97.56**	**155.48**	**486.32**

SOURCE: Coastal Restoration Consultants, 2019, Glenn Lukos, 2017a.

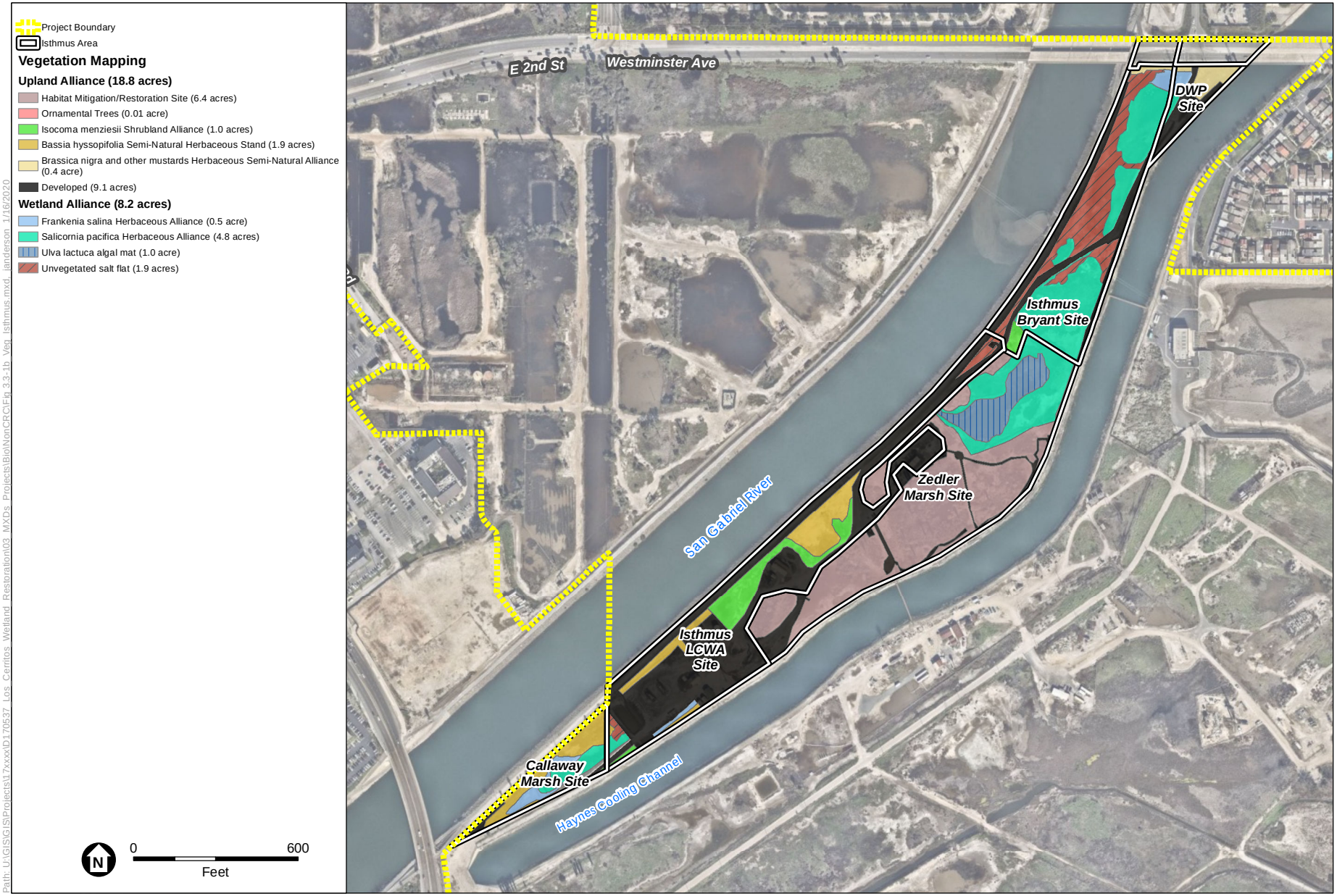


SOURCE: Mapbox, LCWA, CRC

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 3.3-1a
Vegetation Communities
South Area

ESA

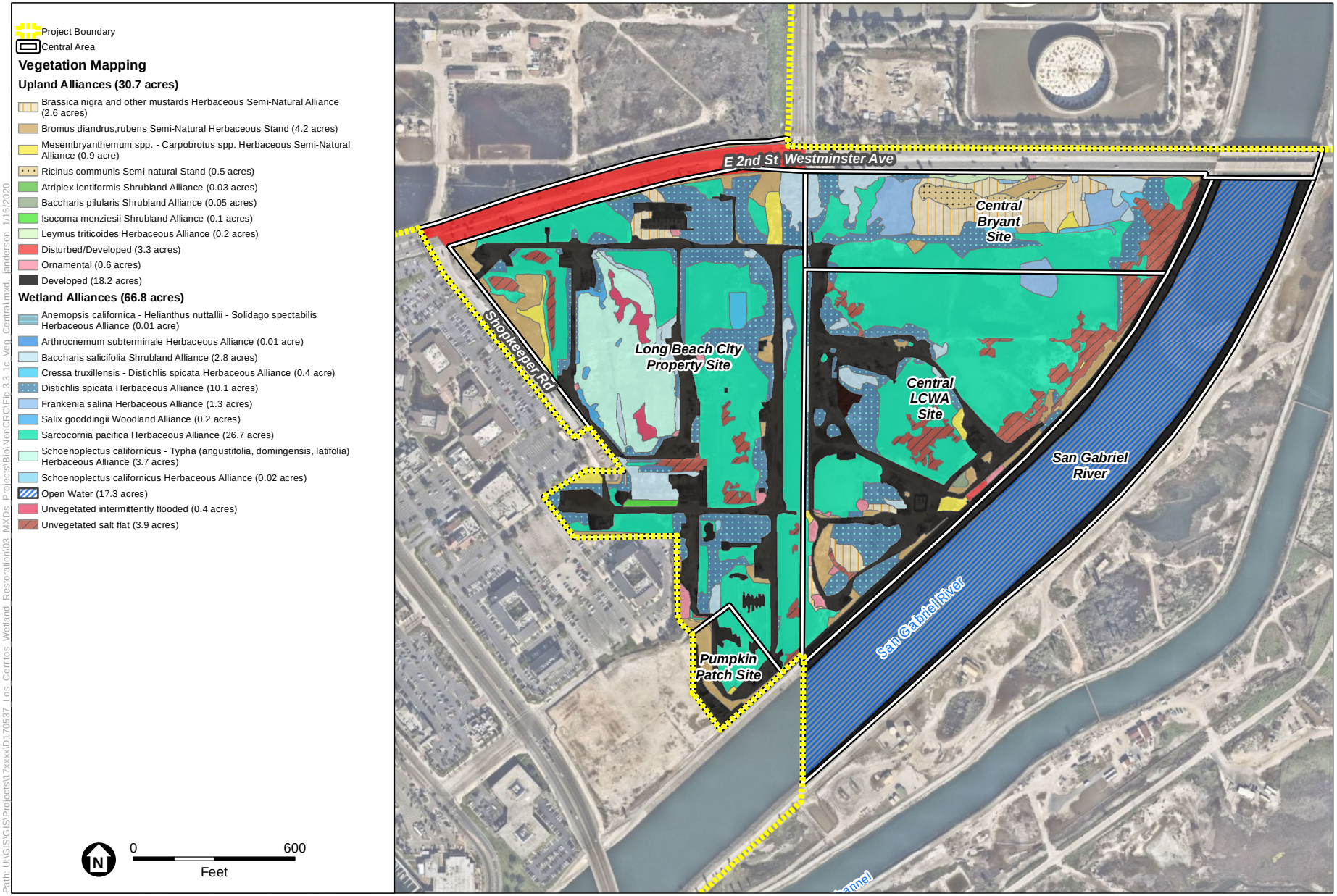


SOURCE: Mapbox, LCWA, CRC

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 3.3-1b
Vegetation Communities
Isthmus Area

ESA

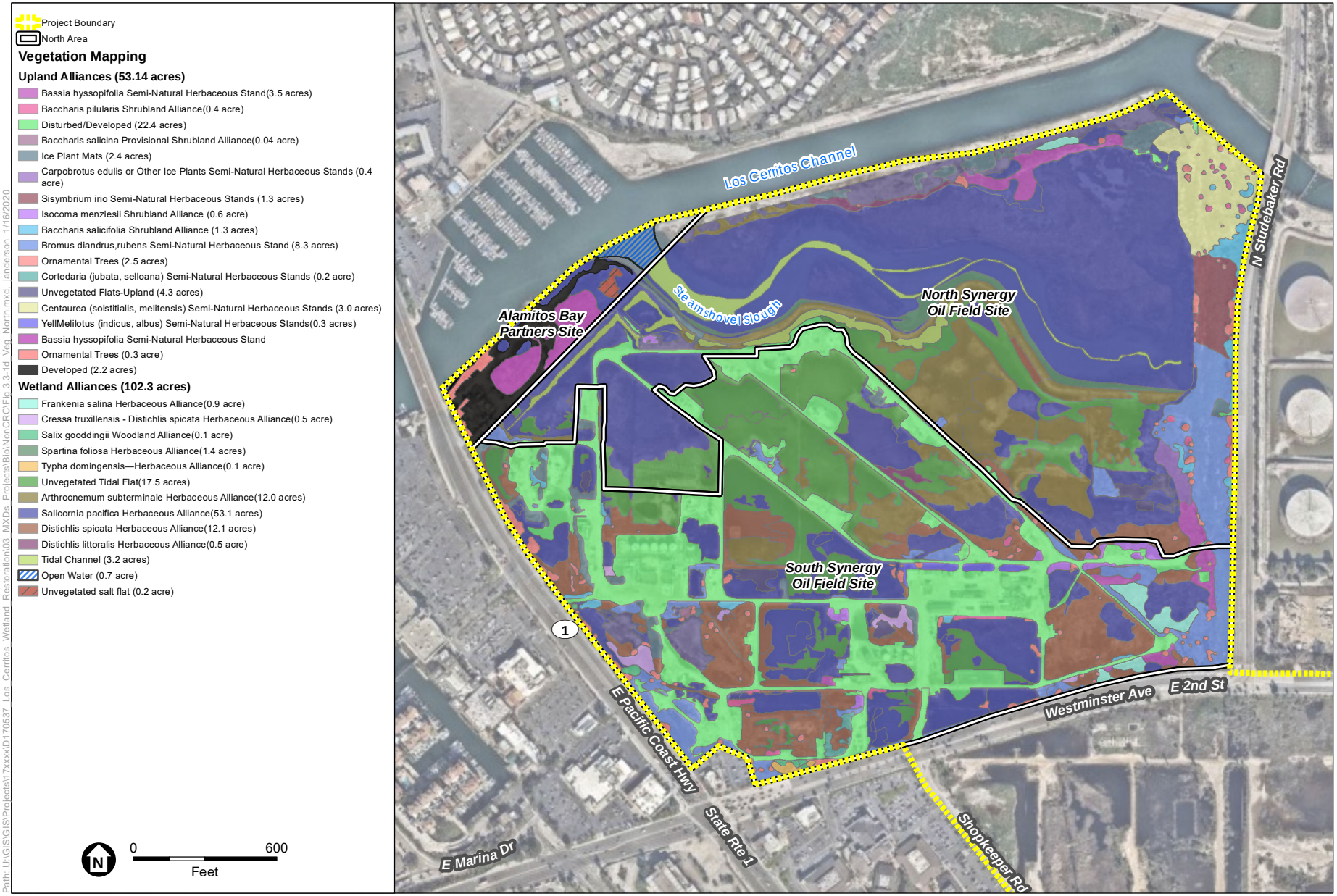


SOURCE: Mapbox, LCWA, CRC, Glenn Lukos Associates

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 3.3-1c
Vegetation Communities
Central Area

ESA



SOURCE: Mapbox, LCWA, CRC, Glenn Lukos Associates

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 3.3-1d
Vegetation Communities
North Area

ESA

***Baccharis salicina* Provisional Shrubland Alliance (Emory's baccharis thickets) (S3).** Occurs in disturbed areas with an open canopy of Emory's baccharis (*Baccharis salicina*)[3] with a mix of saltgrass (*Distichlis spicata*) and small-flowered ice plant (*Mesembryanthemum nodiflorum*) in the understory.

***Bassia hyssopifolia* Semi-Natural Herbaceous Stand (SNR).** Five-horn smotherweed (*Bassia hyssopifolia*) is a non-native annual species that occurs on disturbed, often saline, soils. In the program area, stands consist of locally dense thickets, typically in disturbed saline soil conditions. This species is also a common weed as understory in other associations. [The MCV II does not have a description for this alliance, it was used here for consistency with City of Long Beach (2017) mapping.]

***Brassica nigra* and Other Mustards Herbaceous Semi-Natural Alliance (SNR).** This alliance includes herbaceous vegetation dominated by various non-native mustards, mostly annual and biennial species, including *Brassica nigra, Hirschfeldia incana*, or *Raphanus sativus*. Most of these species are invasive exotics. Native shrubs may be present but only at low relative and absolute cover. The non-native herbs clearly dominate the landscape. This alliance occurs primarily on soils with a history of disturbance.

***Bromus diandrus, rubens* Semi-Natural Herbaceous Stand (SNR).** Non-native annual upland grasses in the genera *Bromus* (bromes) and *Avena* (wild oats) dominate these areas. They are typically upland areas that have a history of soil disturbance. Dominant species include red brome (*Bromus madritensis*), rip gut brome (*Bromus diandrus*), slender wild oats (*Avena barbata*), smilo grass (*Stipa miliacea* var. *miliacea*), as well as locally dense patches of non-native forbs including small-flowered ice plant, five-horn smotherweed, Australian saltbush (*Atriplex semibaccata*), tocalote (*Centaurea melitensis*), London rocket (*Sisymbrium irio*), and summer mustard (*Hirschfeldia incana*). [Note that two categories of MCV II "brome grasslands" have been combined for simplification.]

***Carpobrotus edulis* or Other Ice Plants Semi-Natural Herbaceous Stands (Ice Plant Mats) (SNR).** Common as small patches throughout the program area. This alliance is dominated by non-native small-flowered ice plant (*Mesembryanthemum nodiflorum*) and occasionally by crystalline ice plant (*Mesembryanthemum crystallinum*). Pickleweed may occur in low quantities.

***Centaurea (solstitialis, melitensis)* Semi-Natural Herbaceous Stands (Yellow Star Thistle Fields) (SNR).** Limited occurrences within the program area. This alliance is dominated by tocalote (*Centaurea melitensis*).

***Conium maculatum – Foeniculum vulgare* Herbaceous Semi-Natural Alliance (SNR).** Poison hemlock (*Conium maculatum*) is a biannual invasive exotic species that is dominant (or co-dominant with other non-native plants) in the herbaceous layer. This alliance occurs in uplands on disturbed soil. Other species include a wide variety of annual non-native grasses and annual mustards (*Brassica* spp.).

[3] The 2012 Jepson Manual (Baldwin et al. 2012, 256) now lists this taxon as Baccharis salicina.

***Cortedaria (jubata, selloana)* Semi-Natural Herbaceous Stands (Pampas Grass Patches) (SNR).** Limited occurrences within the program area. Dominated by mostly monotypic stands of pampas grass (*Cortedaria selloana*).

Developed (SNR). Buildings, concrete pads, infrastructure, roads, sidewalks, parking areas, other pavement, constructed drainage and erosion control structures, barriers, berms, sumps, and levees.

Disturbed/Developed (SNR). Most often associated with areas disturbed by historic oil operations, including existing roads, existing and former oil well sites and other types of infrastructure. Many of these areas are bare or sparsely vegetated whereas others are covered by gravels or asphalt-like material (ALM). Vegetation is comprised mostly of non-native with species such as small flowered ice plant, five-horn smotherweed, tocalote (*Centaurea melitensis*) and non-native grasses (*Bromus* spp.).

Habitat Mitigation/Restoration Site (SNR). These areas are the subject of ongoing management as restoration or mitigation sites. The vegetation includes various upland and wetland herbs, shrubs and trees. Non-native species are being managed by weeding. Irrigation may be ongoing.

***Isocoma menziesii* Shrubland Alliance (S3).** Menzie's goldenbush (*Isocoma menziesii*) is an upland shrub that is found in transition zone habitats around salt marshes, on coastal bluffs, and in coastal sage scrub. It is tolerant of occasional flooding and tolerates higher salinity than most upland shrubs. It is a good colonist on disturbed soils, and is often found with a non-native understory that includes small-flowered ice plant and non-native grasses.

***Leymus cinereus* – *Leymus triticoides* Herbaceous Alliance (S3).** Alkali rye grass (*Leymus triticoides*) is a rhizomatous perennial grass that typically occurs on saline or alkaline soils with a shallow water table. It forms nearly monotypic stands.

Managed (SNR). These areas are the subject of ongoing management as part of the operation of the Los Alamitos Retarding Basin. The vegetation includes various upland and wetland herbs and shrubs.

***Melilotus (indicus, albus)* Semi-Natural Herbaceous Stands (Sweet Clover Fields) (SNR).** This alliance is dominated by yellow sweet clover (*Melilotus indicus*) and also includes non-native grasses.

***Mesembryanthemum* spp. – *Carpobrotus* spp. Herbaceous Semi-Natural Alliance (SNR).** Non-native annual iceplant species (*Mesembryanthemum* spp.) occur in wetland and upland areas typically on disturbed, saline soils. Perennial iceplant species (*Carpobrotus* spp.) form large mats in uplands in the program area. Where this alliance is dominated by small-flowered ice plant (*Mesembryanthemum nodiflorum*) and/or crystalline ice plant (*Mesembryanthemum crystallinum*) other species are very sparse or absent. Where sea fig (*Carpobrotus edulis*) is the dominant, it co-occurs with annual grasses.

Ornamental Trees (SNR). The site supports scattered areas of non-native invasive trees. The diversity of non-native trees scattered across the site is substantially higher than captured by any MCV II alliance, so these trees were mapped as "Ornamental Trees". These include a range of non-native trees, including myoporum (*Myoporum laetum*), Canary Island palm (*Phoenix canariensis*), Mexican fan palm (*Washingtonia robusta*), Shamel ash (*Fraxinus uhdei*), bluegum eucalyptus (*Eucalyptus globulus*), Sydney golden wattle (*Acacia longifolia*), and Brazilian pepper (*Schinus terebinthifolius*). Some of these have various annual non-natives as understory species.

***Peritoma arborea* Shrub Stand (S4).** Bladderpod (*Peritoma arborea*) is a native woody shrub that is growing with non-native mustards and annual grasses on disturbed upland soils.

***Ricinus communis* Semi-Natural Stand (SNR).** Castor bean (*Ricinus communis*) is a large invasive non-native woody shrub that occurs primarily on disturbed upland soils. It grows with tree tobacco (*Nicotiana glauca*) and non-native annual grasses (*Avena* and *Bromus* spp.).

Ruderal (SNR). Ruderal areas are dominated by telegraph weed (*Heterotheca grandiflora*). Telegraph weed is a native annual or short-lived perennial herbaceous species that grows on disturbed upland soils. It grows on site in low densities on sandy soils (likely dredge material as mollusk shells characteristic of salt marsh and beach habitats are common on the soil surface). It grows with scattered annual grasses, heron's bill (*Erodium* spp.) and Lewis' evening primrose.

***Sisymbrium irio* Semi-Natural Herbaceous Stands (SNR).** Occurs at a single location at the southeast corner of the northern area, consisting of a near monoculture of the non-native London rocket (*Sisymbrium irio*). This alliance intergrades with tocalote fields to the north and non-native grasses to the south.

Unvegetated Flats (Upland) (SNR). Consist of areas with less than 5 percent vegetative cover. Unvegetated Flats (Upland) are distinguished from Unvegetated Salt Flat and Unvegetated Tidal Flat, which at a minimum exhibit either wetland hydrology or hydric soils and, therefore, meet the CCA definition of wetlands. The lack of wetland hydrology was determined through direct observations in the field during data collection associated with the jurisdictional assessment or through review of historic aerial photographs for ponding.

Wetland Alliances and Land-Cover Types

***Anemopsis californica – Helianthus nuttallii – Solidago spectabilis* Herbaceous Alliance (S2).** Yerba mansa (*Anemopsis californica*) occurs in low-salinity soils that are moist more or less year-round, possibly associated with seeps or urban runoff. Yerba mansa occurs as a nearly-monotypic stand.

***Arthrocnemum subterminale* Herbaceous Alliance (S2).** Parish's glasswort (*Arthrocnemum subterminale*) is a plant that is most common in high marsh areas with seasonally hypersaline soils. This species often forms monocultures. Other species that are sometimes associated with it include common pickleweed, alkali heath (*Frankenia salina*), saltgrass (*Distichlis spicata*), shoregrass (*Distichlis littoralis*), and sea lavender (*Limonium californicum*).

***Baccharis salicifolia* Shrubland Alliance (S4).** Mulefat (*Baccharis salicifolia*) is a large evergreen shrub that occurs along creeks and rivers, in and adjacent to freshwater wetlands, and in uplands. Most of the mulefat at the site occurs in small to medium patches, often in areas that receive runoff from developed areas. This alliance consists of generally small thickets of mulefat with understory that varies from location to location but may include one or more of the following species: saltgrass (*Distichlis spicata*), seaside heliotrope (*Heliotropium curassivicum*), small-flowered ice plant (*Mesembryanthemum nodiflorum*), five-horn smotherweed (*Bassia hyssopifolia*), and non-native upland grasses.

***Cressa truxillensis – Distichlis spicata* Herbaceous Alliance (S2).** Alkali weed (*Cressa truxillensis*) is a native perennial herbaceous plant that occurs in salt-affected seasonal wetlands, high marsh and transition zone habitats, and occasionally in uplands at the site. Other species that co-occur with alkali weed at the site include saltgrass, non-native annual grasses, and alkali heath.

***Distichlis littoralis* Herbaceous Alliance (SNR).** Like Parish's glasswort, shoregrass is a species most common in high marsh areas and is common in areas above tidal influence such as on the berm that demarcates the limits of Steamshovel Slough. This species is also a common component of the pickleweed mat alliance described below, and most of the shoregrass on the site is included in the pickleweed mat and/or Parish's glasswort alliances.

***Distichlis spicata* Herbaceous Alliance (S4).** Saltgrass is a perennial rhizomatous grass that occurs in salt-affected seasonal wetlands, high marsh and transition zone habitats, and occasionally in uplands at the site. Saltgrass is common in a variety of alliances throughout the site, though it dominates in these areas. Other species commonly associated with this alliance include common pickleweed, alkali heath, non-native annual grasses, alkali weed, small-flowered ice plant, and five-horn smotherweed.

***Frankenia salina* Herbaceous Alliance (S3).** Alkali heath is a low-growing, woody, rhizomatous halophyte that occurs in salt-affected seasonal wetlands, high marsh and transition zone habitats, and occasionally in uplands at the site. It is common in a variety of alliances at the site but occasionally forms unbroken stands that constitute a separate alliance. Other species commonly found in this alliance include saltgrass, common pickleweed, alkali weed, and non-native annual grasses.

Open Water (SNR). These areas are permanently flooded tidal areas. They may support patches of rooted eelgrass (*Zostera* spp.), however this species was not mapped in this effort.

***Salicornia pacifica* Herbaceous Alliance (S3).** Common pickleweed is an herbaceous perennial native wetland species that occurs in tidal salt marshes and salt-affected seasonal wetlands. It is the most common wetland alliance in the program area. Other common species that co-occur with common pickleweed include alkali heath, Parish's glasswort, saltgrass, sea lavender, alkali weed, alkali weed, saltwort (*Batis maritima*), fleshy jaumea (*Jaumea carnosa*) and estuary seablite (*Sueada esteroa*).

***Salix gooddingii* Woodland Alliance (S3).** Black willow (*Salix gooddingii*) is dominant and in many cases consists of a single large tree that was of sufficient size to be included as a mapping

unit. The understory varies substantially throughout the site but may include one or more of the following species: saltgrass, tall nutsedge (*Cyperus eragrostis*), seaside heliotrope, alkali weed (*Cressa truxillensis*), and curly dock.

***Schoenoplectus californicus – Typha (angustifolia, domingensis, latifolia)* Herbaceous Alliance (S3).** California bulrush (*Schoenoplectus californicus*) grows with cattails (*Typha* spp.) in seasonally flooded or saturated brackish or freshwater wetlands. It grows with trees such as black willow (*Salix gooddingii*) and herbaceous species such as curly dock in basins that are augmented by artificial dry season inflows.

***Schoenoplectus californicus* Herbaceous Alliance (S3).** California bulrush is a large perennial grass-like herb that occurs along freshwater water sources in wetlands. This alliance occurs in a small patch, in an area that receives runoff from developed areas. This alliance consists of generally small, monotypic thickets of California bulrush with little to no understory or other dominant species.

***Spartina foliosa* Herbaceous Alliance (S3.2).** Within Steamshovel Slough. Cordgrass (*Spartina foliosa*) is dominant with other species including common pickleweed and saltwort.

Tidal Channels (Tidal) (SNR). Tidal channels are found within Steamshovel Slough and in the area south of the berm, all of which is included in the northern portion of the north area.

***Typha domingensis* Herbaceous Alliance (S5).** Consists of non-tidal freshwater marsh dominated by southern cattail (*Typha domingensis*). Other species include tall nutsedge, alkali bulrush (*Bolboschoenus maritimus*), and California bulrush (*Schoenoplectus californicus*).

***Ulva lactuca* Algal Mat (SNR).** This cover class represents areas of low elevation mudflat and tidal channel that have moderate to high cover of algal mats. The mats may occur seasonally or intermittently and may be associated with poor water quality (i.e., high nutrient loads). The MCV II does not have a description for this alliance.

Unvegetated Salt Flat (SNR). This habitat type occurs in non-tidal areas that do not have vegetation. The lack of vegetation is likely due to hypersalinity of soils. High soil salinity may be from very rare or historic tidal inundation or as a legacy (i.e., soil dredged from tidal or sub-tidal habitats and placed on site).

Unvegetated Tidal Flat (SNR). This habitat type occurs in tidal areas that do not have emergent vegetation. The lack of vegetation may be due to more or less constant ponding of water (shallow depressions on the marsh plain). They may support algae seasonally, although algal mats were not observed during mapping.

3.3.2.4 Special-Status Plants

Special-status plants are legally protected under the California Endangered Species Act (CESA) (Fish and Game Code Sections 2050 et seq.), the Native Plant Protection Act (Fish and Game Code Sections 1900 et seq.), the federal Endangered Species Act (FESA), other regulations, or

considered sufficiently rare by the scientific community to qualify for such a listing (CDFW 2019b). For purposes of this PEIR, special-status plant species include the following categories:

1. Officially listed by California or the federal government as endangered, threatened, or rare;
2. A candidate for state or federal listing as endangered, threatened, or rare;
3. Taxa that meet the criteria for listing, even if not currently included on any list, as described in *CEQA Guidelines* 15380; and
4. Taxa listed in the CNPS Inventory of Rare and Endangered Plants of California with a California Rare Plant Rank (CRPR) of 1, 2, 3 or 4.

Table 3.3-2, *Special-Status Plants with Potential to Occur*, provides a summary of the special-status plants determined to have potential to occur for the proposed program based on the results of the CNDDB (2019) and CNPS (2019) queries. Also included in Table 3.3-2 are other special-status plants that are known to occur within the vicinity where suitable habitat is present (in the proposed program area). A table providing a summary of those special-status plants determined to be unlikely to occur and therefore were not analyzed further is included in Appendix C3. Following the table, additional discussions are provided for any special-status plants observed on site or for which potentially suitable habitat occurs on the site.

The "Potential for Occurrence" category indicated in Table 3.3-2 is defined as follows:

- *Unlikely:* The program area and/or immediate area do not support suitable habitat for a particular species, and therefore the proposed program is unlikely to impact this species.
- *Low Potential:* The program area and/or immediate vicinity provides low-quality habitat for a particular species, such as improper substrate, disturbed or otherwise degraded habitat, or improper assemblage of desired vegetation, and/or the site is outside of the known range of the species.
- *Moderate Potential:* The program area and/or immediate vicinity provides marginal habitat for a particular species. For example, proper substrate may be present, but the desired vegetation assemblage or density is less than ideal, or substrate and vegetation are suitable, but the site is outside of the known elevation range of the species.
- *High Potential:* The program area and/or immediate vicinity provides high-quality or ideal habitat (i.e., soils, vegetation assemblage, and topography) for a particular species and/or there are known occurrences in the general vicinity of the program area.
- *Present:* Species observed on the site during focused surveys or other site visits.

TABLE 3.3-2
SPECIAL-STATUS PLANTS WITH POTENTIAL TO OCCUR

Species	Status	Habitat	Potential for Occurrence
Aphanisma *Aphanisma blitoides*	Federal: None State: None CRPR: 1B.2	Coastal bluff scrub, coastal dunes, coastal scrub. On bluffs and slopes near the ocean in sandy or clay soils.	Low. Suitable habitat present in South, North and Isthmus Areas; however, not documented in the program area including during focused botanical surveys conducted in the North and Central Areas by Glenn Lukos. Suitable habitat is limited within the program area and either contains non-native plant species or is adjacent to non-native dominated communities and land covers.

TABLE 3.3-2
SPECIAL-STATUS PLANTS WITH POTENTIAL TO OCCUR

Species	Status	Habitat	Potential for Occurrence
Brand's star phacelia *Phacelia stellaris*	Federal: None State: None CRPR: 1B.1	Coastal bluff scrub, coastal dunes, coastal scrub. On bluffs and slopes near the ocean in sandy or clay soils.	Low. Suitable habitat present in South, North and Isthmus Areas; however, not documented in the program area. Suitable habitat is limited within the program area and either contains non-native plant species or is adjacent to non-native dominated communities and land covers.
California box-thorn *Lycium californicum*	Federal: None State: None CRPR: 4.2	Coastal bluff scrub, coastal scrub.	Present. Documented in South Area, occurs in coastal scrub present. Individuals planted at Zedler Marsh in the Isthmus Area. Suitable habitat present in North Area; however, not documented during focused surveys conducted in the North and Central Areas by Glenn Lukos.
California Orcutt grass *Orcuttia californica*	Federal: FE State: SE CRPR: 1B.1	Vernal pools.	Unlikely. Not documented in the program area including during focused surveys conducted in the North and Central Areas by Glenn Lukos, no suitable habitat present.
Catalina mariposa-lily *Calochortus catalinae*	Federal: None State: None CRPR: 4.2	Valley and foothill grassland, chaparral, coastal scrub, cismontane woodland. In heavy soils, open slopes, openings in brush.	Low. Suitable habitat present in South, North and Isthmus Areas; however, not documented in the program area. Suitable habitat is limited within the program area and either contains non-native plant species or is adjacent to non-native dominated communities and land covers.
Chaparral sand verbena *Abronia villosa* var. *aurita*	Federal: None State: None CRPR: 1B.1	Sandy soils in chaparral, coastal sage scrub.	Low. Suitable habitat present; however, not documented in the program area including during focused botanical surveys conducted in the North and Central Areas by Glenn Lukos. Suitable habitat is limited within the program area and either contains non-native plant species or is adjacent to non-native dominated communities and land covers.
Coast woolly-heads *Nemacaulis denudata* var. *denudata*	Federal: None State: None CRPR: 1B.2	Coastal dunes.	Low. Suitable habitat present in South and North Areas; however, not documented in the program area including during focused botanical surveys conducted in the North and Central Areas by Glenn Lukos. Suitable habitat is limited within the program area and either contains non-native plant species or is adjacent to non-native dominated communities and land covers.
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	Federal: None State: None CRPR:1B.1	Playas, vernal pools, marshes and swamps (coastal salt).	Present. Several populations of this species were identified in spring 2011 by Tidal Influence botanists and in 2009 and 2010 by Glen Lukos within the South Area. Individuals were not documented in 2018 during focused surveys conducted for the species by CRC. Suitable habitat present in all four sites within the program area.
Coulter's saltbush *Atriplex coulteri*	Federal: None State: None CRPR: 1B.2	Coastal bluff scrub, coastal dunes, coastal sage scrub, valley and foothill grassland. Occurring on alkaline or clay soils.	Low. Suitable habitat present at all four sites; however, not documented in the program area including during focused botanical surveys conducted in the North and Central Areas by Glenn Lukos. Suitable habitat is limited within the program area and either contains non-native plant species or is adjacent to non-native dominated communities and land covers.

TABLE 3.3-2
SPECIAL-STATUS PLANTS WITH POTENTIAL TO OCCUR

Species	Status	Habitat	Potential for Occurrence
Davidson's saltscale *Atriplex serenana* var. *davidsonii*	Federal: None State: None CRPR: 1B.2	Alkaline soils in coastal sage scrub, coastal bluff scrub.	Low. Suitable habitat present at all four sites; however, not documented in the program area including during focused botanical surveys conducted in the North and Central Areas by Glenn Lukos. Suitable habitat is limited within the program area and either contains non-native plant species or is adjacent to non-native dominated communities and land covers.
Decumbent goldenbush *Isocoma menziesii* var. *decumbens*	Federal: None State: None CRPR: 1B.2	Chaparral, coastal scrub (sandy, often in disturbed areas).	Low. Suitable habitat present at all four sites; however, not documented in the program area including during focused botanical surveys conducted in the North and Central Areas by Glenn Lukos. Suitable habitat is limited within the program area and either contains non-native plant species or is adjacent to non-native dominated communities and land covers.
Engelmann oak *Quercus engelmannii*	Federal: None State: None CRPR: 4.2	Cismontane woodland, chaparral, riparian woodland, valley and foothill grassland.	Unlikely. Not documented on site, no suitable habitat present.
Estuary seablite *Suaeda esteroa*	Federal: None State: None CRPR: 1B.2	Coastal salt marsh and swamps. Occurs in sandy soils.	Present. Documented on site in tidal salt marsh areas primarily in North Area (Steamshovel Slough). Introduced to Zedler Marsh in the Isthmus Area. Suitable habitat present in South and Central Areas.
Gambel's water cress *Rorippa gambelii*	Federal: FE State: ST CRPR: 1B.1	Marshes and swamps.	Unlikely. Not documented on site including during focused botanical surveys conducted in the North and Central Areas by Glenn Lukos, no suitable habitat present.
Intermediate mariposa-lily *Calochortus weedii* var. *intermedius*	Federal: None State: None CRPR: 1B.2	Coastal scrub, chaparral, valley and foothill grassland. Dry, rocky calcareous slopes and rock outcrops.	Low. Suitable habitat present at all four sites; however, not documented in the program area. Suitable habitat is limited within the program area and either contains non-native plant species or is adjacent to non-native dominated communities and land covers.
Laguna Beach dudleya *Dudleya stolonifera*	Federal: FT State: ST CRPR: 1B.1	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. In thin soil on north-facing sandstone cliffs.	Unlikely. Not documented on site, no suitable habitat present.
Lewis' evening primrose *Camissoniopsis lewisii*	Federal: None State: None CRPR: 3	Occurs in coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland in sandy or clay soil up to 985 feet in elevation.	Present. Observations limited to South Area in 2018 by CRC and 2011 by Tidal Influence. Suitable habitat present in Isthmus, Central and North Areas.
Los Angeles sunflower *Helianthus nuttallii* ssp. *parishii*	Federal: None State: None CRPR: 1A	Salt and freshwater marshes, historically in Los Angeles, Orange, Riverside and San Bernardino Counties. Still Presumed to be extinct. Plant discovered in Santa Clarita most likely hybrid between *H. nuttallii* and *H. californicus*.	Low. Suitable habitat present at all four sites; however, not documented in the program area including during focused botanical surveys conducted in the North and Central Areas by Glenn Lukos. Still presumed to be extinct.
Lucky morning-glory *Calystegia felix*	Federal: None State: None CRPR: 1B.1	Meadows and seeps, riparian scrub. Sometimes alkaline, alluvial.	Unlikely. Not documented on site, no suitable habitat present.

TABLE 3.3-2
SPECIAL-STATUS PLANTS WITH POTENTIAL TO OCCUR

Species	Status	Habitat	Potential for Occurrence
Lyon's pentachaeta *Pentachaeta lyonii*	Federal: FE State: SE CRPR: 1B.1	Chaparral (openings), coastal sage scrub, valley and foothill grassland.	Low. Suitable habitat present at all four sites; however, not documented in the program area including during focused botanical surveys conducted in the North and Central Areas by Glenn Lukos. Suitable habitat is limited within the program area and either contains non-native plant species or is adjacent to non-native dominated communities and land covers.
Many-stemmed dudleya *Dudleya multicaulis*	Federal: None State: None CRPR: 1B.2	Chaparral, coastal sage scrub, valley and foothill grassland. Often occurring in clay soils.	Low. Suitable habitat present at all four sites; however, not documented in the program area including during focused botanical surveys conducted in the North and Central Areas by Glenn Lukos. Suitable habitat is limited within the Program Area and either contains non-native plant species or is adjacent to non-native dominated communities and land covers.
Mud nama *Nama stenocarpum*	Federal: None State: None CRPR: 2B.2	Vernal pools and freshwater seasonal ponds.	Low. Suitable habitat present in the South, Central and North Areas; however, not documented in the program area including during focused botanical surveys conducted in the North and Central Areas by Glenn Lukos. Suitable habitat is limited within the program area and either contains non-native plant species or is adjacent to non-native dominated communities and land covers.
Parish's brittlescale *Atriplex parishii*	Federal: None State: None CRPR: 1B.1	Chenopod scrub, playas, vernal pools.	Unlikely. Not documented on site including during focused botanical surveys conducted in the North and Central Areas by Glenn Lukos, no suitable habitat present.
Parish's gooseberry *Ribes divaricatum* var. *parishii*	Federal: None State: None CRPR: 1A	Riparian woodland. Salix swales in riparian habitats.	Unlikely. Not documented on site including during focused botanical surveys conducted in the North and Central Areas by Glenn Lukos, no suitable habitat present.
Plummer's mariposa-lily *Calochortus plummerae*	Federal: None State: None CRPR: 4.2	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest. Occurs on rocky and sandy sites, usually of granitic or alluvial material. Can be very common after fire.	Low. Suitable habitat present at all four sites; however, not documented in the program area. Suitable habitat is limited within the program area and either contains non-native plant species or is adjacent to non-native dominated communities and land covers.
Prostrate navarretia *Navarretia prostrata*	Federal: FSC State: None CRPR: 1B.1	Coastal sage scrub, valley and foothill grassland (alkaline), vernal pools. Occurring in mesic soils.	Low. Suitable habitat present at all four sites; however, not documented in the program area including during focused botanical surveys conducted in the North and Central Areas by Glenn Lukos. Suitable habitat is limited within the program area and either contains non-native plant species or is adjacent to non-native dominated communities and land covers.
Red sand-verbena *Abronia maritima*	Federal: None State: None CRPR: 4.2	Marshes and swamps, coastal dunes. Limited to the higher zones of salt marsh habitat.	Moderate. Not documented on site, suitable habitat present in all four areas.

TABLE 3.3-2
SPECIAL-STATUS PLANTS WITH POTENTIAL TO OCCUR

Species	Status	Habitat	Potential for Occurrence
Salt marsh bird's-beak *Chloropyron maritimum* ssp. *maritimum*	Federal: FE State: SE CRPR:1B.2	Coastal dune, coastal salt marshes and swamps.	Moderate. Not documented on site including during focused botanical surveys conducted in the North and Central Areas by Glenn Lukos, suitable habitat present in all four areas.
Salt spring checkerbloom *Sidalcea neomexicana*	Federal: None State: None CRPR: 1B.2	Occurs in alkali sinks and coastal sage scrub up to 4500 feet in elevation.	Low. Suitable habitat present at all four sites; however, only one documented collection occurs from 1935 in the program area. Suitable habitat is limited within the program area and either contains non-native plant species or is adjacent to non-native dominated communities and land covers.
San Bernardino aster *Symphyotrichum defoliatum*	Federal: None State: None CRPR:1B.2	Meadows and seeps, marshes and swamps, coastal scrub, cismontane woodland, lower montane coniferous forest, grassland. Vernally mesic grassland or near ditches, streams and springs; disturbed areas.	Unlikely. Not documented on site including during focused botanical surveys conducted in the North and Central Areas by Glenn Lukos, no suitable habitat present.
San Diego button-celery *Eryngium aristulatum* var. *parishii*	Federal: FE State: SE CRPR:1B.1	Vernal pools, coastal scrub, valley and foothill grassland. San Diego mesa hardpan & claypan vernal pools & southern interior basalt flow vernal pools; usually surrounded by scrub.	Unlikely. Not documented on site, no suitable habitat present.
Sanford's arrowhead *Sagittaria sanfordii*	Federal: None State: None CRPR: 1B.2	Marshes and swamps.	Unlikely. Not documented on site including during focused botanical surveys conducted in the North and Central Areas by Glenn Lukos. No potential to occur on site due to lack of suitable habitat and site is outside of historic range (i.e., no records in Los Angeles County).
Small-flowered morning-glory *Convolvulus simulans*	Federal: None State: None CRPR: 4.2	Chaparral, coastal scrub, valley and foothill grassland. Wet clay, serpentine ridges.	Low. Suitable habitat present at all four sites; however, not documented in the program area. Suitable habitat is limited within the program area and either contains non-native plant species or is adjacent to non-native dominated communities and land covers.
South Coast branching phacelia *Phacelia ramosissima* var. *austrolitoralis*	Federal: None State: None CRPR: 3.2	Chaparral, coastal scrub, coastal dunes, coastal salt marsh. Sandy, sometimes rocky sites.	Low. Suitable habitat present at all four sites; however, not documented in the program area. Suitable habitat is limited within the program area and either contains non-native plant species or is adjacent to non-native dominated communities and land covers.
South coast saltscale *Atriplex pacifica*	Federal: None State: None CRPR: 1B.2	Coastal bluff scrub, coastal dunes, coastal sage scrub, playas.	Low. Suitable habitat present at all four sites; however, not documented in the program area including during focused botanical surveys conducted in the North and Central Areas by Glenn Lukos. Suitable habitat is limited within the program area and either contains non-native plant species or is adjacent to non-native dominated communities and land covers.
Southern California black walnut *Juglans californica*	Federal: None State: None CRPR: 4.2	Chaparral, coastal scrub, cismontane woodland, riparian woodland. Slopes, canyons, alluvial habitats.	Unlikely. Not documented on site, no suitable habitat present.

TABLE 3.3-2
SPECIAL-STATUS PLANTS WITH POTENTIAL TO OCCUR

Species	Status	Habitat	Potential for Occurrence
Southern tarplant *Centromadia parryi* ssp. *australis*	Federal: None State: None CRPR: 1B.1	Disturbed habitats, margins of marshes and swamps, vernally mesic valley and foothill grassland, vernal pools.	Present. Occurs in a variety of locations in all four areas as observed by CRC in 2018, Tidal Influence in 2011 and Glen Lukos in 2011, 2013, 2015 and 2016.
Southwestern spiny rush *Juncus acutus* ssp. *Leopoldii*	Federal: None State: None CRPR: 4.2	Mesic coastal dunes, alkaline meadows and seeps, coastal salt marshes and swamps.	Present. Naturally occurring in Isthmus Area and individuals were planted at Zedler Marsh in the Isthmus Area. Not observed during focused botanical surveys conducted in the North and Central Areas by Glenn Lukos Suitable habitat present in South, Central and North Areas.
Ventura Marsh milk-vetch *Astragalus pycnostachyus* var. *lanosissimus*	Federal: FE State: SE CNPS: List 1B.1	Coastal salt marsh. Within reach of high tide or protected by barrier beaches, more rarely near seeps on sandy bluffs.	Moderate. Suitable habitat present at all four sites; however, not documented in the program area including during focused botanical surveys conducted in the North and Central Areas by Glenn Lukos. Abundance of suitable habitat within the program area.
Vernal barley *Hordeum intercedens*	Federal: None State: None CRPR: 3.2	Valley and foothill grassland, vernal pools, coastal dunes, coastal scrub. Vernal pools, dry, saline streambeds, alkaline flats.	~~Low~~Present. Suitable habitat present at all four sites; however, not formally documented in the program area. Cooper and Hamilton (2015) report species within on-site alkali meadow habitat. Suitable habitat is limited within the program area and either contains non-native plant species or is adjacent to non-native dominated communities and land covers.
Woolly seablite *Suaeda taxifolia*	Federal: None State: None CRPR: 4.2	Coastal bluff scrub, coastal dunes, margins of coastal salt marshes and swamps.	Present. Documented in North Area (Steamshovel Slough) and previously planted at Zedler Marsh in the Isthmus Area. Suitable habitat present in the South and Central Area.

SOURCES: Glenn Lukos Associates Inc., 2017a; Coastal Restoration Consultants, 2019; CNDDB, 2019; Tidal Influence, 2012.

STATUS CODES:

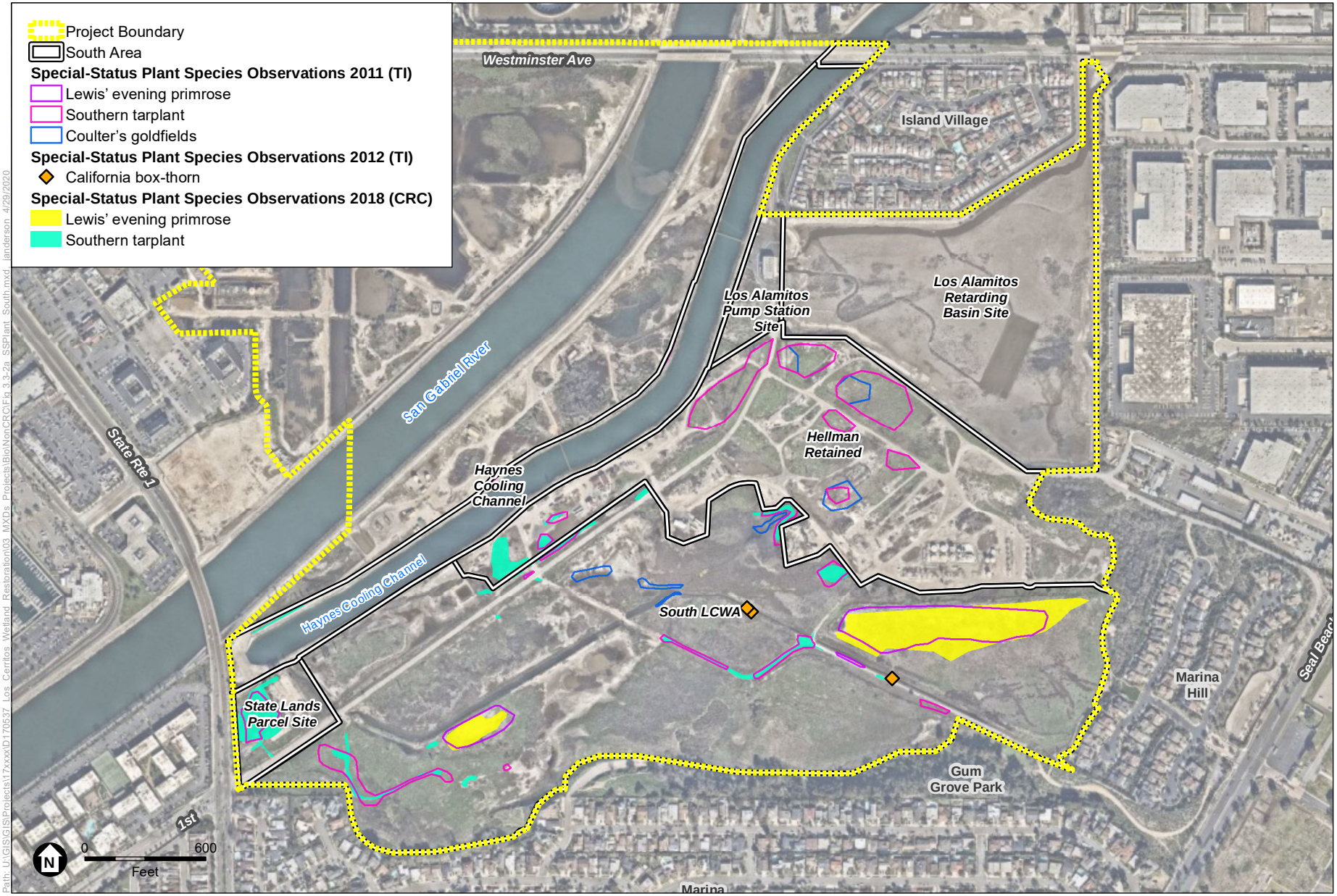
Federal
FE = Federally Endangered
FT = Federally Threatened

State
SE = State Endangered
ST = State Threatened

California Rare Plant Rank (CRPR)
CRPR 1A = Plants presumed extinct in California;
CRPR 1B = Plants considered rare, threatened or endangered in California and elsewhere;
CRPR 2 = Plants considered rare, threatened or endangered in California, more common elsewhere;
CRPR 4 = Limited distribution, watch list.
CRPR Threat Ranks:
0.1 Seriously threatened in California (over 80 percent of occurrences threatened / high degree and immediacy of threat)
0.2 Fairly threatened in California (20–80 percent occurrences threatened / moderate degree and immediacy of threat)
0.3 Not very threatened in California (<20 percent of occurrences threatened / low degree and immediacy of threat or no current threats known)

Special-Status Plants Documented

Special-status plants detected during focused surveys are depicted in **Figure 3.3-2a**, *Special-Status Plants – South Area*, through **Figure 3.3-2d**, *Special-Status Plants – North Area*. The following special-status plants have been documented as occurring within at least one of the four areas. **Table 3.3-3**, *Flowering Periods of Special-Status Plants with Potential to Occur*, provides a summary of the flowering periods for each of the special-status plants documented on site as well as those with potential to occur.

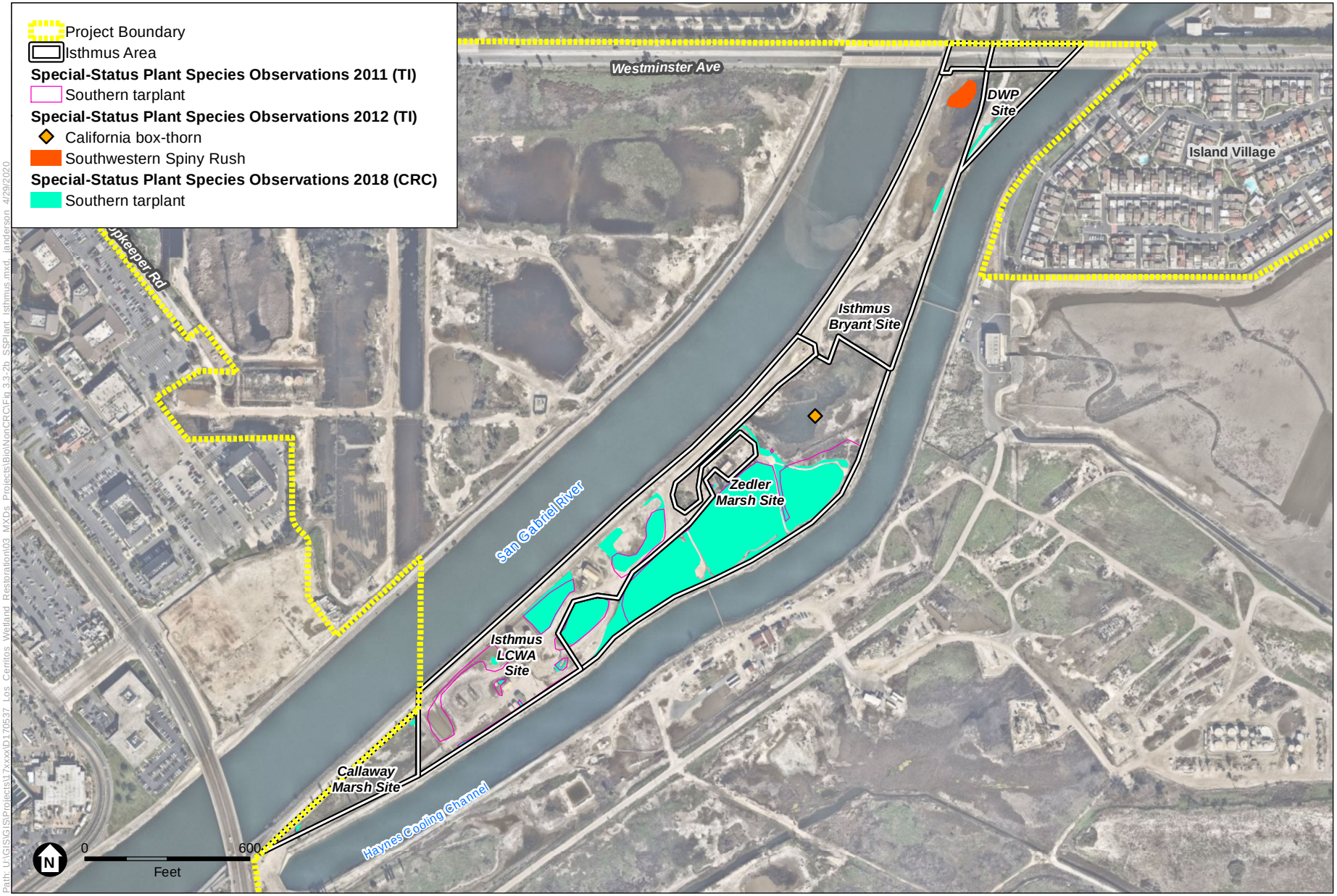


SOURCE: Mapbox, LCWA, Coastal Restoration Consultants, Tidal Influence

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Figure 3.3-2a
Special-Status Plants
South Area

ESA

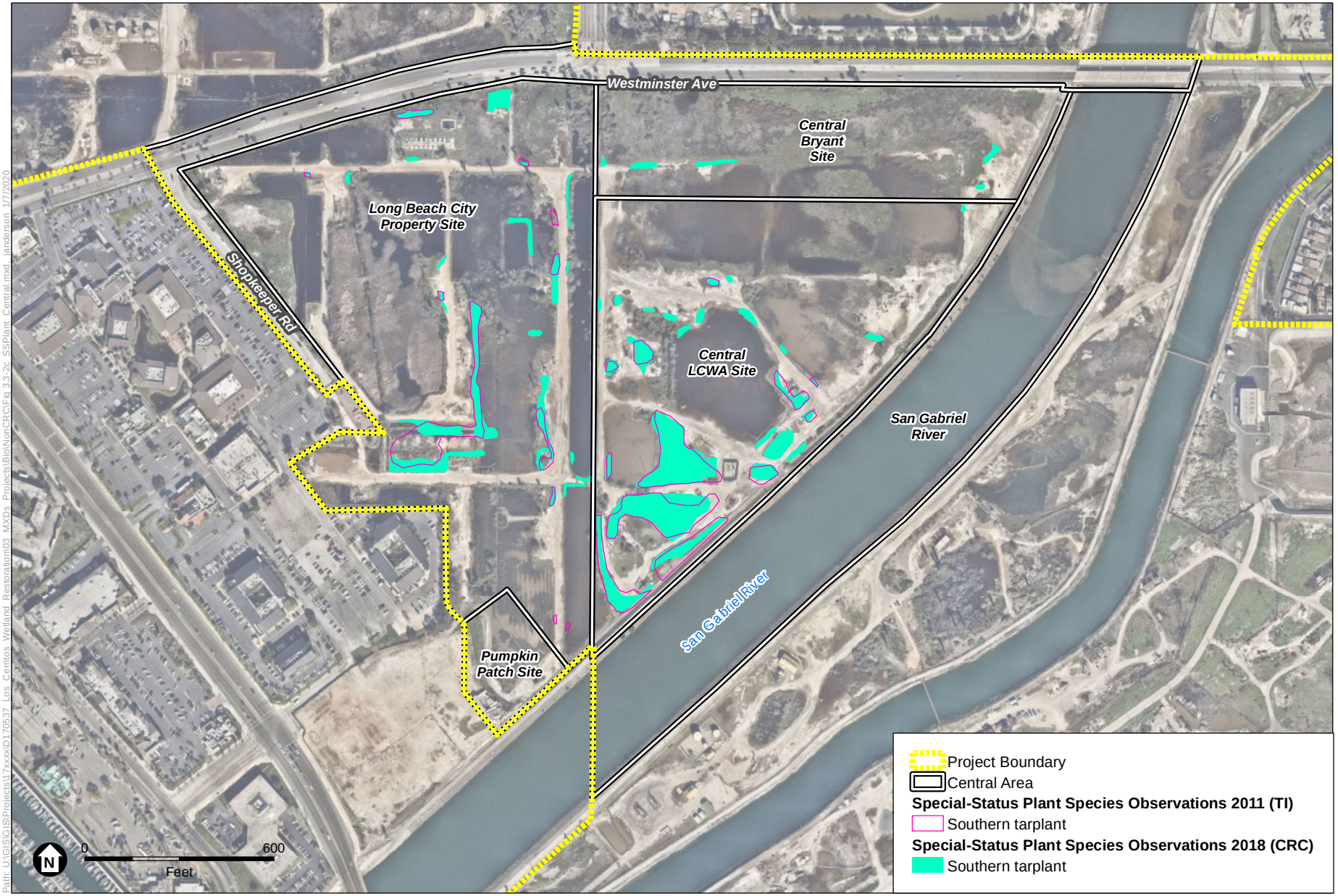


SOURCE: Mapbox, LCWA, Coastal Restoration Consultants, Tidal Influence

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Figure 3.3-2b
Special-Status Plants
Isthmus Area

ESA



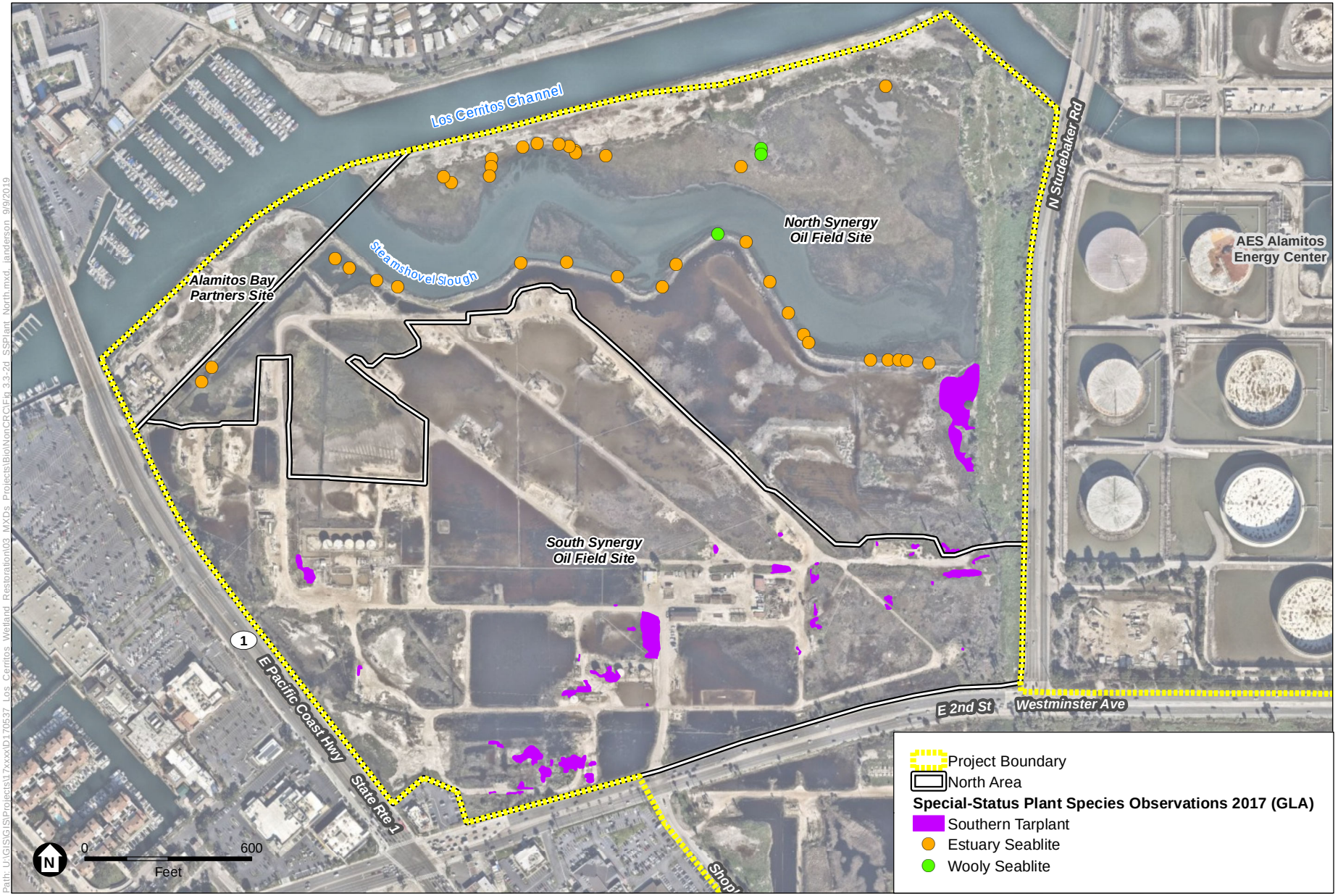
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SOURCE: Mapbox, LCWA, Coastal Restoration Consultants, Tidal Influence, Glenn Lukos Associates

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Figure 3.3-2c
Special-Status Plants
Central Area

ESA



SOURCE: Mapbox, LCWA, Glenn Lukos Associates

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Figure 3.3-2d
Special-Status Plants
North Area

ESA

TABLE 3.3-3
FLOWERING PERIODS OF SPECIAL-STATUS PLANTS WITH POTENTIAL TO OCCUR

Species	Flowering Period
Aphanisma *Aphanisma blitoides*	March to June
Brand's star phacelia *Phacelia stellaris*	March to June
California box-thorn *Lycium californicum*	May to August
Catalina mariposa-lily *Calochortus catalinae*	March to June
Chaparral sand verbena *Abronia villosa* var. *aurita*	January to September
Coast woolly-heads *Nemacaulis denudata* var. *denudata*	April to September
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	February to June
Coulter's saltbush *Atriplex coulteri*	May to October
Davidson's saltscale *Atriplex serenana* var. *davidsonii*	May to October
Decumbent goldenbush *Isocoma menziesii* var. *decumbens*	April to November
Estuary seablite *Suaeda esteroa*	May to October
Intermediate mariposa-lily *Calochortus weedii* var. *intermedius*	May to July
Lewis' evening primrose *Camissonionsis lewisii*	May to June
Los Angeles sunflower *Helianthus nuttallii* ssp. *parishii*	August to October
Lyon's pentachaeta *Pentachaeta lyonii*	March to August
Many-stemmed dudleyad *Dudleya multicaulis*	April to July
Mud nama *Nama stenocarpum*	March to October
Plummer's mariposa-lily *Calochortus plummerae*	May to July
Prostrate navarretia *Navarretia prostrata*	April to June
Red sand-verbena *Abronia maritima*	February to December
Salt marsh bird's-beak *Chloropyron maritimum* ssp. *maritimum*	May to October

TABLE 3.3-3
FLOWERING PERIODS OF SPECIAL-STATUS PLANTS WITH POTENTIAL TO OCCUR

Species	Flowering Period
Salt spring checkerbloom *Sidalcea neomexicana*	March to June
Small-flowered morning-glory *Convolvulus simulans*	March to July
South Coast branching phacelia *Phacelia ramosissima* var. *austrolitoralis*	March to August
South coast saltscale *Atriplex pacifica*	March to October
Southern tarplant *Centromadia parryi* ssp. *australis*	May to November
Southwestern spiny rush *Juncus acutus* ssp. *leopoldii*	May to June
Ventura Marsh milk-vetch *Astragalus pycnostachyus* var. *lanosissimus*	June to October
Vernal barley *Hordeum intercedens*	March to June
Woolly seablite *Suaeda taxifolia*	Year-round

California Box-thorn (Lycium californicum)

California box-thorn is a perennial shrub designated as a CRPR 1B.1 that is known from Los Angeles, Orange and San Diego counties, as well as Santa Catalina Island. California box-thorn occur in coastal sage scrub. The flowering period occurs from May to August. This species was detected in the South Area in 2011 and individuals were planted within the Isthmus Area. Focused surveys targeting the species were limited to the North and Central Areas where it was not detected. Suitable habitat for the species also occurs within the Central and North Areas; however, none were observed in 2018.

Coulter's Goldfields (Lasthenia glabrata ssp. coulteri)

Coulter's goldfields are an annual herb designated as a CRPR 1B.1 that is known from Kern, Santa Barbara, Ventura, Los Angeles, Orange, Riverside, San Bernardino, and San Diego counties. Coulter's goldfields occur in coastal salt marshes and freshwater marshes, playas and vernal pools. The flowering period occurs from February to June. This species was detected in the South Area in 2011 although none were observed in 2018. Focused surveys targeting the species were conducted in all four areas. Suitable habitat for the species also occurs within the Isthmus, Central and North Areas.

*Estuary Seablite (*Suaeda esteroa*)*

Estuary seablite is a perennial shrub designated as a CRPR 1B.2 that is known from Santa Barbara, Ventura, Los Angeles, Orange, and San Diego counties as well as from Baja California. Estuary seablite occurs in mid- to upper zones of coastal salt marshes. The flowering period

occurs from May to October. This species was detected on the North Area (Synergy Oil Field site), where it occurs primarily within Steamshovel Slough and is most common in the mid- to upper-marsh areas growing on berms and slopes. It also occurs in the tidal areas immediately south of the berm that separates the Steamshovel Slough from the areas to the south and within the Isthmus Area (Zedler Marsh). Approximately 650 individuals were detected. Suitable habitat for the species also occurs within the Isthmus, Central, and North Areas. Focused surveys targeting the species were limited to the North and Central Areas.

*Lewis' Evening Primrose (*Camissoniopsis lewisii*)*

Lewis' evening primrose is an annual herb designated as a CRPR 3 that is known from Los Angeles, Orange and San Diego counties. Lewis' evening primrose occurs in coastal sage scrub, foothill woodland and valley grassland. The flowering period occurs from May to June. This species was detected in the South Area in 2018 in all three of the previous locations where it was mapped in 2011. Each of these areas was supporting several hundred individual plants, distributed widely and somewhat sparsely. Suitable habitat for the species is limited to the South Area where it has been observed. Focused surveys targeting the species were conducted in all four areas.

*Southern Tarplant (*Centromadia parryi *ssp.* australis*)*

Southern tarplant is an annual herb designated as a CRPR 1B.1 that is known from Los Angeles, Orange, Santa Barbara, San Diego, and Ventura counties, as well as Santa Catalina Island and Baja California. Southern tarplant occurs at the margins of marshes and swamps, valley and foothill grasslands, and disturbed areas. The flowering period occurs from May to November. This species was previously detected in the North Area and was detected in 2018 on the South, Isthmus and Central Areas. Focused surveys targeting the species were conducted in all four areas.

On the North Area, southern tarplant was most common in disturbed areas, including road edges, existing and former oil well pads, and other disturbed ground. The population in the North Area was estimated to range between 5,500 and 8,000 individuals in 2016. The South and Central Areas supported many hundreds of plants each, generally along the edges or roads and paths. The Isthmus supported several thousand plants that presumably sprouted due to irrigation.

*Southwestern Spiny Rush (*Juncus acutus *ssp.* leopoldii*)*

Southwestern spiny rush is a perennial grass-like herb (rhizomatous) designated as a CRPR 4.2 that is known from Imperial, Los Angeles, Marin, Orange, Riverside, Santa Barbara, San Bernardino, San Diego, San Luis Obispo and Solano counties. Southwestern spiny rush occur in Mesic coastal dunes, alkaline meadows and seeps, coastal salt marshes and swamps. The flowering period occurs from May to June. Suitable habitat for the species occurs within the South, Isthmus, Central and North Areas. The species has been documented in the Isthmus Area. Focused surveys targeting the species were limited to the North and Central Areas.

*Vernal Barley (*Hordeum intercedens*)*

Vernal barley is an annual herb designated as a CRPR 1B.2 that is known from Alameda, Fresno, Kings, Kern, Los Angeles, Merced, Mono, Nevada, Orange, Placer, Riverside, Sacramento, Santa Barbara, San Benito, San Diego, Tulare, Ventura, and Yolo counties. Vernal barley occurs in

valley and foothill grasslands, vernal pools, coastal dunes, and coastal scrub. The flowering period occurs from March to June. Suitable habitat for the species occurs within the South, Isthmus, Central, and North Areas. The species was not observed during biological resources surveys conducted in 2011 or 2018; however, focused surveys targeting the species were not conducted. The species is reported to occur within on-site alkali meadow habitat, growing along drying edges of seasonally-flooded, grassy swales. (Cooper and Hamilton 2015).

*Woolly Seablite (*Suaeda taxifolia*)*

Woolly seablite is a perennial shrub designated as a CRPR 4.2 that is known from San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Orange, and San Diego counties as well as from Baja California, the Channel Islands, and the Central Valley. Woolly seablite occurs in upper zones of coastal salt marshes as well as on coastal bluffs, coastal sage scrub, and at the edge of alkali marshes. The flowering period occurs year-round. This species was detected on the North Area, where it occurs in upper marsh areas or on berms associated with Steamshovel Slough and in the Isthmus Area within the Zedler Marsh. Approximately 10 individuals were detected in 2016. Suitable habitat for the species also occurs within the South, Isthmus and Central Areas. Focused surveys targeting the species were limited to the North and Central Areas.

Special-Status Plants with Potential to Occur

The following special-status plants have been documented as having potential to occur within at least one of the four areas.

*Aphanisma (*Aphanisma blitoides*)*

Aphanisma is an annual herb designated as a CRPR 1B.2 that is known from Los Angeles, Orange, Santa Barbara, San Diego and Ventura counties. *Aphanisma* occur in coastal bluff scrub, coastal dunes, and coastal scrub. The flowering period occurs from March to June. Suitable habitat for the species occurs within the South, Isthmus and North Areas. The species was not observed during biological resources surveys conducted in 2011 or 2018. Focused surveys targeting the species were limited to the North and Central Areas.

*Brand's Star Phacelia (*Phacelia stellaris*)*

Brand's star *Phacelia* is an annual herb designated as a CRPR 1B.1 that is known from Los Angeles, Orange, Riverside, San Bernardino, and San Diego counties. Brand's star *Phacelia* occur in coastal bluff scrub, coastal dunes, and coastal scrub. The flowering period occurs from March to June. Suitable habitat for the species occurs within the South, Isthmus and North Areas. The species was not observed during biological resources surveys conducted in 2011 or 2018; however, focused surveys targeting the species were not conducted.

*Catalina Mariposa-Lily (*Calochortus catalinae*)*

Catalina mariposa-lily is a perennial herb designated as a CRPR 4.2 that is known from Los Angeles, Orange, Riverside, Santa Barbara, San Bernardino, San Diego, San Luis Obispo, and Ventura counties. Catalina mariposa-lily occur in valley and foothill grassland, chaparral, coastal scrub, and cismontane woodland. The flowering period occurs from March to June. Suitable habitat for the species occurs within the South, Isthmus and North Areas. The species was not

observed during biological resources surveys conducted in 2011 or 2018; however, focused surveys targeting the species were not conducted.

*Chaparral Sand Verbena (*Abronia villosa *var.* aurita*)*

Chaparral sand verbena is an annual herb designated as a CRPR 1B.1 that is known from Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura counties. Chaparral sand verbena occur in chaparral and coastal sage scrub. The flowering period occurs from January to September. Suitable habitat for the species occurs within the South, Isthmus, Central, and North Areas. The species was not observed during biological resources surveys conducted in 2011 or 2018. Focused surveys targeting the species were limited to the North and Central Areas.

*Coast Woolly-Heads (*Nemacaulis denudata *var.* denudata*)*

Coast woolly-heads is an annual herb designated as a CRPR 1B.2 that is known from Los Angeles, Marin, Orange, Riverside, San Diego, and San Luis Obispo counties. Coast woolly-heads occur in coastal dunes. The flowering period occurs from April to September. Suitable habitat for the species occurs within the South Area. The species was not observed during biological resources surveys conducted in 2011 or 2018; however, focused surveys targeting the species were not conducted.

*Coulter's Saltbush (*Atriplex coulteri*)*

Coulter's saltbush is a perennial herb designated as a CRPR 1B.1 that is known from Alameda, Los Angeles, Orange, Riverside, Santa Barbara, San Bernardino, San Diego, San Luis Obispo and Ventura counties. Coulter's saltbush occurs in coastal strand, valley grassland and coastal sage scrub. The flowering period occurs from May to October. Suitable habitat for the species occurs within the South, Isthmus, Central, and North Areas. The species was not observed during biological resources surveys conducted in 2011 or 2018. Focused surveys targeting the species were limited to the North and Central Areas.

*Davidson's Saltscale (*Atriplex serenana *var.* davidsonii*)*

Davidson's saltscale is an annual herb designated as a CRPR 1B.2 that is known from Los Angeles, Orange, Riverside, Santa Barbara and Ventura counties. Davidson's saltscale occur in coastal Sage Scrub and wetland-riparian. The flowering period occurs from May to October. Suitable habitat for the species occurs within the South, Isthmus, Central, and North Areas. The species was not observed during biological resources surveys conducted in 2011 or 2018. Focused surveys targeting the species were limited to the North and Central Areas.

*Decumbent Goldenbush (*Isocoma menziesii *var.* decumbens*)*

Decumbent goldenbush is a shrub designated as a CRPR 1B.2 that is known from Los Angeles, Orange and San Diego counties. Decumbent goldenbush occur in chaparral and coastal sage scrub. The flowering period occurs from April to November. Suitable habitat for the species occurs within the South, Isthmus, Central and North Areas. The species was not observed during biological resources surveys conducted in 2011 or 2018. Focused surveys targeting the species were limited to the North and Central Areas.

*Intermediate Mariposa-Lily (*Calochortus weedii *var.* intermedius*)*

Intermediate mariposa-lily is a perennial herb designated as a CRPR 1B.2 that is known from Los Angeles, Orange, and San Diego counties. Intermediate mariposa-lily occur in coastal scrub, chaparral, valley and foothill grassland. The flowering period occurs from May to July. Suitable habitat for the species occurs within the South, Isthmus, Central, and North Areas. The species was not observed during biological resources surveys conducted in 2011 or 2018; however, focused surveys targeting the species were not conducted.

*Los Angeles Sunflower (*Helianthus nuttallii *ssp.* parishii*)*

Los Angeles sunflower is a perennial herb designated as a CRPR 1A that is known from Los Angeles, Orange, and San Bernardino counties. Los Angeles sunflower occur in salt and freshwater marshes. The flowering period occurs from August to October. Suitable habitat for the species occurs within the South, Isthmus, Central, and North Areas. The species was not observed during biological resources surveys conducted in 2011 or 2018. Focused surveys targeting the species limited to the North and Central Areas.

*Lyon's Pentachaeta (*Pentachaeta lyonii*)*

Lyon's *Pentachaeta* is an annual herb designated as a CRPR 1B.1 that is known from Los Angeles and Ventura counties. Lyon's *Pentachaeta* occur in chaparral, coastal sage scrub, and valley and foothill grassland. The flowering period occurs from March to August. Suitable habitat for the species occurs within the South, Isthmus, Central, and North Areas. The species was not observed during biological resources surveys conducted in 2011 or 2018. Focused surveys targeting the species were limited to the North and Central Areas.

*Many-Stemmed Dudleya (*Dudleya multicaulis*)*

Many-stemmed *Dudleya* is a perennial herb designated as a CRPR 1B.2 that is known from Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura counties. Many-stemmed dudleya occur in chaparral, coastal sage scrub, and valley and foothill grassland. The flowering period occurs from April to July. Suitable habitat for the species occurs within the South, Isthmus, Central, and North Areas. The species was not observed during biological resources surveys conducted in 2011 or 2018. Focused surveys targeting the species were limited to the North and Central Areas.

*Mud Nama (*Nama stenocarpum*)*

Mud Nama is an annual herb designated as a CRPR 2B.2 that is known from Imperial, Kings, Los Angeles, Merced, Orange, Riverside, and San Diego counties. Mud *Nama* occur in vernal pools and freshwater seasonal ponds. The flowering period occurs from March to October. Suitable habitat for the species occurs within the South, Isthmus, Central, and North Areas. The species was not observed during biological resources surveys conducted in 2011 or 2018. Focused surveys targeting the species were limited to the North and Central Areas.

*Plummer's Mariposa-Lily (*Calochortus plummerae*)*

Plummer's mariposa-lily is a perennial herb designated as a CRPR 4.2 that is known from Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. Plummer's mariposa-lily

occur in coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, and lower montane coniferous forest. The flowering period occurs from May to July. Suitable habitat for the species occurs within the South, Isthmus, Central, and North Areas. The species was not observed during biological resources surveys conducted in 2011 or 2018; however, focused surveys targeting the species were not conducted.

*Prostrate Navarretia (*Navarretia prostrata*)*

Prostrate *Navarretia* is an annual herb designated as a CRPR 1B.1 that is known from Alameda, Amador, Butte, Fresno, Los Angeles, Merced, Monterey, Placer, Riverside, San Bernardino, San Benito, Santa Clara, San Diego, and San Luis Obispo counties. Prostrate *Navarretia* occur in coastal sage scrub, valley and foothill grassland (alkaline), and vernal pools. The flowering period occurs from April to June. Suitable habitat for the species occurs within the South, Isthmus, Central, and North Areas. The species was not observed during biological resources surveys conducted in 2011 or 2018. Focused surveys targeting the species were limited to the North and Central Areas.

*Red Sand-Verbena (*Abronia maritima*)*

Red sand-verbena is a perennial herb designated as a CRPR 4.2 that is known from Los Angeles, Monterey, Orange, Santa Barbara, San Bernardino, Santa Cruz, Sand Diego, San Luis Obispo, Sonoma, and Ventura counties. Red sand-verbena occur in marshes, swamps, and coastal dunes. The flowering period occurs from February to December. Suitable habitat for the species occurs within the South, Isthmus, Central, and North Areas. The species was not observed during biological resources surveys conducted in 2011 or 2018; however, focused surveys targeting the species were not conducted.

*Salt Marsh Bird's-Beak (*Chloropyron maritimum *ssp.* maritimum*)*

Salt marsh bird's-beak is an annual herb designated as a CRPR 1B.2 that is known from Humboldt, Los Angeles, Marin, Orange, Riverside, Santa Barbara, San Bernardino, Santa Clara, San Diego, San Luis Obispo, and Ventura counties. Salt marsh bird's-beak occur in coastal dunes, salt marshes, and swamp. The flowering period occurs from May to October. Suitable habitat for the species occurs within the South, Isthmus, Central, and North Areas. The species was not observed during biological resources surveys conducted in 2011 or 2018. Focused surveys targeting the species were limited to the North and Central Areas.

*Salt Spring Checkerbloom (*Sidalcea neomexicana*)*

Salt spring checkerbloom is a perennial herb designated as a CRPR 2B.2 that is known from Alameda, Los Angeles, Monterey, Orange, Riverside, San Bernardino, San Diego, and Ventura counties. Salt spring checkerbloom occur in alkali sinks and coastal sage scrub. The flowering period occurs from March to June. Suitable habitat for the species occurs within the South, Isthmus, Central, and North Areas. The species was not observed during biological resources surveys conducted in 2011 or 2018; however, focused surveys targeting the species were not conducted.

*Small-Flowered Morning-Glory (*Convolvulus simulans*)*

Small-flowered morning-glory is an annual herb designated as a CRPR 4.2 that is known from Contra Costa, Fresno, Kings, Kern, Los Angeles, Merced, Monterey, Orange, Riverside, Santa Barbara, San Bernardino, San Benito, San Diego, San Joaquin, San Luis Obispo, Solano, Stanislaus, Tulare, and Ventura counties. Small-flowered morning-glory occur in chaparral, coastal scrub, and valley and foothill grassland. The flowering period occurs from March to July. Suitable habitat for the species occurs within the South, Isthmus, Central, and North Areas. The species was not observed during biological resources surveys conducted in 2011 or 2018; however, focused surveys targeting the species were not conducted.

*South Coast Branching Phacelia (*Phacelia ramosissima *var.* austrolitoralis*)*

South Coast branching *Phacelia* is a perennial herb designated as a CRPR 3.2 that is known from Los Angeles, Monterey, Orange, Santa Barbara, San Bernardino, San Diego, San Luis Obispo, Tulare, and Ventura counties. South Coast branching phacelia occur in chaparral, coastal scrub, coastal dunes and coastal salt marsh. The flowering period occurs from March to August. Suitable habitat for the species occurs within the South, Isthmus, Central, and North Areas. The species was not observed during biological resources surveys conducted in 2011 or 2018; however, focused surveys targeting the species were not conducted.

*South Coast Saltscale (*Atriplex pacifica*)*

South Coast saltscale is an annual herb designated as a CRPR 1B.2 that is known from Los Angeles, Orange, Riverside, Santa Barbara, San Bernardino, San Diego, and Ventura counties. South Coast saltscale occur in coastal bluff scrub, coastal dunes, coastal sage scrub and playas. The flowering period occurs from March to October. Suitable habitat for the species occurs within the South, Isthmus, Central, and North Areas. The species was not observed during biological resources surveys conducted in 2011 or 2018. Focused surveys targeting the species were limited to the North and Central Areas.

*Ventura Marsh Milk-Vetch (*Astragalus pycnostachyus *var.* lanosissimus*)*

Ventura marsh milk-vetch is a perennial herb designated as a CRPR 1B.1 that is known from Los Angeles, Marin, and Ventura counties. Ventura marsh milk-vetch occur in coastal salt marsh. The flowering period occurs from June to October. Suitable habitat for the species occurs within the South, Isthmus, Central, and North Areas. The species was not observed during biological resources surveys conducted in 2011 or 2018. Focused surveys targeting the species were limited to the North and Central Areas.

~~*Vernal Barley (*Hordeum intercedens*)*~~

~~Vernal barley is an annual herb designated as a CRPR 1B.2 that is known from Alameda, Fresno, Kings, Kern, Los Angeles, Merced, Mono, Nevada, Orange, Placer, Riverside, Sacramento, Santa Barbara, San Benito, San Diego, Tulare, Ventura, and Yolo counties. Vernal barley occur in valley and foothill grasslands, vernal pools, coastal dunes, and coastal scrub. The flowering period occurs from March to June. Suitable habitat for the species occurs within the South, Isthmus, Central, and North Areas. The species was not observed during biological resources~~

~~surveys conducted in 2011 or 2018; however, focused surveys targeting the species were not conducted.~~

Table 3.3-4, *Special-Status Plants with Potential to Occur within the Program Area*, provides a summary of all special-status plant species determined to be present or to have potential to occur within each of the four program areas.

TABLE 3.3-4
SPECIAL-STATUS PLANTS WITH POTENTIAL TO OCCUR WITHIN THE PROGRAM AREA

Species	South Area	Isthmus Area	Central Area	North Area
Aphanisma *Aphanisma blitoides*	H	H		H
Brand's star phacelia *Phacelia stellaris*	H	H		H
California box-thorn *Lycium californicum*	P	P	H	H
Catalina mariposa-lily *Calochortus catalinae*	H	H	H	H
Chaparral sand-verbena *Abronia villosa* var. *aurita*	H	H	H	H
Coast woolly-heads *Nemacaulis denudata* var. *denudata*	H			H
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	P	H	H	H
Coulter's saltbush *Atriplex coulteri*	H	H	H	H
Davidson's saltscale *Atriplex serenana* var. *davidsonii*	H	H	H	H
Decumbent goldenbush *Isocoma menziesii* var. *decumbens*	H	H	H	H
Estuary seablite *Suaeda esteroa*	H	P	H	P
Intermediate mariposa-lily *Calochortus weedii* var. *intermedius*	H	H	H	H
Lewis' evening primrose *Camissoniopsis lewisii*	P	H	H	H
Los Angeles sunflower *Helianthus nuttallii* ssp. *parishii*	H	H	H	H
Lyon's pentachaeta *Pentachaeta lyonii*	H	H	H	H
Many-stemmed dudleya *Dudleya multicaulis*	H	H	H	H
Mud nama *Nama stenocarpum*	H		H	H
Plummer's mariposa-lily *Calochortus plummerae*	H	H	H	H
Prostrate navarretia *Navarretia prostrata*	H	H	H	H
Red sand-verbena *Abronia maritima*	H	H	H	H

TABLE 3.3-4
SPECIAL-STATUS PLANTS WITH POTENTIAL TO OCCUR WITHIN THE PROGRAM AREA

Species	South Area	Isthmus Area	Central Area	North Area
Salt marsh bird's-beak *Chloropyron maritimum* ssp. *maritimum*	H	H	H	H
Salt spring checkerbloom *Sidalcea neomexicana*	H	H	H	H
Small-flowered morning-glory *Convolvulus simulans*	H	H	H	H
South Coast branching phacelia *Phacelia ramosissima* var. *austrolitoralis*	H	H	H	H
South coast saltscale *Atriplex pacifica*	H	H	H	H
Southern tarplant *Centromadia parryi* ssp. *australis*	P	P	P	P
Southwestern spiny rush *Juncus acutus* ssp. *leopoldii*	H	P	H	H
Ventura Marsh milk-vetch *Astragalus pycnostachyus* var. *lanosissimus*	H	H	H	H
Vernal barley *Hordeum intercedens*	~~H~~P	H	H	H
Woolly seablite *Suaeda taxifolia*	H	P	H	P

H=habitat present; P=species present

3.3.2.5 Special-Status Wildlife

Special-status wildlife species are legally protected under CESA, FESA, or other regulations, or are considered sufficiently rare by the scientific community to qualify for such a listing. For purposes of this PEIR, special-status wildlife species include:

1. Officially listed by the state or the federal government as endangered, threatened, or rare;
2. A candidate for state or federal listing as endangered, threatened, or rare;
3. Taxa designated by the Legislature as Fully Protected under Fish and Game Code Sections 3511 (birds), 4700 (mammals), and 5050 (reptiles and amphibians);
4. Taxa designated by the CDFW as California Species of Special Concern;
5. Taxa that meet the criteria for listing, even if not currently included on any list, as described in *CEQA Guidelines* Section 15380; and
6. Taxa that are biologically rare, very restricted in distribution, or declining throughout their range but not currently threatened with extirpation (includes species with a CNDDB state rank of S1, S2, or S3).

Table 3.3-5, *Special-Status Wildlife with Potential to Occur*, provides a summary of all wildlife species determined to have potential to occur with the program area based on (1) species identified by the 2019 CNDDB as occurring (either currently or historically) in the USGS Anaheim, La Habra, Long Beach, Los Alamitos, Newport Beach, Seal Beach, South Gate and Whittier Quadrangles and (2) records of special-status species that are known to occur within the

vicinity of the proposed program, or for which potentially suitable habitat occurs on site. A table providing a summary of those special-status wildlife determined to be unlikely to occur and therefore were not analyzed further is included in Appendix C3. Following the table, additional discussions are provided for any special-status animals observed on site or for which potentially suitable habitat occurs on site.

TABLE 3.3-5
SPECIAL-STATUS WILDLIFE WITH POTENTIAL TO OCCUR

Species	Status	Habitat	Potential for Occurrence
Invertebrates			
Crotch bumble bee *Bombus crotchii*	Federal: None State: None CDFW: None CNDDB: S1S2	Relatively warm and dry sites, including the inner Coast Range of California and margins of the Mojave Desert.	Unlikely. Not documented on site, no suitable habitat present.
Dorothy's El Segundo dune weevil *Trigonoscuta dorothea*	Federal: None State: None CDFW: None CNDDB: S1	Sand dunes in El Segundo, CA.	Unlikely. Not documented on site, no suitable habitat present.
Globose dune beetle *Coelus globosus*	Federal: None State: None CDFW: None CNDDB: S1	Coastal dunes. Inhabitant of coastal sand dune habitat; erratically distributed from Ten-Mile Creek in Mendocino County south to Ensenada, Mexico.	Unlikely. Not documented on site, no suitable habitat present.
Mimic tryonia (California brackishwater snail) *Tryonia imitator*	Federal: None State: None CDFW: None CNDDB: S2	Coastal areas with brackish waters.	Moderate. Suitable habitat present at all four sites; however, this species has not documented in the program area.
Monarch—California overwintering population *Danaus plexippus* pop. 1	Federal: Candidate State: None CDFW: None CNDDB: S2S3	Roosts in winter in wind-protected tree groves along the California coast from northern Mendocino to Baja California, Mexico.	Moderate. Potential to occur within extensive non-native palm tree and/or *Eucalyptus* populations in all four areas.
Mudflat tiger beetle *Cicindela trifasciata sigmoidea*	Federal: None State: None CDFW: None CNDDB: N/A	This predatory beetle inhabits salt marshes, mudflats and salt pannes where they make burrows in the intertidal zone.	Present. This species has been documented on tidal mudflats in North Area (Steamshovel Slough). Suitable habitat also occurs within South, Isthmus, and Central Areas.
Quino checkerspot butterfly *Euphydryas editha quino*	Federal: FE State: None CDFW: None CNDDB: S1S2	Sunny openings within chaparral & coastal sage shrublands in parts of Riverside & San Diego counties. Hills and mesas near the coast. Need high densities of food plants *Plantago erecta*, *P. insularis*, and *Orthocarpus purpurescens*.	Unlikely. Not documented on site, no suitable habitat present.
Riverside fairy shrimp *Streptocephalus woottoni*	Federal: FE State: None CDFW: None CNDDB: S1S2	Deep seasonal vernal pools, with warm water, and low to moderate dissolved solids, that remained filled for extended periods of time. Annual grasslands or patches.	Unlikely. Not documented on site. No suitable habitat within site due to the lack of long-lived (>2 months) vernal pools.
Salt marsh tiger beetle *Cicindela hemorrhagica*	Federal: None State: None CDFW: N/A CNDDB: N/A	Salt marshes, mudflats and salt pannes where they make burrows in the intertidal zone	Present. This species has been documented on tidal mudflats at North Area (Steamshovel Slough) and Isthmus Area (Zedler Marsh). Suitable habitat within South and Central Areas.

TABLE 3.3-5
SPECIAL-STATUS WILDLIFE WITH POTENTIAL TO OCCUR

Species	Status	Habitat	Potential for Occurrence
Salt marsh wandering skipper *Panoquina errans*	Federal: None State: None CDFW: None CNDDB: S2	Coastal salt marsh and coastal strand areas dominated by saltgrass.	Present. This species is present throughout program boundary within upper marsh and non-tidal stands of its host plant *Distichlis spicata*.
San Diego fairy shrimp *Branchinecta sandiegonensis*	Federal: FE State: None CDFW: None CNDDB: S2	Seasonal vernal pools.	Unlikely. Not documented in program area. No suitable habitat within program area due to the lack of long-lived (>2 months) vernal pools.
Sandy beach tiger beetle *Cicindela hirticollis gravida*	Federal: None State: None CDFW: None CNDDB: S2	Forages in open unvegetated areas such as marsh pannes and levees. Larvae burrow in moist unvegetated substrates.	Moderate. This species has not been documented in program area; however, there is suitable habitat within North Area (Steamshovel Slough) and other tidal areas in the South, Isthmus and Central Areas.
Senile tiger beetle *Cicindela senilis frosti*	Federal: None State: None CDFW: None CNDDB: S1	Open, unvegetated areas in or near salt marshes.	Moderate. This species has not been documented in program area; however, there is suitable habitat within North Area (Streamshovel Slough) and other tidal areas in the South, Isthmus and Central Areas.
Western beach tiger beetle *Cicindela latesignata*	Federal: None State: None CDFW: None CNDDB: S1	Forages in open unvegetated areas such as marsh pannes and levees. Larvae burrow in moist unvegetated substrates.	Moderate. Not documented on site, potentially suitable habitat within North Area (Streamshovel Slough) and other tidal areas in the South, Isthmus and Central Areas.
Western tidal-flat tiger beetle *Cicindela gabbii*	Federal: None State: None CDFW: None CNDDB: S1	Open, unvegetated areas in or near salt marshes.	Moderate. This species has not been documented in program area; however, there is suitable habitat within North Area (Streamshovel Slough) and other tidal areas in the South, Isthmus and Central Areas.
Fish			
Steelhead – Southern California DPS *Oncorhynchus mykiss irideus* pop. 10	Federal: FE State: None CDFW: None CNDDB: S1	Aquatic, South Coast flowing waters. Federal listing refers to populations from Santa Maria River south to southern extent of range (San Mateo Creek in San Diego County).	Moderate. This species has not been documented in program area; however, there is suitable habitat within the North Area (Los Cerritos Channel) and Central Area (San Gabriel River). Focused fish surveys have not been completed.
Tidewater goby *Eucyclobobius newberryi*	Federal: FE State: SE CDFW: CSC CNDDB: S3	Inhabits benthic zone of shallow coastal lagoons and estuaries where brackish conditions occur.	Moderate. This species has not been documented in program area; however, there is suitable habitat within the North Area (Steamshovel Slough) and South Area. Habitat is suboptimal due to a lack of true estuarine conditions, however, recent, focused fish surveys have not been completed.

TABLE 3.3-5
SPECIAL-STATUS WILDLIFE WITH POTENTIAL TO OCCUR

Species	Status	Habitat	Potential for Occurrence
Amphibians			
Western spadefoot toad *Spea hammondi*	Federal: None State: None CDFW: CSC CNDDB: S3	Coastal sage scrub, vernal pools, and grasslands; breeds in associated temporary pools and riparian areas.	Unlikely. Not documented on site. Lack of suitable freshwater seasonal ponds that pond for sufficient duration to support breeding.
Reptiles			
Coast horned lizard *Phrynosoma blainvilli*	Federal: None State: None CDFW: CSC CNDDB: S3S4	Occurs in a variety of vegetation types including coastal sage scrub, chaparral, annual grassland, oak woodland, and riparian woodlands. Main prey item is harvester ants.	Low. This species has not been documented in program area. There is suitable habitat within all four areas; however, food source for this species is not abundant due to the urbanization-influenced invasion of the Argentine ant.
Coastal whiptail *Aspidoscelis tigris stejnegeri*	Federal: None State: None CDFW: CSC CNDDB: S3	Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland & riparian areas. Ground may be firm soil, sandy, or rocky.	Low. This species has not been documented; however, there is suitable habitat throughout the program area.
Orange-throated whiptail *Aspidoscelis hyperythra*	Federal: None State: None CDFW: WL CNDDB: S2S3	Inhabits low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats. Prefers washes & other sandy areas with patches of brush & rocks. Perennial plants necessary for its major food –termites.	Low. This species has not been documented; however, there is suitable habitat throughout the program area.
Pacific green sea turtle *Chelonia mydas*	Federal: FT State: None CDFW: None CNDDB: S1	Green turtles are generally found in fairly shallow waters (except when migrating) inside reefs, bays, and inlets. The turtles are attracted to lagoons and shoals with an abundance of marine grass and algae.	Present. This migratory reptile is a resident in the Central Area (San Gabriel River) and has also been documented throughout Alamitos Bay, in the South Area (Haynes Cooling Channel) and upstream of the North Area (Steamshovel Slough).
Red diamond rattlesnake *Crotalus ruber*	Federal: None State: None CDFW: CSC CNDDB: S3	Chaparral, woodland, grassland, & desert areas from coastal San Diego county to the eastern slopes of the mountains. Occurs in rocky areas & dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.	Present. Observed within the program area, which is suspected to have been released to the area.
Southern California legless lizard *Anniella stebbinsi*	Federal: None State: None CDFW: CSC CNDDB: S3	Generally, south of the Transverse Range, extending to northwestern Baja California. Occurs in sandy or loose loamy soils under sparse vegetation. Disjunct populations in the Tehachapi and Piute Mountains in Kern County. Variety of habitats; generally, in moist, loose soil. They prefer soils with a high moisture content.	Low. Not documented in the program area; however, suitable habitat occurs within all four areas.
Western pond turtle *Emys marmorata*	Federal: None State: None CDFW: CSC CNDDB: S3	Slow-moving permanent or intermittent streams, small ponds and lakes, reservoirs, abandoned gravel pits, permanent and ephemeral shallow wetlands, stock ponds, and treatment lagoons. Abundant basking sites and cover necessary, including logs, rocks, submerged vegetation, and undercut banks.	Moderate. Not documented in the program area; however, freshwater marsh areas present within the South, Central and North Areas.

TABLE 3.3-5
SPECIAL-STATUS WILDLIFE WITH POTENTIAL TO OCCUR

Species	Status	Habitat	Potential for Occurrence
Birds			
American peregrine falcon *Falco peregrinus anatum*	Federal: None State: None CDFW: CFP CNDDB: S3S4	Near wetlands, lakes, rivers or other water, on cliffs, banks, dunes, mounds, also human-made structures.	Present. Observed on site. Suitable foraging habitat in North Area (Steamshovel Slough) and South, Isthmus and Central Areas. Suitable breeding sites absent in all four areas.
Bank swallow *Riparia*	Federal: None State: ST CDFW: None CNDDB: S2	Colonial nester; nests primarily in riparian and other lowland habitats west or the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	Unlikely. Not documented on site, no suitable habitat present.
Belding's savannah sparrow *Passerculus sandwichensis beldingi*	Federal: None State: SE CDFW: None CNDDB: S3	Coastal salt marshes. Nests in Salicornia sp. and about margins of tidal flats.	Present. Observed in multiple locations in all four areas. Suitable foraging and breeding habitat within North Area (Steamshovel Slough) and other areas of pickleweed habitat on the South, Isthmus and Central Areas.
Black skimmer *Rynchops niger*	Federal: None State: None CDFW: CSC CNDDB: S2	Nests on gravel bars, low islets and sandy beaches, in unvegetated sites.	Present. Observed on site. Suitable foraging habitat within the North Area (Steamshovel Slough), Central Area (San Gabriel River) and South Area (Haynes Cooling Channel) for foraging. Suitable breeding habitat absent in all four areas.
Burrowing owl *Athene cunicularia*	Federal: None State: None CDFW: CSC CNDDB: S3	Open, dry annual or perennial grasslands, deserts & scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Present. Individuals were observed in Isthmus Area. All four areas exhibit wintering habitat. Occurs as a migratory winter visitor but is not expected as a breeding species.
California black rail *Laterallus jamaicensis coturniculus*	Federal: None State: ST CDFW: CFP CNDDB: S1	Salt marshes bordering larger bays, coastal spartina marshes, inland in dense, shortgrass, shallow marshes.	Low. Not documented on site; however, suitable foraging and breeding habitat present in marsh areas of North Area (Steamshovel Slough) and tidal areas within the South, Isthmus and Central Areas.
California brown pelican *Pelecanus occidentalis californicus*	Federal: None State: None CDFW: CFP CNDDB: S3	Coastal, salt bays, ocean, beaches. Nests on coastal islands of small to moderate size that afford immunity from attack by ground-dwelling predators.	Present. Observed on site. Suitable foraging habitat present in marsh areas of North Area (Steamshovel Slough) and tidal areas within the South, Isthmus and Central Areas. Suitable breeding habitat absent in all four areas.

TABLE 3.3-5
SPECIAL-STATUS WILDLIFE WITH POTENTIAL TO OCCUR

Species	Status	Habitat	Potential for Occurrence
California least tern *Sternula antillarum browni*	Federal: FE State: SE CDFW: CFP CNDDB: S2	Flat, vegetated substrates near the coast. Occurs near estuaries, bays, or harbors where fish is abundant.	Present. Has been observed foraging in North Area (Steamshovel Slough), Central Area (San Gabriel River) and South Area (Haynes Cooling Channel) where suitable foraging habitat occurs. Salt flats within the Central Area provides potential nesting habitat.
Coastal cactus wren *Campylorhynchus brunneicapillus sandiegensis*	Federal: None State: None CDFW: SSC CNDDB: S3	Southern California coastal sage scrub. Wrens require tall opuntia cactus for nesting and roosting.	Unlikely. Not documented on site, no suitable habitat present.
Coastal California gnatcatcher *Polioptila californica*	Federal: FT State: None CDFW: CSC CNDDB: S2	Low elevation coastal sage scrub and coastal bluff scrub.	Low. Not documented on site; however, suitable foraging habitat present in all four areas. Suitable breeding habitat absent in all four areas.
Ferruginous hawk *Buteo regalis*	Federal: None State: None CDFW: WL CNDDB: S3S4	Only present as wintering individuals. Prefers open grasslands and agricultural areas.	Unlikely. Not documented on site, no suitable habitat present.
Grasshopper sparrow *Ammodramus savannarum*	Federal: None State: None CDFW: SSC CNDDB: S3	Dense grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs and scattered shrubs. Loosely colonial when nesting.	Unlikely. Not documented on site, no suitable habitat present.
Least Bell's vireo *Vireo bellii pusilus*	Federal: FE State: SE CDFW: None CNDDB: S2	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	Present. Observed within the Isthmus Area. Suitable foraging habitat limited to the active habitat mitigation/restoration site. Suitable breeding habitat absent in all four areas.
Merlin *Falco columbarius*	Federal: None State: None CDFW: WL CNDDB: S3S4	Seacoast, tidal estuaries, open woodlands, savannahs, edges of grasslands & deserts, farms & ranches. Clumps of trees or windbreaks are required for roosting in open country.	Present. Documented on site but specific locations were not given.; Suitable foraging habitat present in all four areas. Suitable breeding habitat absent in all four areas.
Loggerhead shrike *Lanius ludovicianus*	Federal: None State: None CDFW: CSC CNDDB: S4	Broken woodlands, savannah, pinyon-juniper, Joshua tree & riparian woodlands, desert oases, scrub & washes. Prefers open country for hunting with perches for scanning and fairly dense shrubs and brush for nesting.	Present. Observed throughout the program boundary. Suitable foraging and breeding habitat present in all four areas.
Northern harrier (nesting) *Circus cyaneus*	Federal: None State: None CDFW: CSC CNDDB: S3	A variety of habitats, including open wetlands, grasslands, wet pasture, old fields, dry uplands, and croplands.	Present. Observed within the program boundary. Suitable foraging habitat present throughout the program boundary. Limited potential for breeding in all four areas.
Osprey *Pandion haliaetus*	Federal: None State: None CDFW: WL CNDDB: S4	Riparian forest, ocean shore, bays, freshwater lakes, and larger streams.	Present. Observed within the program boundary. Suitable foraging habitat present with all four areas. Limited potential for breeding in all for areas.

TABLE 3.3-5
SPECIAL-STATUS WILDLIFE WITH POTENTIAL TO OCCUR

Species	Status	Habitat	Potential for Occurrence
Ridgway's rail *Rallus obsoletus*	Federal: FE State: SE CDFW: CFP CNDDB: S1	Found in salt marshes where cordgrass and pickleweed are the dominant vegetation. Requires dense growth of either pickleweed or cordgrass for nesting or escape cover, feeds on mollusks and crustaceans.	~~Present~~High. ~~Observed on site.~~ Suitable foraging and breeding habitat present within North Area (Steamshovel Slough) and tidal marsh areas in the South and Isthmus Areas and non-tidal marsh in the Central Area.
Short-eared owl *Asio flammeus*	Federal: None State: None CDFW: CSC CNDDB: S3	Found in swamplands, both fresh and salt; lowland meadows; irrigated alfalfa fields. Tule patches/tall grass needed for nesting/daytime seclusion. Nests on dry ground in depression concealed in vegetation.	Present. Observed on site. Suitable foraging habitat occurs during winter in the North Area (Steamshovel Slough) and tidal marsh areas in the South, Isthmus and Central Areas. Suitable breeding habitat absent in all four areas.
Southern California rufous-crowned sparrow *Aimophila ruficeps canescens*	Federal: None State: None CDFW: WL CNDDB: S3	Resident in Southern California coastal sage scrub and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass and forb patches.	Low. Not documented on site; however, suitable foraging habitat present in all four areas. Suitable breeding habitat absent in all four areas.
Southwestern willow flycatcher *Empidonax traillii extimus*	Federal: FE State: SE CDFW: None CNDDB: S1	Riparian woodlands in Southern California.	Low. Not documented on site; however, suitable foraging habitat present in all four areas. Suitable breeding habitat absent in all four areas.
Swainson's hawk *Buteo swainsoni*	Federal: None State: ST CDFW: None CNDDB: S3	Breeding habitat consists of grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, & agricultural or ranch lands. Requires adjacent suitable foraging areas such as grasslands or alfalfa or grain fields that support rodent populations.	Unlikely. Not documented on site, no suitable habitat present.
Tri-colored blackbird *Agelaius tricolor*	Federal: None State: ST CDFW: CSC CNDDB: S1S2	Requires open water, protected nesting and foraging area with insect prey within a few km of the colony.	~~Moderate~~Present. ~~Not documented on site; however, s~~According to the El Dorado Audubon Society (EDAS) in a comment letter submitted on this Draft PEIR, (Mary Parsell, EDAS President, June 9, 2020). This species was recorded to ebird (https://ebird.org/home) in 2015 for an occurrence within the Central Area at the Marketplace Marsh. Additionally, suitable foraging habitat present within freshwater or brackish wetlands found in all four areas; however, ~~s~~Suitable breeding habitat absent in all four areas.
Western snowy plover *Charadrius alexandrinus nivosus*	Federal: FT State: None CDFW: CSC CNDDB: S2S3	Sandy or gravelly beaches along the coast, estuarine salt ponds, alkali lakes, and at the Salton Sea.	Moderate. Not documented on site; however, suitable foraging habitat present within the North Area (Steamshovel Slough) and tidal marsh areas in the South, Isthmus and Central Areas. Salt flats within the Central Area provides potential nesting habitat.

TABLE 3.3-5
SPECIAL-STATUS WILDLIFE WITH POTENTIAL TO OCCUR

Species	Status	Habitat	Potential for Occurrence
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	Federal: FT State: SE CDFW: None CNDDB: S1	Dense, wide riparian woodlands with well-developed understories.	Unlikely. Not documented on site, no suitable habitat present.
White-tailed kite (nesting) *Elanus leucurus*	Federal: None State: None CDFW: CFP CNDDB: S3S4	Low elevation open grasslands, savannah-like habitats, agricultural areas, wetlands, and oak woodlands. Dense canopies used for nesting and cover.	Low (nesting). No nests have been documented within the program area; however, this species has been observed foraging in the program area.
Yellow rail *Coturnicops noveboracensis*	Federal: None State: None CDFW: CSC CNDDB: S1S2	Freshwater marsh, meadow & seep, summer resident in eastern Sierra Nevada in Mono County.	Low. Not documented in the program area; however, suitable foraging habitat present within freshwater or brackish wetlands found in all four areas. Suitable breeding habitat absent in all four areas.
Yellow warbler *Dendroica petechia brewsteri*	Federal: None State: None CDFW: CSC CNDDB: S3S4	Riparian plant associations. Prefers willows, cottonwoods, aspens, sycamores & alders for nesting & foraging. Also nests in montane shrubbery in open conifer forests.	Low. Not documented in the program area; however, suitable foraging habitat present within the Isthmus Area (active habitat mitigation/restoration site) where least Bell's vireo was observed in 2018. Suitable breeding habitat absent in all four areas.
Yellow-breasted chat *Icteria virens*	Federal: None State: None CDFW: CSC CNDDB: S3	Summer resident; inhabits riparian thickets of willow & other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 feet of ground.	Present. Observed foraging throughout the program area. Suitable foraging habitat present in all four areas. Suitable breeding habitat absent in all four areas.
Mammals			
American badger *Taxidea taxus*	Federal: None State: None CDFW: CSC CNDDB: S3	Occurs in drier shrub, forest, and herbaceous habitats. Needs open, uncultivated ground and friable soils for digging burrows. Preys on burrowing rodents.	Unlikely. Not documented on site, no suitable habitat present.
Big free-tailed bat *Nyctinomops macrotis*	Federal: None State: None CDFW: CSC CNDDB: S3	Occurs in low-lying arid areas in Southern California. Roosts in high cliffs or rocky outcrops.	Unlikely. Not documented on site, no suitable habitat present.
Hoary bat *Lasiurus cinereus*	Federal: None State: None CDFW: None CNDDB: S4	Prefers open habitats or habitat mosaics, with access to trees for cover & open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	Unlikely. Not documented on site, no suitable habitat present.
Pacific pocket mouse *Perognathus longimembris pacificus*	Federal: FE State: None CDFW: CSC CNDDB: S1	Seems to prefer soils of fine alluvial sands near the ocean.	Moderate. Not documented in the program area; however, suitable habitat present in North Area (Steamshovel Slough) and tidal marsh areas in the South, Isthmus and Central Areas.
Pocketed free-tailed bat *Nyctinomops femorosaccus*	Federal: None State: None CDFW: SSC CNDDB: S3	Variety of arid areas in Southern California; pine-juniper woodlands, desert scrub, palm oasis, desert wash, desert riparian, etc. Rocky areas with high cliffs.	Unlikely. Not documented on site, no suitable habitat present.

TABLE 3.3-5
SPECIAL-STATUS WILDLIFE WITH POTENTIAL TO OCCUR

Species	Status	Habitat	Potential for Occurrence
Silver-haired bat *Lasionycteris noctivagans*	Federal: None State: None CDFW: None CNDDB: S3S4	Temperate, northern hardwoods with ponds or streams nearby. Roost in hollow snags and bird nests.	Unlikely. Not documented on site, no suitable habitat present.
South coast marsh vole *Microtus californicus stephensi*	Federal: None State: None CDFW: CSC CNDDB: S1S2	Tidal marshes in Los Angeles, Orange and southern Ventura Counties.	Moderate. Not documented in the program area; however, suitable habitat present in North Area (Steamshovel Slough) and tidal marsh areas in the South, Isthmus and Central Areas.
Southern California salt marsh shrew *Sorex ornatus salicornicus*	Federal: None State: None CDFW: CSC CNDDB: S1	Coastal marshes in Los Angeles, Orange and southern Ventura Counties. Requires dense vegetation and woody debris for cover.	Moderate. Not documented in the program area; however, suitable habitat present in North Area (Steamshovel Slough) and tidal marsh areas in the South, Isthmus and Central Areas.
Western mastiff bat *Eumops perotis californicus*	Federal: None State: None CDFW: CSC CNDDB: S3S4	Many open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees, & tunnels.	Low. Not documented in the program area; however, suitable foraging habitat present in all four areas and suitable roosting habitat present within non-native palm tree in all four areas.
Western yellow bat *Lasiurus xanthinus*	Federal: None State: None CDFW: CSC CNDDB: S3	Primarily roost in trees hanging from the underside of leaves. Commonly found in dead fronds of non-native palms	Low. Not documented in the program area; however, suitable foraging habitat present in all four areas. Suitable roosting habitat present within extensive non-native palm tree populations in all four areas.

SOURCE: Glenn Lukos Associates Inc. 2017a; Coastal Restoration Consultants 2019; CNDDB, 2019, Tidal Influence 2012.

STATUS CODES:

Federal	State	CDFW
FE = Federally Endangered	SE = State Endangered	CSC = California Species of Special Concern
FT = Federally Threatened	ST = State Threatened	CFP = California Fully Protected Species
FSC = Federal Species of Special Concern		WL = Watch List

CNDDB Element Ranking

S1 = Critically Imperiled—Critically imperiled in the state because of extreme rarity (often 5 or few populations) or because of factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.

S2 = Imperiled—Imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the state.

S3 = Vulnerable—Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer).

S4 = Apparently Secure—Uncommon but not rare in the state; some cause for long-term concern due to declines or other factors.

? = A question mark denotes an inexact numeric rank due to insufficient samples over the full expected range of the type, but existing information points to this rank.

Special-Status Wildlife Documented

The following special-status wildlife species have been documented as occurring within at least one of the four areas.

Invertebrates

Mudflat Tiger Beetle (*Cicindela trifasciata sigmoidea*)

The mudflat tiger beetle is considered locally rare, though it is not a state- or federally-listed species or a California Species of Special Concern. This predatory beetle inhabits salt marshes, mudflats and salt pannes where they make burrows in the intertidal zone. It has been documented as occurring on mudflats in the North Area (Steamshovel Slough) (Tidal Influence 2012). Suitable habitat also occurs within the mudflats in the South, Isthmus and Central Areas.

Salt Marsh Tiger Beetle (*Cicindela hemorrhagica hemorrhagica*)

The salt marsh tiger beetle is considered locally rare, though it is not a state- or federally-listed species or a California Species of Special Concern. This predatory beetle inhabits salt marshes, mudflats and salt pannes where they make burrows in the intertidal zone. It has been documented as occurring on mudflats in the North Area (Steamshovel Slough) and Isthmus Area (Zedler Marsh) (Tidal Influence 2012). It also has potential to occur on mudflats within the South and Central Areas.

Salt Marsh Wandering Skipper (*Panoquina errans*)

The wandering skipper is a small light brown butterfly that is listed on the IUCN Red List as 2.3, which means "near threatened." The flight season extends from March to November and peaks during the summer. The wandering skipper's known range extends along the California coast from the cape region of Baja California to Santa Barbara County, but only in suitable localities within this range that include areas with saltgrass, which is the most common larval host plant in areas with tidal influence. Suitable habitat for this species occurs within the North Area (Steamshovel Slough) as well as areas that exhibit tidal influence and support patches of saltgrass in the South, Isthmus and Central Areas. Focused surveys were not performed for this species; however, it is expected to occur throughout the proposed program area where suitable habitat is present.

Reptiles

Pacific Green Sea Turtle (*Chelonia mydas*)

The Pacific green sea turtle is a federal endangered species and listed on the IUCN Red List as 4, which means "endangered." This species is generally found in fairly shallow waters (except when migrating) inside reefs, bays, and inlets. The turtles are attracted to lagoons and shoals with an abundance of marine grass and algae. They have been documented immediately upstream of the North Area in Steamshovel Slough, and have the potential to occur at the mouth of the slough. They also occur within the Central Area (San Gabriel River) and South Area (Haynes Cooling Channel) as well as within the Los Cerritos Channel (Tidal Influence 2012). Ongoing monitoring of the species is currently taking place within the program area and data has been collected from 2013 to present.

Red Diamond Rattlesnake (*Crotalus ruber ruber*)

The red diamond rattlesnake is a California Species of Special Concern. The red diamond rattlesnake occurs throughout much of San Diego and Orange Counties as well as in western Riverside County and southwestern San Bernardino County in chaparral, woodland, grassland, and desert habitats. Red diamond rattlesnakes forage primarily on small mammals but will consume

lizards, birds, and other snakes. Red diamond rattlesnake has been documented on site (Tidal Influence 2012), but only one individual was observed and may have been an unauthorized release.

Birds

Belding's Savannah Sparrow (*Passerculus sandwichensis beldingi*)

The Belding's savannah sparrow is a state endangered bird, and a candidate species for federal protection. This species is a non-migratory subspecies that occurs in coastal salt marshes between Goleta Slough, Santa Barbara County, and Bahia de San Quentin in Mexico. The Belding's savannah sparrow is entirely dependent on salt marshes for nesting and foraging. As such, the Belding's savannah sparrow thus resides year-round in this habitat and is resident and common on the site. The highest concentrations of the Belding's savannah sparrow are within and in proximity to Steamshovel Slough in the North Area and in the South Area. Based on focused breeding season surveys conducted in 2017, the current capacity of the Steamshovel Slough area is estimated to be between 30 to 42 territories, and two territories south of the slough (GLA 2017e). This species nests preferentially in common pickleweed and/or Parish's glasswort. In addition, this species was also observed foraging within areas of pickleweed and Parish's glasswort south of Steamshovel Slough.

Black Skimmer (*Rynchops niger*)

The black skimmer is a California Species of Special Concern. The black skimmer breeds on gravel bars, low islets and sandy beaches on the coast from San Francisco Bay south to San Diego Bay and in the interior at the Salton Sea. Black skimmers forage along calm, shallow water. Habitat for prey occurs over the aquatic environments located in the South Area, Central Area, and North Area. The black skimmer was observed on site during surveys and are likely to forage within the North Area (Steamshovel Slough), Central Area (San Gabriel River), and South Area (Haynes Cooling Channel).

Burrowing Owl (*Athene cunicularia*)

The burrowing owl is a California Species of Special Concern. Habitat for the burrowing owl is varied, including short-grass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), prairies, coastal dunes, desert floors, and some artificial, open areas as a year-long resident. Burrowing owls require large open expanses of sparsely vegetated areas on gently rolling or level terrain with an abundance of active small mammal burrows that are approximately 4-8-inches in diameter, such as from ground squirrels. As a primary habitat need, they require the use of these rodent burrows, and can also occupy man-made structures such as irrigation pipes, for roosting and nesting cover. Burrowing owls have been observed within the Isthmus Area and suitable habitat occurs in all four areas of the proposed program; however, this species was not detected during focused surveys in 2015, 2016, or 2017 in the North and Central Areas.

California Brown Pelican (*Pelecanus occidentalis californicus*)

The California brown pelican is a California Fully Protected species. The California brown pelican breeds on the Channel Islands and occurs in estuarine, marine subtidal, and marine pelagic waters along California coast. It is rare to uncommon on the Salton Sea. California brown pelicans forage almost entirely on fish. Foraging habitat occurs in the South Area, Central Area and North Area. California brown pelican has been observed on site during surveys and are likely

to forage within the North Area (Steamshovel Slough), Central Area (San Gabriel River) and South Area (Haynes Cooling Channel); however, there are no potential breeding areas within the proposed program area.

California Least Tern (*Sterna antillarum browni*)

The California least tern is listed under CESA and FESA as endangered and is also a California Fully Protected species. In Southern California, it breeds along the coast from San Diego County to San Luis Obispo County. This species has been observed foraging within the North Area (Steamshovel Slough). Potential foraging habitat is also present in the Central Area (San Gabriel River), Isthmus Area and South Area (Haynes Cooling Channel); however, there are no potential breeding areas within the proposed program area.

Least Bell's Vireo (*Vireo bellii pusilus*)

The least Bell's vireo is listed as endangered in accordance with CESA and FESA. The least Bell's vireo is a rare, local summer resident in San Benito and Monterey Counties, Southern California from Santa Barbara County south to San Diego County and along the western edge of the deserts. Least Bell's vireo nests and forages in willows and other low, dense riparian habitat feeding on insects. Foraging habitat occurs in the Central, Isthmus and North Areas and least Bell's vireo was observed in the Isthmus Area within the active habitat mitigation/restoration site during focused surveys and may forage within freshwater riparian habitats. Suitable breeding habitat is limited due to the relatively small amount and composition of tree/scrub riparian habitat that is present.

Loggerhead Shrike (*Lanius ludovicianus*)

The loggerhead shrike is a California Species of Special Concern. Loggerhead shrike is a common resident and winter visitor in lowlands and foothills throughout California. It prefers open habitats with scattered perches and as shrubs, trees, posts, fences and utility lines where it forages mostly large insects. Loggerhead shrike builds nests in shrubs or trees with dense foliage. Foraging habitat occurs in the South Area, Isthmus Area, Central Area, and North Area. Breeding habitat is limited in these areas due to the low numbers of suitable nest shrubs and trees. Nonetheless, foraging habitat is present and loggerhead shrike was observed within the proposed program area during biological resources surveys conducted in 2012 (Tidal Influence 2012).

Merlin (*Falco columbarius*)

The merlin is a California Watch List species. Merlin is an uncommon winter migrant and occurs in most of the western half of the state along coastlines, open grasslands, savannahs, woodlands, lakes, wetlands, edges, and early successional stages. Merlin primarily feed on small birds but also small mammals and insects. Merlin breed in Canada and Alaska and are not known to breed in California. Foraging habitat occurs in the South Area, Isthmus Area, Central Area, and North Area. Breeding habitat is absent. Merlin was observed within the proposed program area during surveys conducted in 2012 (Tidal Influence 2012).

Northern Harrier (Nesting) (*Circus cyaneus*)

The northern harrier is a California Species of Special Concern. This species range is across all of North America, wintering across most of the southern United States and into Mexico. It has been

documented that the northern harrier is now one of the rarest nesting raptors in southwestern California. Characteristically, this raptor inhabits marshlands, both coastal salt and freshwater, but often forages over grasslands and fields, requiring open habitats for foraging. Northern harrier have occasionally been observed foraging within the proposed program area and suitable foraging habitat occurs within the South, Isthmus, Central and North Areas. Although there are no records of nesting in the vicinity, there are potentially suitable areas for nesting in some of the higher areas of the North (Steamshovel Slough), South, Isthmus and Central Areas.

Osprey

The osprey is a California watch list species. This species inhabits riparian forest, ocean shore, bays, freshwater lakes, and larger streams. The osprey primarily forages in open, clear water and nests in large snags, dead-topped trees, on cliffs, or on human made structures. Suitable foraging occurs in open water in the North, South, Isthmus and Central Areas. There are limited potentially suitable areas for nesting in the mature trees and human made structures within the North, South, Isthmus and Central Areas. Osprey has been observed within the program boundary.

~~Ridgway's Rail (*Rallus obsoletus*)~~

~~The Ridgway's rail (formerly designated as the light-footed clapper rail) is a federal endangered, state endangered, and California fully protected species. In Southern California, the Ridgway's rail is a year-round resident that prefers coastal salt marshes, but also inhabits freshwater marshes. Cordgrass (*Spartina* spp.) and bulrush (*Bolboshchoenus* spp. and *Schoenoplectus* spp.) are among the preferred species for nesting. The North Area (Steamshovel Slough) and tidal marsh within the South, Isthmus and Central Areas exhibit the highest potential for supporting this species; this species has been documented within the proposed program area during the various surveys and habitat assessments that have been conducted.~~

Short-Eared Owl (*Asio flammeus*)

The short-eared owl is a California Species of Special Concern. It prefers open habitats such as grasslands, prairie, agricultural fields, salt marshes, estuaries, and mountain meadows. Breeding habitat must have sufficient ground cover to conceal nests and nearby sources of small mammals for food. This species roosts in disturbed areas such as thick hedgerows, overgrown rubble and abandoned fields. The North Area (Steamshovel Slough) and tidal marshes in the South, Isthmus and Central Areas may provide potentially suitable wintering habitat. This species has been documented within the proposed program area during the various surveys and habitat assessments that have been conducted.

Tri-Colored Blackbird (*Agelaius tricolor*)

The tri-colored blackbird is listed under CESA as threatened and is a California Species of Special Concern. The tri-colored blackbird is a permanent resident of California and ranges from the Central Valley and from Sonoma County to San Diego County along the coast. Tri-colored blackbird nests in freshwater marshes typically dominated by cattails (*Typha* ssp.) or tules (*Scirpus* spp.) and forages in freshwater marshes and surrounding upland habitats habitat feeding on insects. Foraging habitat occurs in the proposed program area; however, there is no suitable breeding habitat present. This species was not observed within the program area during various

biological surveys; however, according to ebird (https://ebird.org/home), this species was observed in the Central Area at the Marketplace Marsh in 2015.

White-Tailed Kite (*Elanus leucurus*)

The white-tailed kite is a state fully-protected species that occurs through much of California. In California, the white-tailed kite is a year-round resident in coastal and valley lowlands. It prefers open habitats including grasslands, open shrub, agricultural areas, wetlands dominated by grasses, fence rows and irrigation ditches adjacent to grazed lands, riparian, oak woodlands, coastal sage scrub, and salt marsh. White-tailed kites were observed foraging in the program area and there is suitable foraging habitat throughout the South, Isthmus, Central and North Areas. There is little suitable habitat for nesting (i.e., dense tree/chaparral canopy) within the proposed program area.

Yellow-Breasted Chat (*Icteria virens*)

The yellow-breasted chat is a California Species of Special Concern. The yellow-breasted chat is an uncommon summer resident and migrant in coastal California and in foothills of the Sierra Nevada. Yellow-breasted chat nests and forages in willows and other low, dense riparian habitat feeding on insects. Foraging habitat occurs in the Isthmus Area. Breeding habitat is absent due to the small size and composition of the riparian habitat. Yellow-breasted chat has been observed throughout the site during surveys and may forage within freshwater riparian habitats within the South, Isthmus, Central and North Areas.

Special-Status Wildlife with Potential to Occur

The following special-status wildlife species have been noted as having potential to occur within at least one of the four areas.

Invertebrates

Mimic Tryonia (*Tryonia imitator*)

The mimic tryonia is a small brackish water snail that is listed on the International Union for the Conservation of Nature (IUCN) Red List as DD (data deficient), which means there is inadequate data to make a direct or indirect assessment. The mimic tryonia's known range is not well documented. However, it likely extends along the entirety of the California coast, but only in suitable localities within this range that include areas with brackish waters. Suitable habitat for this species occurs within brackish areas within the South, Isthmus, Central, and North Areas. Focused surveys were not performed for this species; however, it is expected to occur throughout the proposed program area where suitable habitat is present.

Monarch Butterfly (*Danaus plexippus*)

The monarch butterfly is a candidate for listing under FESA. It is a large orange and black butterfly; whose flight season extends from late February to mid-September. The monarch butterfly's known range extends along the California coast from the cape region of Baja California to Mendocino County. In the spring, they move inland in search of areas containing their primary host plant, milkweed. The species roosts in tree groves along the coast of California during the winter. Suitable overwintering habitat for this species occurs within the South, Isthmus, Central and North Areas within tree groves. Focused surveys were not performed for

this species; however, it may occur throughout the proposed program area where suitable roosting habitat is present.

Sandy Beach Tiger Beetle (*Cicindela hirticollis gravida*), Senile Tiger Beetle (*Cicindela senilis frosti*), Western Beach Tiger Beetle (*Cicindela latesignata latesignata*), and Wester Tidal-Flat Tiger Beetle (*Cicindela gabbii*)

The sandy beach tiger beetle, senile tiger beetle, western beach tiger beetle and western tidal-flat tiger beetle are closely related insects that have similar habitat preferences and are therefore discussed simultaneously. All four species of tiger beetle are considered locally rare, though they are not a state- or federally-listed species or a California Species of Special Concern. These predatory beetles inhabit mudflats and salt pannes where they make burrows in the intertidal zone. Suitable habitat for these species occur within the North Area (Steamshovel Slough), as well as, tidal marsh areas in the South Area, Isthmus Area, and Central Area. These species have not been documented within the proposed program area during the various surveys and habitat assessments that have been conducted.

Fish

Steelhead – Southern California DPS (*Oncorhynchus mykiss irideus* pop. 10)

The Southern California steelhead is listed under FESA as endangered. This species is generally found in south coast flowing waters. Known occurrences for the species are very limited within the region. The nearest known records for the species occur in 2013 in the Santa Ana River (Orange County) and 1972 in Aliso Creek (Orange County) respectively (CDFW 2019). This species has a low to moderate potential to occur within the North Area (Steamshovel Slough) and Central Area (San Gabriel River) although focused fish surveys have not been completed in program area.

Tidewater Goby (*Eucyclobobius newberryi*)

The tidewater goby is listed under CESA and FESA as endangered. This species is generally found in fairly shallow waters (except when migrating) in coastal lagoons and estuaries where brackish conditions occur. Known occurrences for the species are very limited within the region and tend to consist of old records. The nearest known records for the species occur in 1996 in Aliso Creek (Orange County) and 1995 in Malibu Creek (Los Angeles County) respectively (CDFW 2019). This species has a moderate potential to occur within the North Area (Steamshovel Slough), Central Area (San Gabriel River), Isthmus Area (Zedler Marsh) and South Area although focused fish surveys have not been completed in program area.

Amphibians

Baja California treefrog (*Pseudacris hypochondriaca*) has been reported within the program area (Tidal Influence 2012); however, special-status amphibian species were not determined to have potential to occur within the program boundary.

Reptiles

The following special-status wildlife species (reptiles) have been noted as having potential to occur within at least one of the four areas.

Coast Horned Lizard (*Phrynosoma blainvilli*)

The coast horned lizard is a California Species of Special Concern. The coast horned lizard occurs throughout much of the state in valley-foothill hardwood, conifer and riparian habitats, as well as in pine-cypress, juniper and annual grassland habitats. Coast horned lizard forage primarily on ants but will consume other small insects. Foraging habitat occurs in the South Area, Isthmus Area, Central Area and North Area although the food source for the species is limited due to the abundance of the Argentine ant (*Linepithema humile*) which negatively affect coast horned lizard and displace favored and beneficial native ant species. Coast horned lizard has not been observed on site and may forage within upland habitats.

Coastal Whiptail (*Aspidoscelis tigris stejnegeri*)

The coastal whiptail is a California Species of Special Concern. The coastal whiptail occurs in deserts and semi-arid areas with sparse vegetation and open areas as well as in woodland and riparian habitats. Coastal whiptail forage on a number of invertebrates including grasshoppers, beetles, ants, termites and spiders. Foraging habitat occurs in the South Area, Isthmus Area, Central Area and North Area. Coastal whiptail has not been observed on site and may forage within upland habitats.

Orange-Throated Whiptail (*Aspidoscelis hyperythra*)

The orange-throated whiptail is a California Species of Special Concern. The orange-throated whiptail occurs in the coastal zone west of the crest of Peninsular Ranges from Orange and southern San Bernardino Counties to San Diego County and in northern Baja California in open areas within coastal scrub, chaparral, and valley-foothill hardwood habitats. Orange-throated whiptail forages primarily on small arthropods. Foraging habitat occurs in the South Area, Isthmus Area, Central Area and North Area. Orange-throated whiptail has not been observed on site and may forage within upland habitats.

Southern California Legless Lizard (*Anniella stebbinsi*)

The Southern California legless lizard is a California Species of Special Concern. The Southern California legless lizard occurs in the coastal zone south of the Transverse Ranges and west of the crest of Peninsular Ranges from southern Ventura and Los Angeles Counties to San Diego County and in northern Baja California. The species occurs in sandy or loose loamy soils under sparse vegetation. Southern California legless lizard forages primarily on small arthropods. Foraging habitat occurs in the South Area, Isthmus Area, Central Area and North Area. Southern California legless lizard has not been observed on site and may forage within upland habitats.

Western Pond Turtle (*Emys marmorata*)

The western pond turtle is a California Species of Special Concern. The western pond turtle is uncommon to common in suitable aquatic habitat throughout California, west of the Sierra-Cascade crest and absent from desert regions, except along the Mojave River and its tributaries in the Mojave Desert. It can be found within riparian and freshwater marsh habitats where it consumes both plant and wildlife including pond lilies, beetles and other aquatic invertebrates. Western pond turtle has not been documented on site; however, there is a moderate potential for occurrence within the freshwater marsh at the South, Central and North Areas.

Birds

American Peregrine Falcon (*Falco peregrinus anatum*)

The American peregrine falcon is a state endangered species, and was federally delisted in 1999. Northwestern populations are year-round residents from central Mexico to Alaska. American peregrine falcons forage in a variety of habitats including grasslands, meadows, coastlines and wetlands where they hunt waterfowl and shorebirds. Organochlorine pesticides were a primary cause for decline before they were banned in the 1970s, but habitat loss due to development and human disturbance is also responsible for this raptor's decline. Habitat for prey occurs over much of the South, Isthmus, Central, and North Areas; however, the tidal salt marsh areas such as Steamshovel Slough exhibit the best foraging areas due to the highest concentrations of potential prey. No American peregrine falcons were observed on site during any surveys or site visits; however, residents in the vicinity and/or migrants are expected to forage occasionally on site.

California Black Rail (*Laterallus jamaicensis coturniculus*)

The California black rail is a state threatened species and California Fully Protected species. The California black rail is a year-long resident of saline, brackish, and fresh emergent wetlands in the San Francisco Bay area, Sacramento-San Joaquin Delta, coastal Southern California at Morro Bay and a few other locations. Inland locations include the Salton Sea and lower Colorado River area. California black rail occurs most commonly in tidal emergent wetlands dominated by pickleweed, or in brackish marshes supporting bulrushes in association with pickleweed. In freshwater, California black rail is usually found in bulrushes, cattails, and saltgrass. California black rails forage on small invertebrates and seeds within wetland habitats. Breeding and foraging habitat occurs in the South Area, Isthmus Area, Central Area, and North Area. California black rail has not been observed on site during surveys; however, this species may forage within the North Area (Steamshovel Slough) and other tidal marshes within the South, Isthmus and Central Areas.

Coastal California Gnatcatcher (*Polioptila californica californica*)

The coastal California gnatcatcher is a federally listed threatened species and California Species of Special Concern. This species is a resident subspecies that occurs in arid coastal scrub below about 500 meters (1,500 feet) from eastern Ventura County to San Diego County and into Baja California, Mexico. The coastal California gnatcatcher is entirely dependent on coastal scrub habitats for nesting and foraging. Limited foraging and nesting habitat occurs in upland areas within the South Area, Isthmus Area, Central Area, and North Area. Coastal California gnatcatcher has not been observed on site.

Southern California Rufous-Crowned Sparrow (*Aimophila ruficeps canescens*)

The Southern California rufous-crowned sparrow is a California watch list species. This species is a resident subspecies that occurs in arid coastal scrub and chaparral in Southern California. The Southern California rufous-crowned sparrow is entirely dependent on coastal scrub and chaparral habitats for nesting and foraging. Limited foraging and nesting habitat occurs in upland areas within the South, Isthmus, Central, and North Areas. Southern California rufous-crowned sparrow has not been observed on site.

Ridgway's Rail (*Rallus obsoletus*)

The Ridgway's rail (formerly designated as the light-footed clapper rail) is a federal endangered, state endangered, and California fully protected species. In Southern California, the Ridgway's rail is a year-round resident that prefers coastal salt marshes, but also inhabits freshwater marshes. Cordgrass (*Spartina* spp.) and bulrush (*Bolboshchoenus* spp. and *Schoenoplectus* spp.) are among the preferred species for nesting. The North Area (Steamshovel Slough) and tidal marsh within the South, Isthmus and Central Areas exhibit the highest potential for supporting this species; this species has not been documented within the restoration program area during the various surveys and habitat assessments that have been conducted.

Southwestern Willow Flycatcher (*Empidonax traillii extimus*)

The southwestern willow flycatcher is listed under CESA as threatened and under FESA as endangered. The southwestern willow flycatcher is a rare, local summer resident in Southern California. Southwestern willow flycatcher nests and forages in willows and other low, dense riparian habitat feeding on insects. Foraging habitat occurs in the Isthmus Area. Suitable breeding habitat is limited due to the relatively small amount and composition of tree riparian habitat that is present. Moreover, southwestern willow flycatcher has not been observed within the proposed program area (including the Isthmus Area), but may forage within freshwater riparian habitats in the vicinity.

~~Tri-Colored Blackbird (*Agelaius tricolor*)~~

~~The tri-colored blackbird is listed under CESA as threatened and is a California Species of Special Concern. The tri-colored blackbird is a permanent resident of California and ranges from the Central Valley and from Sonoma County to San Diego County along the coast. Tri-colored blackbird nests in freshwater marshes typically dominated by cattails (*Typha* ssp.) or tules (*Scirpus* spp.) and forages in freshwater marshes and surrounding upland habitats habitat feeding on insects. Foraging habitat occurs in the proposed program area; however, there is no suitable breeding habitat present. This species has not been observed within the program area during various biological surveys~~

Western Snowy Plover (*Charadrius alexandrinus nivosus*)

The western snowy plover is listed as federally endangered and is a California Species of Special Concern that nests on coastal beaches from southern Washington to southern Baja California, Mexico. The breeding season extends from March through September. Nests occur in flat, open areas with sandy substrates without much vegetation. The western snowy plover forages on invertebrates along the shore and along the edges of salt marshes. Habitats used by this species include sandy coastal beaches, salt pannes, coastal dredged spoils sites, dry salt ponds, salt pond levees, gravel bars, salt marshes, and lagoons. Major threats are loss of suitable nesting habitat and, where habitat remains, disturbance from human activity near nesting sites, including general maintenance practices necessary to maintain beaches and recreational activity. The western snowy plover has not been observed, but potential foraging occurs on the mudflats within the South, Isthmus, Central, and North Areas. Suitable breeding areas for western snowy plover occur on salt flats within the Central Area.

Yellow Rail (*Coturnicops noveboracensis*)

The yellow rail is a California Species of Special Concern. The yellow rail is a year-round resident that prefer freshwater marshes in northern and eastern California. Sedges (*Carex* spp. and *Dulichum* spp.), bulrush (*Scirpus* spp.), rush (*Juncus* spp.) and reedgrasses (*Calamagrostis* spp.) are among the preferred species for nesting. The freshwater marsh at the South, Central and North Areas exhibit the highest potential for supporting this species; this species has not been documented within the proposed program area during the various surveys and habitat assessments that have been conducted.

Yellow Warbler (*Dendroica petechia brewsteri*)

The yellow warbler is a California Species of Special Concern. The yellow warbler is an uncommon summer resident and migrant in coastal California and in foothills of the Sierra Nevada and eastern California from Lake Tahoe through Inyo County. Yellow warbler nests and forages in riparian deciduous habitats containing cottonwoods, willows, alders and other small trees and shrubs feeding on insects and spiders. Foraging habitat occurs in the Isthmus Area. Breeding habitat is absent due to the small size and composition of the riparian habitat. Yellow warbler has not been documented within the proposed program area during the various surveys and habitat assessments that have been conducted.

Mammals

Pacific Pocket Mouse (*Perognathus longimembris pacificus*)

The Pacific pocket mouse is a federal endangered species and California Species of Special Concern. Pacific pocket mouse is a rare resident and is associated with fine grain, sandy substrates in coastal strand, coastal dunes, river alluvium and coastal sage scrub habitats within approximately 2.5 miles of the ocean in Southern California. The species primarily feeds on seeds. Suitable habitat occurs in the South, Isthmus, and Central Area, as well as in the North Areas within Steamshovel Slough (and other tidal areas). Pacific pocket mouse has not been observed on site, and has a low potential to be present, since there are no records of the species in Los Angeles County since 1938 and the closest population occurs in the Dana Point headlands located approximately 30 miles to the southeast (USFWS 2010).

South Coast Marsh Vole (*Microtus californicus stephensi*)

The south coast marsh vole is a California Species of Special Concern, and ranges from southwestern Oregon through much of California. This species prefers grassy meadow habitats and feeds on grasses and other green vegetation when available; piles of cuttings are found along its runways. It breeds from September to December. In winter, it eats mostly roots and other underground parts of plants. Major threats are non-native plants that have replaced the plants it needs to survive and introduced non-native animals such as the common house mouse and other non-natives that have displaced it through competition. The salt marsh areas in the North Area (Steamshovel Slough) and South, Isthmus and Central Areas provide suitable habitat for this species.

Southern California Salt Marsh Shrew (*Sorex ornatus salicornicus*)

The Southern California salt marsh shrew is a California Species of Special Concern that is endemic to Southern California's coastal marshes from Point Mugu, Ventura County to salt marshes around Anaheim Bay and Newport Beach in Orange County. This species appears to prefer coastal

marshes. Based on studies of other similar shrews, the Southern California salt marsh shrew likely requires fairly dense ground cover, nesting sites above mean high tide free from inundation, and fairly moist surroundings. Major threats are loss of habitat due to development along the coast, and lack of refuge sites above the marshes to escape from flooding during seasonal high tides and periodic storms. The salt marsh areas in the North Area (Steamshovel Slough), South, Isthmus, and Central Areas provide suitable habitat for this species.

Western Mastiff Bat (*Eumops perotis californicus*)

The western mastiff bat is a California Species of Special Concern. Western mastiff bat is an uncommon resident in southeastern San Joaquin Valley and Coastal Ranges from Monterey County southward through Southern California, from the coast eastward to the Colorado Desert. Western mastiff bat occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban areas where it feeds on insects. Western mastiff bat roosts in rock crevices, trees and buildings. The South Area, Isthmus Area, Central Area, and North Area provide suitable foraging habitat. Roosting may occur in the palm trees that are located within the proposed program area.

Western Yellow Bat (*Lasiurus xanthinus*)

The western yellow bat is a California Species of Special Concern. Western yellow bat is an uncommon resident known only in Los Angeles and San Bernardino Counties south to the Mexican border. Western yellow bat occurs in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats where it feeds on insects. Western yellow bat roosts in trees. The South, Isthmus, Central and North Areas provide suitable foraging habitat. Roosting may occur in the palm trees that are located within the proposed program area.

Table 3.3-6, *Special-Status Wildlife with Potential to Occur within the Program Area*, provides a summary of all special-status wildlife species determined to be present or to have potential to occur within each of the four program areas.

TABLE 3.3-6
SPECIAL-STATUS WILDLIFE WITH POTENTIAL TO OCCUR WITHIN THE PROGRAM AREA

Species	South Area	Isthmus Area	Central Area	North Area
Invertebrates				
Mimic tryonia (California brackish water snail)	H	H	H	H
Monarch—California overwintering population	H	H	H	H
Mudflat tiger beetle	H	H	H	P
Salt marsh tiger beetle	H	P	H	P
Salt marsh wandering skipper	P	P	P	P
Sandy beach tiger beetle	H	H	H	H
Senile tiger beetle	H	H	H	H
Western beach tiger beetle	H	H	H	H
Western tidal-flat tiger beetle	H	H	H	H

TABLE 3.3-6
SPECIAL-STATUS WILDLIFE WITH POTENTIAL TO OCCUR WITHIN THE PROGRAM AREA

Species	South Area	Isthmus Area	Central Area	North Area
Fish				
Steelhead – Southern California DPS			H	H
Tidewater goby	H	H	H	H
Reptiles				
Coast horned lizard	H	H	H	H
Coastal whiptail	H	H	H	H
Orange-throated whiptail	H	H	H	H
Pacific green sea turtle	P		P	P
Red diamond rattlesnake	P	P	P	P
Southern California legless lizard	H	H	H	H
Western pond turtle	H		H	H
Birds				
American peregrine falcon	P	P	P	P
Belding's savannah sparrow	P	P	H	P
Black skimmer	P		P	P
Burrowing owl	H	P	H	H
California black rail	H	H	H	H
California Brown Pelican	P	P	P	P
California least tern	P	P	P	P
Coastal California gnatcatcher	H	H	H	H
Least Bell's vireo		P	H	H
Loggerhead shrike	P	P	P	P
Merlin	H	H	H	P
Northern harrier	P	P	P	P
Osprey	P	P	P	P
Ridgway's rail	H	H		H
Short-eared owl	H	H	P	P
Southern California rufous-crowned sparrow	H	H	H	H
Southwestern willow flycatcher		H	H	H
Tri-colored blackbird	H	H	P~~H~~	H
Western snowy plover	H	H	H	H
White-tailed kite	P	P	P	P
Yellow rail	H		H	H
Yellow warbler		H		
Yellow-breasted chat	P	P	P	P
Mammals				
Pacific pocket mouse	H	H	H	H
South coast marsh vole	H	H	H	H

TABLE 3.3-6
SPECIAL-STATUS WILDLIFE WITH POTENTIAL TO OCCUR WITHIN THE PROGRAM AREA

Species	South Area	Isthmus Area	Central Area	North Area
Southern California salt marsh shrew	H	H	H	H
Western mastiff bat	H	H	H	H
Western yellow bat	H	H	H	H

H = habitat present; P = species present

3.3.2.6 Common Wildlife

Birds

The program area supports a wide range of avifauna, both residents and migrants as well as a high diversity of wintering waterfowl and shore birds including those listed in **Table 3.3-7**, *Common Birds Observed within the Los Cerritos Wetlands Program Area*.

TABLE 3.3-7
COMMON BIRDS OBSERVED WITHIN THE LOS CERRITOS WETLANDS PROGRAM AREA

Species	Species	Species
Allen's Hummingbird *Selasphorus sasin*	Common Raven *Corvus corax*	Orange Bishop *Euplectes franciscanus*
American Avocet *Recurvirostra americana*	Common Yellowthroat *Geothlypis trichas*	Pacific Loon *Gavia pacifica*
American Bittern *Botaurus lentiginosus*	Cooper's Hawk *Accipiter cooperii*	Pacific-slope Flycatcher *Empidonax difficilis*
American Coot *Fulica americana*	Double-crested Cormorant *Phalacrocorax auritus*	Pied-billed Grebe *Podilymbus podiceps*
American Crow *Corvus brachyrhynchos*	Downy Woodpecker *Picoides pubescens*	Red-breasted Merganser *Mergus serrator*
American Goldfinch *Spinus tristis*	Eared Grebe *Podiceps nigricollis*	Reddish Egret *Egretta refescens*
American Kestrel *Falco sparverius*	Elegant Tern *Thalasseus elegans*	Red-necked Phalarope *Phalaropus lobatus*
American Pipit *Anthus rubescens*	European Starling *Sturnus vulgaris*	Red-shouldered Hawk *Buteo lineatus*
American White Pelican *Pelecanus erythrorhynchos*	Forster's Tern *Sterna forsteri*	Red-tailed Hawk *Buteo jamaicensis*
American Widgeon *Anas Americana*	Gadwall *Anas strepera*	Red-winged Blackbird *Agelaius phoeniceus*
Anna's Hummingbird *Calypte anna*	Great Blue Heron *Ardea herodias*	Ring-billed Gull *Larus delawarensis*
Ash-throated Flycatcher *Myiarchus cinerascens*	Great Egret *Ardea alba*	Rock Pigeon *Columba livia*
Barn Owl *Tyto alba*	Great Horned Owl *Bubo virginianus*	Ruby-crowned Kinglet *Regulus calendula*
Barn Swallow *Hirundo rustica*	Greater Scaup *Aythya marila*	Ruddy Duck *Oxyura jamaicensis*

TABLE 3.3-7
COMMON BIRDS OBSERVED WITHIN THE LOS CERRITOS WETLANDS PROGRAM AREA

Species	Species	Species
Belted Kingfisher *Megaceryle alcyon*	Greater Yellowlegs *Tringa semipalmatus*	Say's Phoebe *Sayornis saya*
Black Phoebe *Sayornis nigricans*	Great-tailed Grackle *Quiscalus mexicanus*	Semipalmated Plover *Charadrius semipalmatus*
Black-bellied Plover *Pluvialis squatarola*	Green Heron *Butorides virescens*	Short-billed Dowitcher *Limnodromus griseus*
Black-chinned Hummingbird *Archilochus alexandri*	Green-winged Teal *Anas crecca*	Snowy Egret *Egretta thula*
Black-crowned Night-heron *Nycticorax*	Heermann's Gull *Larus heermanni*	Song Sparrow *Melospiza melodia*
Black-headed Grosbeak *Pheucticus melanocephalus*	Hermit Thrush *Catharus guttatus*	Sora *Porzana Carolina*
Black-necked Stilt *Himantopus mexicanus*	Hooded Oriole *Icterus cucullatus*	Spotted Sandpiper *Actitis macularia*
Blue-gray Gnatcatcher *Polioptila caerulea*	Horned Grebe *Podiceps auritus*	Surf Scoter *Melanitta perspicillata*
Blue-winged Teal *Anas discors*	House Finch *Haemorhous mexicanus*	~~Turkey Vulture~~Tri-colored blackbird ~~*Cathartes aura*~~ *Agelaius tricolor*
Bonaparte's Gull *Larus philadelphia*	House Wren *Troglodytes aedon*	Turkey Vulture *Cathartes aura*~~Violet-green Swallow~~ ~~*Tachycineta thalassina*~~
Brant *Branta bernicla*	Killdeer *Charadrius vociferus*	Violet-green Swallow *Tachycineta thalassina*~~Western Bluebird~~ ~~*Sialia mexicana*~~
Brewer's Blackbird *Euphagus cyanocephalus*	Least Sandpiper *Calidris minutilla*	Western Bluebird *Sialia mexicana*~~Western Grebe~~ ~~*Aechmorphus occidentalis*~~
Bufflehead *Bucephala albeola*	Lesser Goldfinch *Spinus psaltria*	Western Grebe *Aechmorphus occidentalis*~~Western Gull~~ ~~*Larus occidentalis*~~
Bullock's Oriole *Icterus bullockii*	Lesser Scaup *Aythya affinis*	Western Gull *Larus occidentalis*~~Western Kingbird~~ ~~*Tyrannus verticalis*~~
California Gull *Larus californicus*	Long-billed Curlew *Numenius americanus*	Western Kingbird *Tyrannus verticalis*~~Western Meadowlark~~ ~~*Sturnella neglecta*~~
California Towhee *Melozone crissalis*	Long-billed Dowitcher *Limnodromus scolopaceus*	Western Meadowlark *Sturnella neglecta*~~Western Sandpiper~~ ~~*Calidris mauri*~~
Canada Goose *Branta canadensis*	Mallard *Anas platyrhynchos*	Western Sandpiper *Calidris mauri*~~Western Scrub-jay~~ ~~*Aphelocoma californica*~~
Caspian Tern *Hydroprogne caspia*	Marbled Godwit *Limosa fedosa*	Western Scrub-jay *Aphelocoma californica*~~Whimbrel~~ ~~*Numenius phaeopus*~~
Cassin's Kingbird *Tyrannus vociferans*	Marsh Wren *Cistothorus palustris*	Whimbrel *Numenius phaeopus*~~White-crowned Sparrow~~ ~~*Zonotrichia leucophrys*~~
Cedar Waxwing *Bombycilla cedrorum*	Mourning Dove *Zenaida macroura*	White-crowned Sparrow *Zonotrichia leucophrys*~~Willet~~ ~~*Tringa semipalmatus*~~

TABLE 3.3-7
COMMON BIRDS OBSERVED WITHIN THE LOS CERRITOS WETLANDS PROGRAM AREA

Species	Species	Species
Cinnamon Teal *Anas cyanoptera*	Northern Flicker *Colaptes auratus*	Willet *Tringa semipalmatus*~~Wilson's Phalarope~~ ~~*Phalaropus tricolor*~~
Clark's Grebe *Aechmorphus clarkii*	Northern Mockingbird *Mimus polyglottos*	Wilson's Phalarope *Phalaropus tricolor*~~Wilson's Warbler~~ ~~*Cardellina pusilla*~~
Cliff Swallow *Petrochelidon pyrrhonota*	Northern Pintail *Anas acuta*	Wilson's Warbler *Cardellina pusilla*~~Wilson's Snipe~~ ~~*Gallinago delicata*~~
Common Loon *Gavia immer*	Northern Rough-winged Swallow *Stelgidopteryx serripennis*	Wilson's Snipe *Gallinago delicata*~~Yellow-rumped Warbler~~ ~~*Setophaga coronate*~~
Common Poorwill *Phalaenoptilus nuttallii*	Northern Shoveler *Anas clypeata*	Yellow-rumped Warbler *Setophaga coronate*

SOURCES: Glenn Lukos Associates Inc., 2017a; Coastal Restoration Consultants, 2019.

Mammals

Mammals detected in the proposed program area, either by direct observation or by physical evidence, include coyote (*Canis latrans*), domestic dog (*Canis lupus familiaris*), American opossum (*Didelphis virginiana*), house mouse (*Mus musculus*), harbor seal (*Phoca citulina*), raccoon (*Procyon lotor*), western harvest mouse (*Reithrodontomys megalotis limicola*), California ground squirrel (*Spermophilus beechyi*), Audubon's cottontail (*Sylvilagus audubonii*), brush rabbit (*Sylvilagus bachmani*), Botta's pocket gopher (*Thomomys bottae*) and California sea lion (*Zalophus californianus*).

Reptiles and Amphibians

Herpetofauna observed in the proposed program area include California toad (*Anaxyrus boreas halophilus*), garden slender salamander (*Batrachoseps major major*), southern alligator lizard (*Elgaria multicarinata*), California kingsnake (*Lampropeltis californiae*), gopher snake (*Pituophis catenifer*), western fence lizard (*Sceloporus occidentalis*), Baja California treefrog (*Pseudacris hypochondriaca*) and side-blotched lizard (*Uta stansburiana*).

Marine Fish

Marine fish observed in the proposed program area include topsmelt (*Atherinops affinis*), arrow goby (*Clevelandia ios*), California killifish (*Fundulus parvipinnis*), staghorn sculpin (*Leptocottus armatus*), striped mullet (*Mugil cephalus*), bay pipefish (*Synganthus leptorhynchus*), and round sting ray (*Urobatis haleri*). In addition, northern anchovy (*Engraulis mordax*), Pacific sardine (*Sardinops sagax*), Pacific mackerel (*Scomber japonicas*), and jack mackerel (*Trachurus symmetricus*), are common in nearshore ocean waters and could swim into the channels in the Project area.

3.3.2.7 Sensitive Natural Communities

Sensitive natural communities are of limited distribution statewide or within a county or region. These communities may or may not contain special-status species or their habitat, and are independently considered sensitive by CDFW. For purposes of this PEIR, sensitive natural communities include vegetation communities identified in the List of Natural Communities with Holland Types (CDFW 2018a) with a CNDDB state rank of S1, S2, or S3, as provided in **Table 3.3-8**, *Sensitive Natural Communities Observed within the Los Cerritos Wetlands Program Area*.

TABLE 3.3-8
SENSITIVE NATURAL COMMUNITIES OBSERVED WITHIN THE LOS CERRITOS WETLANDS PROGRAM AREA

Sensitive Natural Community	CNDDB State Rank	South Area	Isthmus Area	Central Area	North Area
Anemopsis californica – Helianthus nuttallii – Solidago spectabilis Herbaceous Alliance	S2			X	
Arthrocnemum subterminale Herbaceous Alliance	S3	X	X	X	X
Baccharis salicina Provisional Shrubland Alliance	S2		X		X
Cressa truxillensis – Distichlis spicata Herbaceous Alliance	S2	X	X	X	X
Frankenia salina Herbaceous Alliance	S3	X	X	X	X
Isocoma menziesii Shrubland Alliance	S3	X	X	X	X
Leymus cinereus – Leymus triticoides Herbaceous Alliance	S3			X	
Salicornia pacifica Herbaceous Alliance	S3	X	X	X	X
Salix gooddingii Woodland Alliance	S3			X	X
Schoenoplectus californicus – Typha (*angustifolia*, *domingensis*, *latifolia*) Herbaceous Alliance	S3			X	
Schoenoplectus californicus (*acutus*, *californicus*) Herbaceous Alliance	S3			X	
Spartina foliosa Herbaceous Alliance	S3.2				X

CNDDB State Rank

S1: Critically Imperiled – Critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.

S2: Imperiled – Imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state. S3: Vulnerable -– Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

S3: Vulnerable –– Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

3.3.2.8 Potential Environmentally Sensitive Habitat Areas

The proposed program has the potential to impact areas that could potentially meet the definition for ESHA as defined under the CCA. The CCA protects important coastal biological resources

including wetlands, riparian habitats, and other areas defined as ESHA by the CCC in accordance with the CCA. The CCA Section 30107.5 defines an ESHA as:

> *"… any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments."*

For purposes of this PEIR, criteria used to determine extent of potential ESHA are as follows:

- The habitat consists of predominantly native vegetation that supports or is likely to support state- or federally listed threatened or endangered animal species, California Fully Protected species, or other special-status animal species (e.g., listed by CDFW as Species of Special Concern or have a CNDDB state rank of S1, S2, or S3);
- The habitat consists of predominantly native vegetation that supports or is likely to support state- or federally listed threatened or endangered plant species or species designated as 1B or 2B by the CRPR; or
- The native vegetation alliance has a rarity ranking of S1, S2, or S3 by the CNDDB.

Based on the criteria identified above, the habitats listed below have been documented in the proposed program area and have the potential to be considered ESHA, because of their potential to support one of more of the following special-status species: western snowy plover, American peregrine falcon, white-tailed kite, Belding's savannah sparrow, least Bell's vireo, California least tern, Pacific green sea turtle, Coulter's goldfields, estuary seablite and southern tarplant.

- *Anemopsis californica – Helianthus nuttallii – Solidago spectabilis* Herbaceous Alliance (S2)
- *Arthrocnemum subterminale* Herbaceous Alliance (S2)
- *Baccharis salicina* Provisional Shrubland Alliance (S2)
- *Cressa truxillensis – Distichlis spicata* Herbaceous Alliance (S2)
- *Distichlis littoralis* Herbaceous Alliance (SNR)
- *Distichlis spicata* Herbaceous Alliance (S4)
- *Frankenia salina* Herbaceous Alliance (S3)
- *Isocoma menziesii* Shrubland Alliance (S3)
- *Leymus cinereus – Leymus triticoides* Herbaceous Alliance (S3)
- *Salicornia pacifica* Herbaceous Alliance (S3)
- *Salix gooddingii* Woodland Alliance (S3)
- *Schoenoplectus californicus – Typha (angustifolia, domingensis, latifolia)* Herbaceous Alliance (S3)
- *Schoenoplectus californicus* (*acutus, californicus*) Herbaceous Alliance (S3)
- *Spartina foliosa* Herbaceous Alliance (S3.2)
- *Ulva lactuca* algal mat (SNR)
- Tidal channel

- Unvegetated salt flat
- Unvegetated tidal flat

Table 3.3-9, *Potential Environmentally Sensitive Areas*, provides a summary of potential ESHA's within the proposed program area that have been confirmed based on various field surveys, as well as unconfirmed ESHA areas that have the potential to be present based on the presence of habitat characteristics and the potential for special-status species to be present, but were not surveyed. Furthermore, **Figure 3.3-3a**, *Environmentally Sensitive Habitat Areas – South Area*, through **Figure 3.3-3d**, *Environmentally Sensitive Habitat Areas – North Area*, depicts the extent of ESHA within the proposed program area.

TABLE 3.3-9
POTENTIAL ENVIRONMENTALLY SENSITIVE AREAS

ESHA Classification	South (acre)	Isthmus (acre)	Central (acre)	North (acre)	Total (acre)
Potential ESHA (confirmed)	69.64	17.20	69.09	43.03	**198.96**
Potential ESHA (unconfirmed)	54.39	0	0	2.68	**57.07**
Total	**124.03**	**17.20**	**69.09**	**45.71**	**256.03**

3.3.2.9 Critical Habitat/Essential Fish Habitat

The United States Fish and Wildlife Service (USFWS) has not designated critical habitat for any species listed as threatened or endangered within any portions of the proposed program area. Essential Fish Habitat (EFH), which is regulated by the National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) and includes bay, estuarine, and eelgrass habitats (Habitats of Particular Concern [HAPC]) occurs in the North Area (Steamshovel Slough), Central Area (San Gabriel River), and South Area (Haynes Cooling Channel) (Tidal Influence 2012). Eelgrass, which is a food source for the federally-threatened Pacific green sea turtle, is considered a HAPC for this species. Conversely, the San Gabriel River and Haynes Cooling Channel do have connectivity with open water or marshes and provide movement corridors to fish, marine mammals, and reptiles; therefore, these waters provide EFH.

3.3.2.10 Potential Jurisdictional Resources

The South, Isthmus, Central, and North Areas each contain aquatic resources that potentially meet the definition of waters of the United States pursuant to Clean Water Act (CWA) Section 404. All potential waters of the United States associated with the individual areas are also considered waters of the state, and impacts would require a Water Quality Certification from the RWQCB pursuant to CWA Section 401. There does ~~are~~ not appear to be any "isolated" or "non-federal" waters that would be subject to waste discharge requirements under the Porter Cologne Water Quality Control Act (GLA 2017b, CRC 2019); however, this will be verified at the project-level for each restoration area in accordance with Mitigation Measure BIO-10.



SOURCE: Mapbox, LCWA, CRC

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Figure 3.3-3a
Environmentally Sensitive Habitat Areas
South Area

ESA



SOURCE: Mapbox, LCWA, CRC

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Figure 3.3-3b
Environmentally Sensitive Habitat Areas
Isthmus Area

ESA

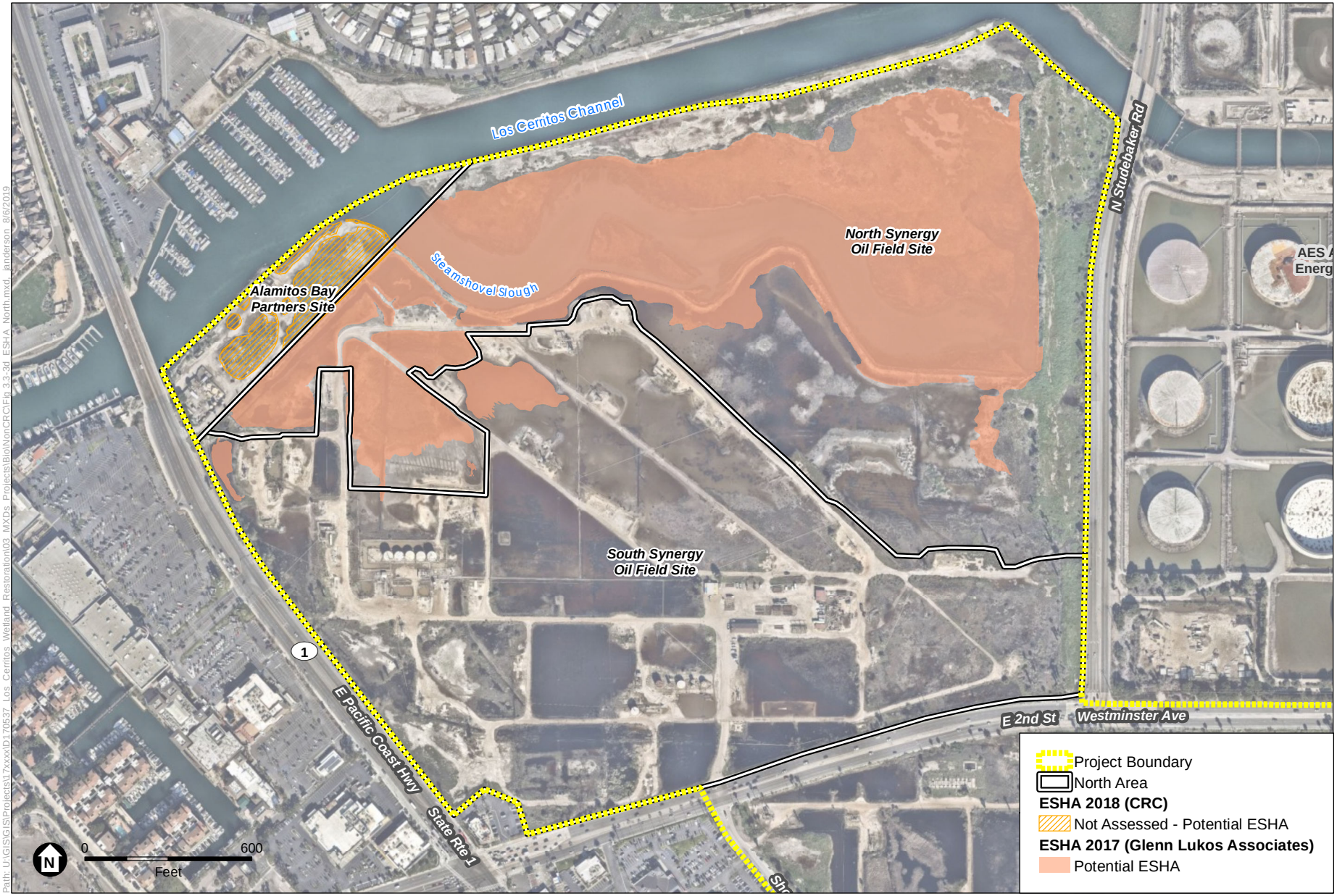


SOURCE: Mapbox, LCWA, CRC

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Figure 3.3-3c
Environmentally Sensitive Habitat Areas
Central Area

ESA



SOURCE: Mapbox, LCWA, CRC, Glenn Lukos Associates

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Figure 3.3-3d
Environmentally Sensitive Habitat Areas
North Area

ESA

CDFW has not published specific guidance for delineating jurisdictional features within tidally influenced waters and habitats. The limits of potential CDFW jurisdiction within the program area were mapped to include open water and linear waters features, as well as the surrounding vegetation which "occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself" (CDFG ESD 1994). Therefore, all channels, sloughs and open water were mapped as potential CDFW jurisdictional areas, as well as the vegetation communities surrounding these waters that were determined to occur in the program area due to the presence and proximity of the waters. ~~For the purposes of this PEIR, potential CDFW jurisdictional areas are synonymous with CCC wetlands in the program area.~~

The CCC has defined wetlands using the presence of a single criteria/parameter (i.e., wetland vegetation or hydric soils or wetland hydrology) as sufficient to make a presumptive finding for the presence of wetlands. As such, wetlands defined under the CCC are more extensive in the non-tidal areas of the site as compared to potential waters of the United States.

Portions of the South, Central, and North Areas are subject to Rivers and Harbors Act Section 10, and all four areas include "streams" potentially subject to CDFW jurisdiction pursuant to California Fish and Game Code Section 1602 and potential CCC wetlands pursuant to the CCA.

A summary of the jurisdictional resources is provided below for each area determined partially by on the results of a jurisdictional delineation and partially by the results of a jurisdictional assessment based on vegetation communities and hydrology (GLA 2017b, CRC 2019 [Appendix C1]). **Table 3.3-10**, *Potential Jurisdictional Waters within the Program Area*, provides a summary of potential federal jurisdictional waters which include those regulated by the USACE and RWQCB as well as potential state jurisdictional waters which include those regulated by CDFW and CCC.

TABLE 3.3-10
POTENTIAL JURISDICTIONAL WATERS WITHIN THE PROGRAM AREA

Program Area	Potential Federal Jurisdictional Waters (acres)	Potential Section 10 Waters (acres)	Potential State Jurisdictional Waters (acres)	Potential CCC Jurisdictional Waters (acres)
South Area	52	47	54	54
Isthmus Area	9	0	11	12
Central Area	68	10	70	70
North Area	41	6	100	101
Total	**170**	**63**	**235**	**237**

Potential Federal Jurisdictional Waters

Areas potentially subject to USACE and RWQCB jurisdiction (waters of the United States and state-regulated waters, respectively) pursuant to CWA Sections 404 and 401 occur within the South, Isthmus, Central, and North Areas. Potential federal jurisdictional waters within the program area includes 170 acres. **Figure 3.3-4a**, *Potential Federal Jurisdictional Waters – South Area*, through

Figure 3.3-7b, *Potential State Jurisdictional Waters – North Area*, depict the extent of potential federal jurisdictional waters in the program area. Approximately 57 acres were not assessed due to inaccessibility but may contain potentially jurisdictional waters of the United States.

The extent of potential state and CCC jurisdictional areas within the program area is shown in Figures 3.3-4a through 3.3-7b and is described below in its respective section.

USACE Section 10 Waters

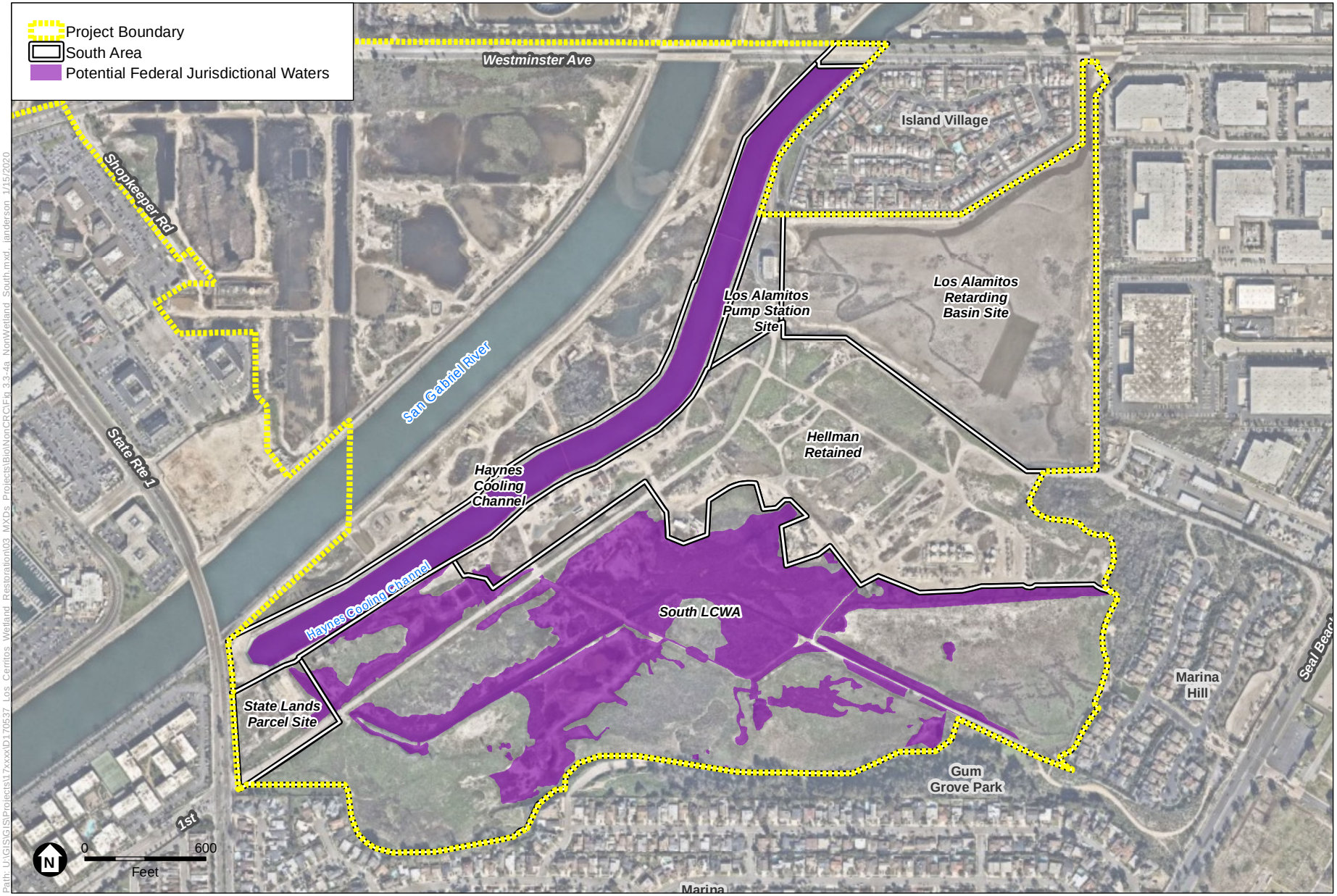
The program area contains 63 acres that are potentially subject to USACE jurisdiction pursuant to Rivers and Harbors Act Section 10. The limits of potential Section 10 Waters are determined solely through the use of elevation data. Specifically, all areas falling below the elevation for mean high water (MHW), which is recorded at 2.12 feet National Geodetic Vertical Datum (NGVD) at this site, meet the USACE definition for "Navigable Waters" pursuant to Rivers and Harbors Act Section 10. The Los Alamitos Retarding Basin site, Haynes Cooling Channel, San Gabriel River and Steamshovel Slough comprise the majority of areas identified as Section 10 Waters based on elevation alone.

Potential State Jurisdictional Waters

Areas potentially subject to CDFW ~~and CCC~~ jurisdiction associated with the program area are limited to tidal channels and associated herbaceous riparian/wetland habitat within the South, Isthmus, Central and North Areas. Potential state jurisdictional waters within the program area includes 234 acres (Figures 3.3-4a through 3.3-7b). It should be noted that approximately 57 acres were not assessed due to inaccessibility but may contain potentially state jurisdictional waters based on review of aerial imagery (Google Earth Pro, 2019). These areas occur in the South Area, predominantly within the Hellman Retained site, some of which is disturbed, as well as the Los Alamitos Retarding Basin site. These unassessed areas are depicted in Figure 3.3-4b. ~~Also, for this PEIR, mud flats are included in areas identified as tidal waters and are considered wetlands under the CCA definition.~~

Potential CCC Jurisdictional Waters

Areas potentially subject to CCC jurisdiction include areas that are potentially federally and/or state jurisdictional, as well as areas that have a single criterion/parameter (i.e., wetland vegetation or hydric soils or wetland hydrology). Potential CCC jurisdictional waters within the program area includes 237 acres (Figures 3.3-4b, 3.3-5b, 3.3-6b and 3.3-7b). Also, for this PEIR, mud flats are included in areas identified as tidal waters and are considered wetlands under the CCA definition.

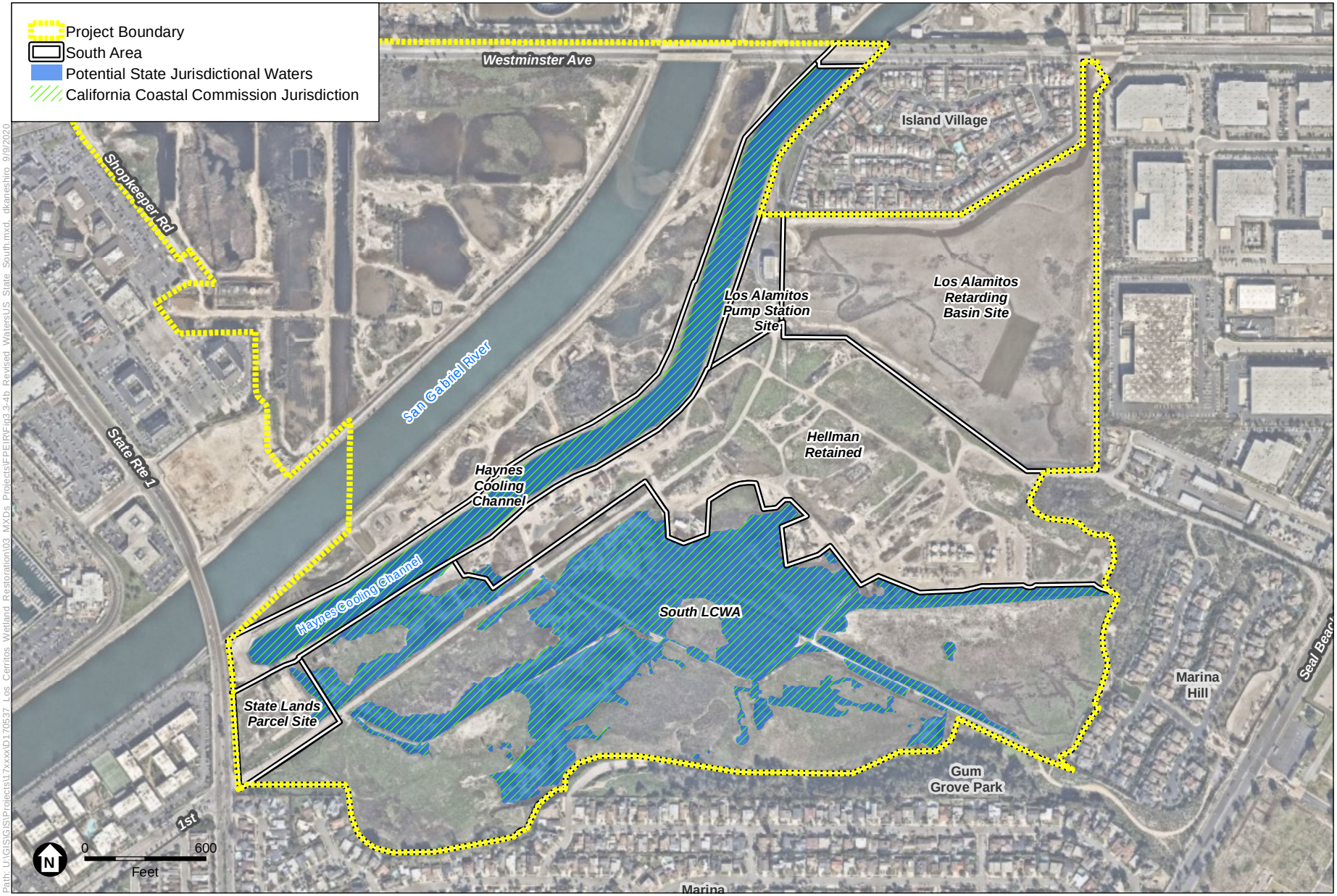


SOURCE: Mapbox, LCWA, Coastal Restoration Consultants

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Figure 3.3-4a
Potential Federal Jurisdictional Waters
South Area

ESA



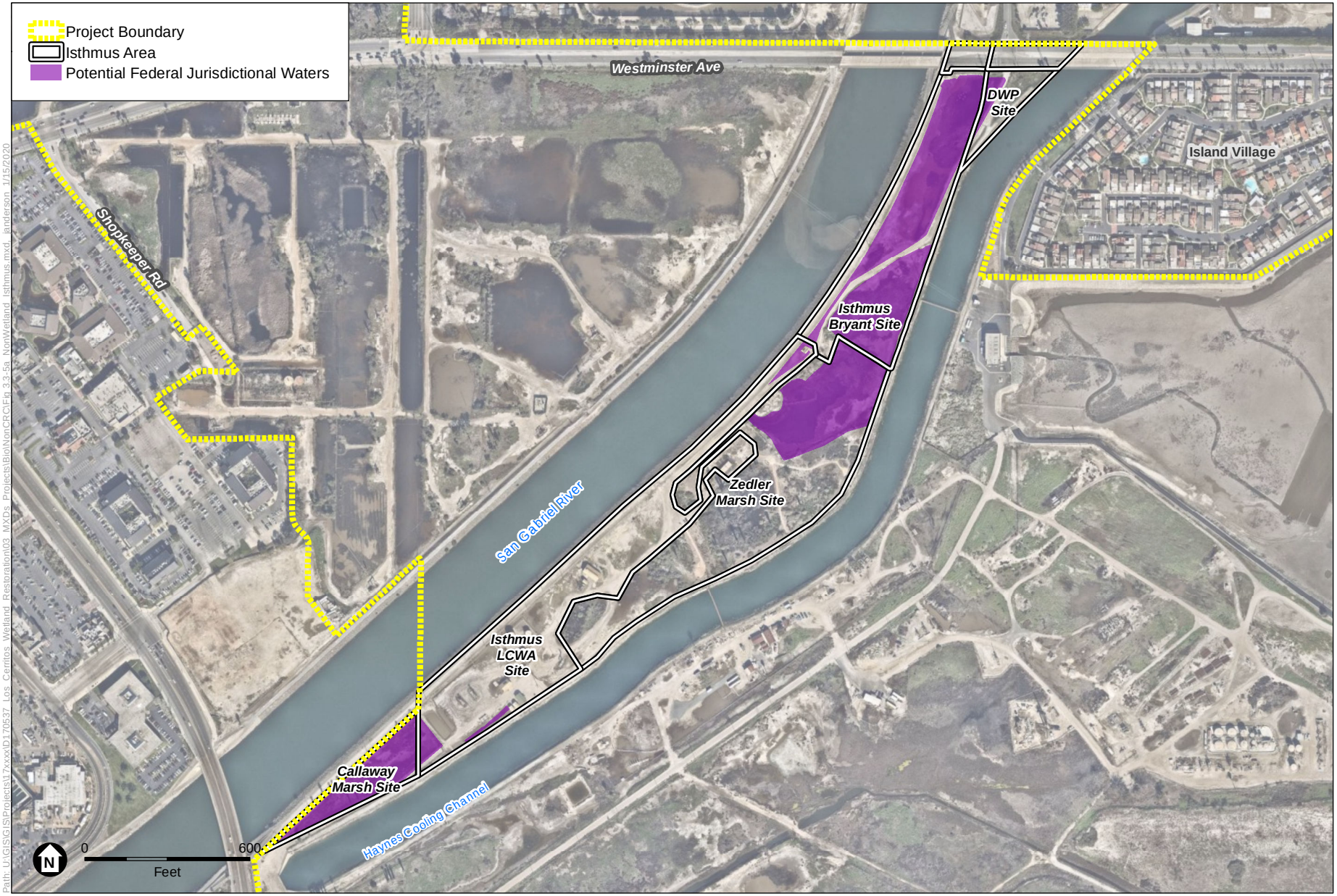
SOURCE: Mapbox, LCWA, Coastal Restoration Consultants

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Figure 3.3-4b

Revised Potential State Jurisdictional Waters
South Area

ESA



SOURCE: Mapbox, LCWA, Coastal Restoration Consultants

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Figure 3.3-5a
Potential Federal Jurisdictional Waters
Isthmus Area

ESA



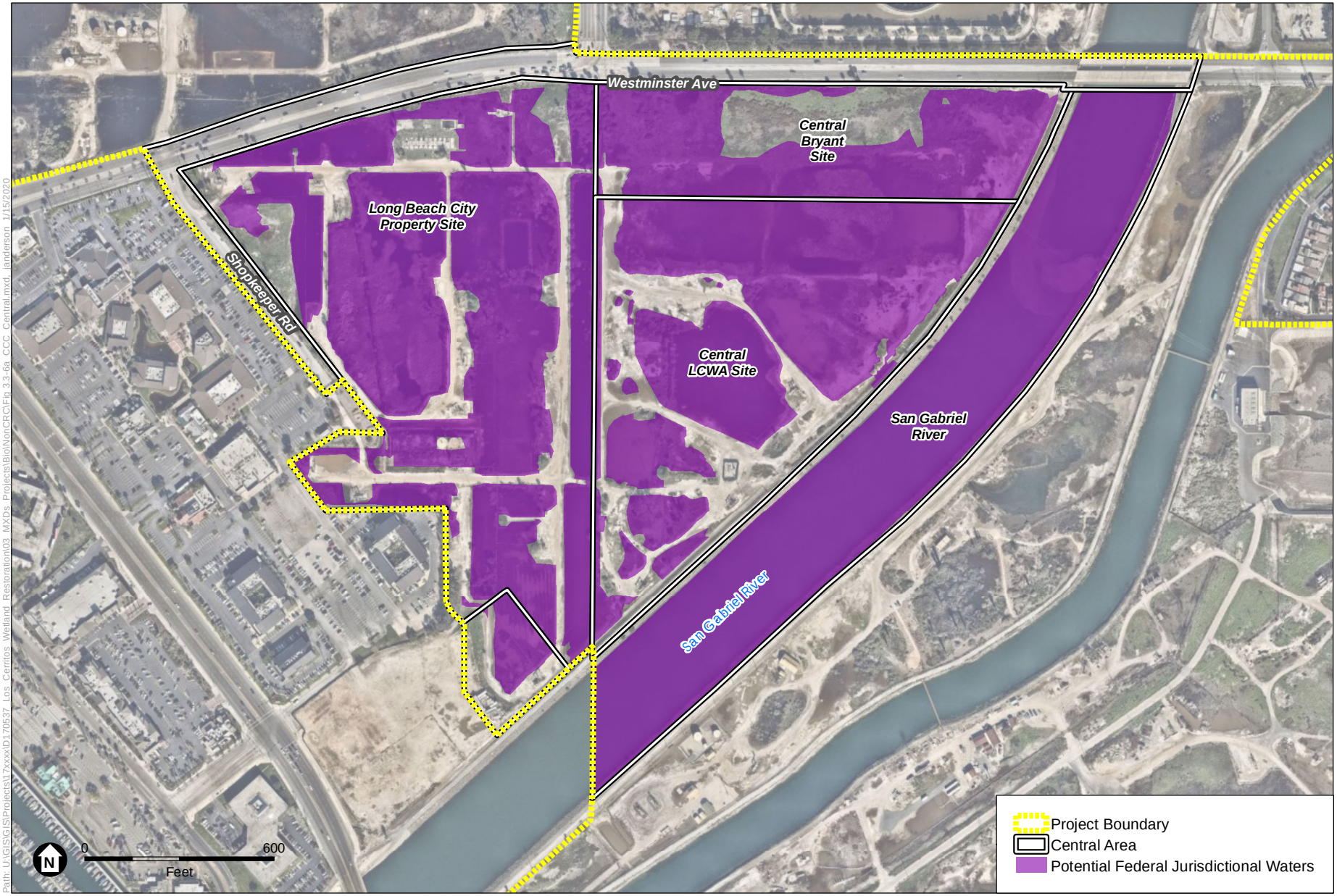
SOURCE: Mapbox, LCWA, Coastal Restoration Consultants

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Figure 3.3-5b

Revised Potential State Jurisdictional Waters
Isthmus Area

ESA

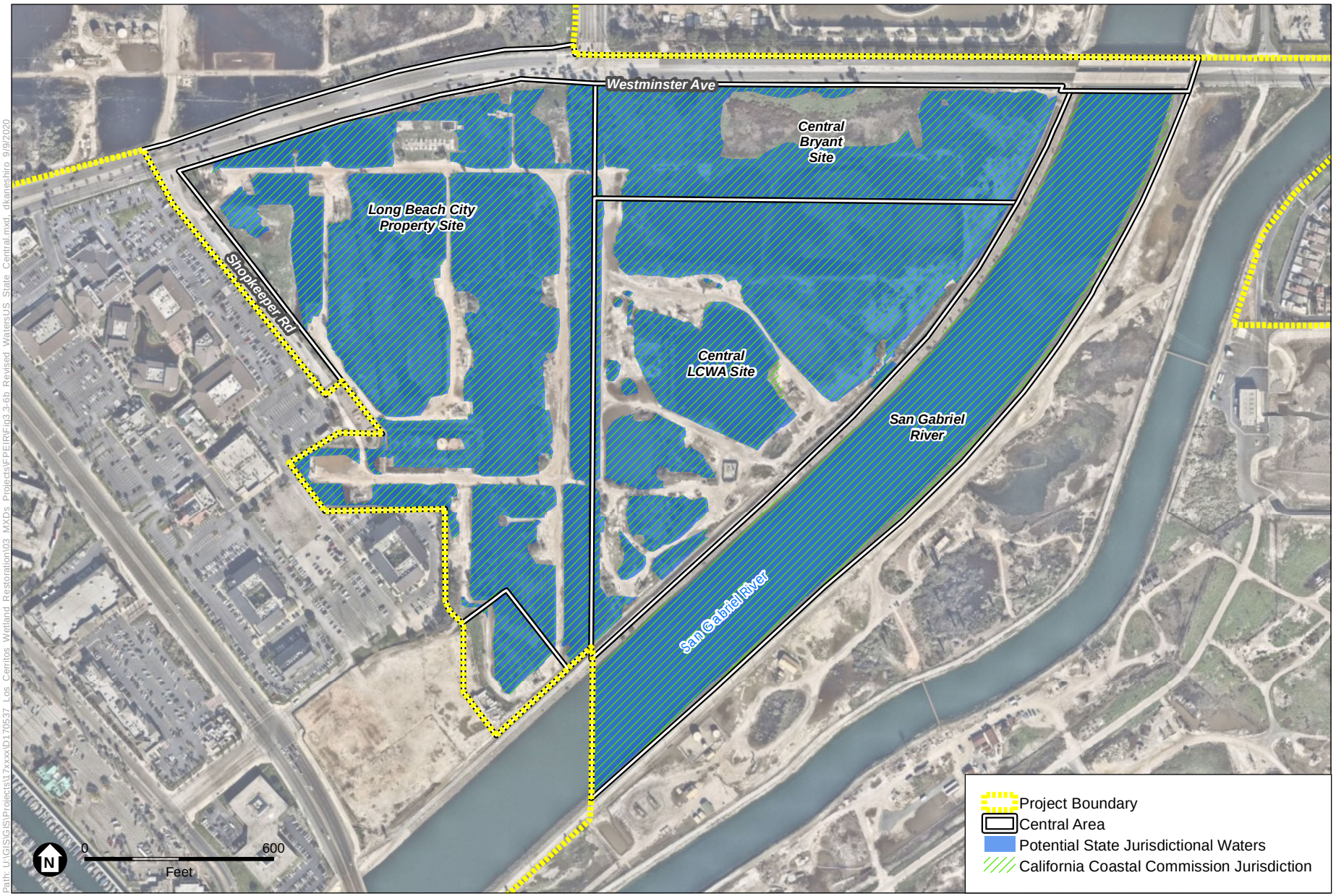


SOURCE: Mapbox, LCWA, Coastal Restoration Consultants, Glenn Lukos Associates

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Figure 3.3-6a
Potential Federal Jurisdictional Waters
Central Area

ESA



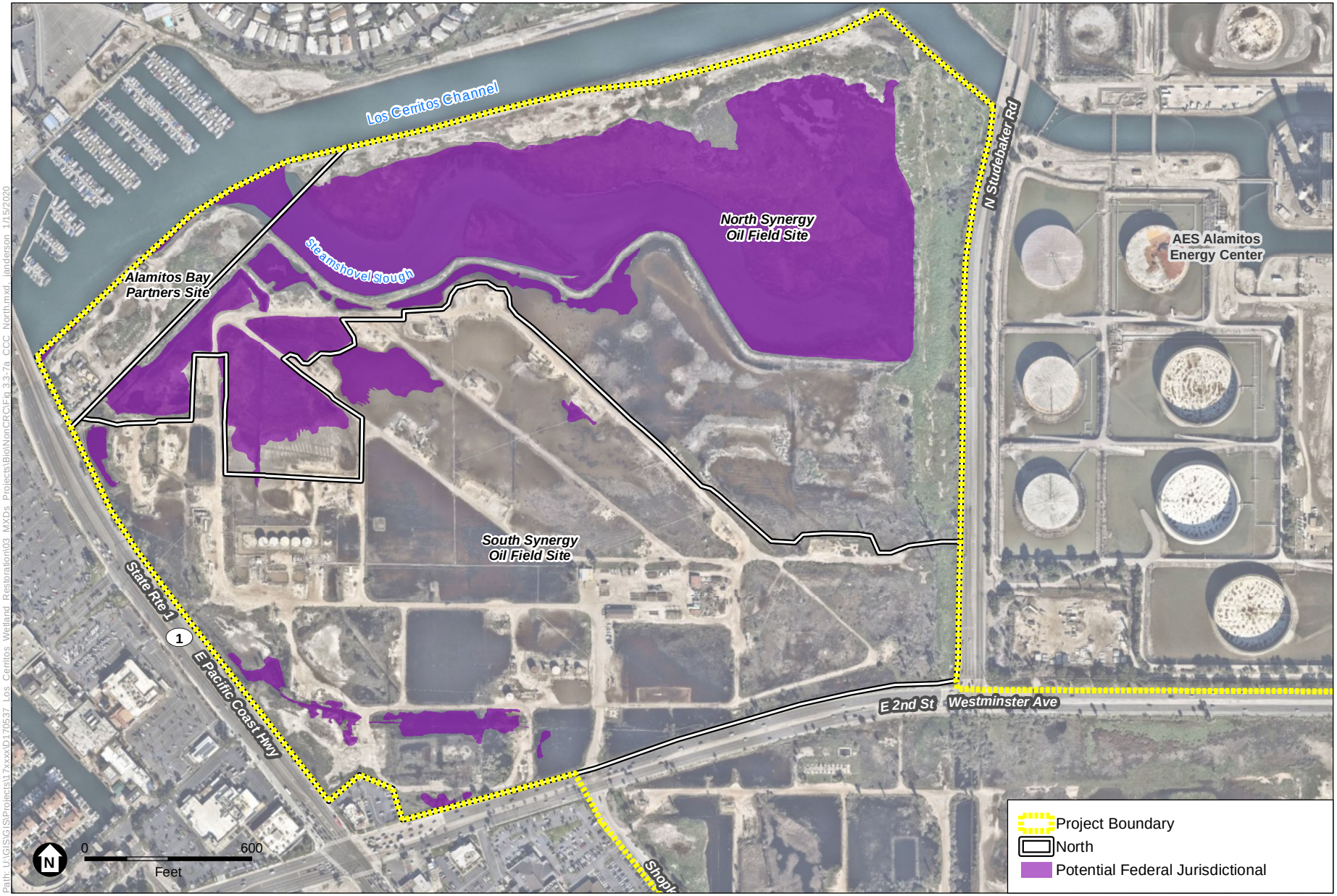
SOURCE: Mapbox, LCWA, Coastal Restoration Consultants

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Figure 3.3-6b

Revised Potential State Jurisdictional Waters
Central Area

ESA

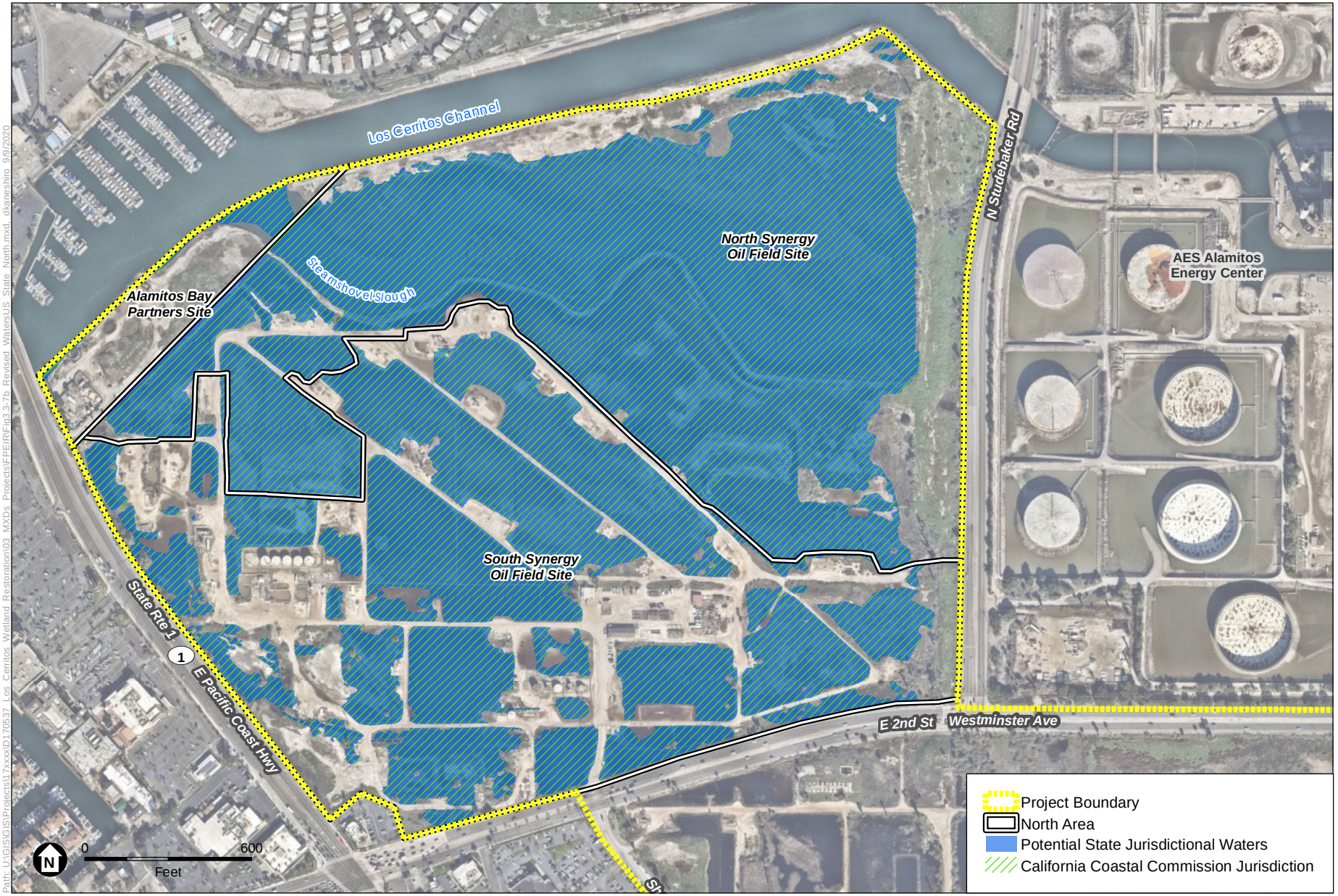


SOURCE: Mapbox, LCWA, Coastal Restoration Consultants, Glenn Lukos Associates

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Figure 3.3-7a
Potential Federal Jurisdictional Waters
North Area

ESA



SOURCE: Mapbox, LCWA, Coastal Restoration Consultants, Glenn Lukos Associates

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Figure 3.3-7b

Revised Potential State Jurisdictional Waters
North Area

ESA

3.3.3 Regulatory Framework

3.3.3.1 Federal

Endangered Species Act (USC Title 16, Sections 1531 through 1543)

The purpose of FESA and subsequent amendments is to protect and recover imperiled species and the ecosystems upon which they depend. FESA is administered by the USFWS and the Commerce Department's NMFS. USFWS has primary responsibility for terrestrial and freshwater organisms, while the responsibilities of NMFS are mainly marine wildlife such as whales and anadromous fish such as salmon. Under FESA, species may be listed as either endangered or threatened. "Endangered" means a species is in danger of extinction throughout all or a significant portion of its range. "Threatened" means a species is likely to become endangered within the foreseeable future. Under provisions of FESA Section 9(a)(1)(B), it is unlawful to "take" any listed species. "Take" is defined in FESA Section 3(18): "… harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

FESA Section 7 stipulates that any federal action that may affect a species listed as threatened or endangered requires a formal consultation with USFWS/NMFS to ensure that the action is not likely to jeopardize the continued existence of the listed species or result in destruction or adverse modification of designated critical habitat. 16 United States Code (USC) 1536(a)(2).

FESA Section 10 provides the basis for non-federal entities to obtain take authorization. For those actions for which no federal nexus exists, non-federal entities that wish to conduct otherwise lawful activities that may incidentally result in the take of a listed species must first obtain a Section 10 permit from USFWS/NMFS. The non-federal entity is required to develop a Habitat Conservation Plan (HCP) as part of the permit application process. Upon development of an HCP, the USFWS/NMFS can issue incidental take permits for listed species where the HCP specifies, at minimum, the following: (1) the level of impact that will result from the taking, (2) steps that will minimize and mitigate the impacts, (3) funding necessary to implement the plan, (4) alternative actions to the taking considered by the applicant and the reasons why such alternatives were not chosen, and (5) such other measures that the Secretary of the Interior may require as being necessary or appropriate for the plan.

In addition to the prohibitions on the take of listed species, USFWS/NMFS are also required to designate areas of "Critical Habitat" for species listed under FESA. FESA defines critical habitat as "the specific areas within the geographical area occupied by the species, at the time it is listed, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and specific areas outside the geographical area occupied by the species at the time it is listed that are determined by the Secretary to be essential for the conservation of the species."

Marine Mammal Protection Act (16 USC 31)

The MMPA prohibits, with certain exceptions, the "take" of marine mammals in United States waters and by United States citizens on the high seas, and the importation of marine mammals and marine mammal products into the United States.

Jurisdiction for MMPA is shared by USFWS and the NMFS. The USFWS's Branch of Permits is responsible for issuing take permits when exceptions are made to MMPA.

Migratory Bird Treaty Act (16 USC Sections 703 through 711)

The Migratory Bird Treaty Act (MBTA) is the domestic law that affirms, or implements, a commitment by the United States to four international conventions (with Canada, Mexico, Japan, and Russia) for the protection of a shared migratory bird resource. The MBTA makes it unlawful at any time, by any means, or in any manner to pursue, hunt, take, capture, or kill migratory birds. The law also applies to the removal of nests occupied by migratory birds during the breeding season. The MBTA makes it unlawful to take, pursue, molest, or disturb these species, their nests, or their eggs anywhere in the United States.

Fish and Wildlife Coordination Act (16 USC Sections 661–666c)

The Fish and Wildlife Coordination Act (FWCA) authorizes the Secretaries of Agriculture and Commerce to provide assistance to and cooperate with federal and state agencies to protect, rear, stock, and increase the supply of game and fur-bearing animals, as well as to study the effects of domestic sewage, trade wastes, and other polluting substances on wildlife. The amendments enacted in 1946 require consultation with USFWS and the fish and wildlife agencies of states where the "waters of any stream or other body of water are proposed or authorized, permitted or licensed to be impounded, diverted … or otherwise controlled or modified" by any agency under a federal permit or license. Consultation is to be undertaken for the purpose of "preventing loss of and damage to wildlife resources." The 1958 amendments expanded the instances in which diversions or modifications to water bodies would require consultation with USFWS. These amendments permitted lands valuable to the Migratory Bird Management Program to be made available to the state agency exercising control over wildlife resources.

Magnuson-Stevens Fishery Conservation and Management Act (16 USC Sections 1801 et seq.)

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) is the primary law governing marine fisheries management in United States federal waters. Magnuson-Stevens Act Section 305(b), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-297), requires federal agencies to consult with NMFS on activities that may adversely affect EFH for species that are managed under federal fishery management plans in United States waters. The statutory definition of EFH includes those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity, which encompasses all physical, chemical, and biological habitat features necessary to support the entire life cycle of the species in question.

Federal Clean Water Act (33 USC 1251 through 1376) Sections 401 and 404

The CWA provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. Section 401 requires the Applicant to obtain a federal license or permit that allows activities resulting in a discharge to waters of the United States to

obtain state certification, thereby ensuring that the discharge will comply with provisions of the CWA. Section 404 establishes a permit program administered by the USACE that regulates the discharge of dredged or fill material into waters of the United States, including wetlands.

Federal Clean Water Rule

In 2015, the USACE and the United States Environmental Protection Agency (USEPA) issued the Clean Water Rule detailing the process for determining CWA jurisdiction over waters of the United States (WOTUS) (USACE 2015). The rule is currently in effect in California and 21 other states. The 2015 Clean Water Rule includes a detailed process for determining which areas may be subject to jurisdiction under the Clean Water Act, and broadly classifies features into three categories: those that are jurisdictional by rule (Category A below), those that excluded by rule (Category C below) and those features that require a "significant nexus test" (Category B below).

The significant nexus test includes consideration of hydrologic and ecologic factors. For circumstances such as those described in Category B below, the significant nexus test would take into account physical indicators of flow (evidence of an ordinary high water mark [OHWM]), if a hydrologic connection to a Traditionally Navigable Water (TNW) exists, and if the aquatic functions of the water body have a significant effect (more than speculative or insubstantial) on the chemical, physical, and biological integrity of a TNW. The USACE and USEPA will apply the significant nexus standard to assess the flow characteristics and functions of a potential WOTUS to determine if it significantly affects the chemical, physical, and biological integrity of the downstream TNW.

Wetlands (including swamps, bogs, seasonal wetlands, seeps, marshes, and similar areas) are also considered WOTUS and are defined by USACE as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3[b]; 40 CFR 230.3[t]). Indicators of three wetland parameters (i.e., hydric soils, hydrophytic vegetation, and wetlands hydrology), as determined by field investigation, must be present for a site to be classified as a wetland by USACE (Environmental Laboratory 1987).

2015 Clean Water Rule Key Points Summary

(A) The USACE and USEPA will assert jurisdiction over the following waters (jurisdictional by rule):

- TNWs.
- Interstate waters and wetlands.
- Territorial seas.
- Impoundments of waters (reservoirs, etc.).
- Tributaries with the following attributes:
  - Contributes flow to a TNW.
  - Contain bed, banks, and ordinary high water mark.
  - Can be natural, man-altered, or man-made.

  - Can have constructed breaks (culverts, pipes, etc.) or natural breaks.
- Waters "adjacent" to TNW and their tributaries, including:
  - Waters that are bordering, contiguous, or neighboring a TNW, interstate water, territorial sea, impoundment, or tributary. Includes waters separated from other ''waters of the United States'' by constructed dikes or barriers, natural river berms, beach dunes, or similar.
  - Waters within 100 feet of the OHWM of a TNW, interstate water, territorial sea, impoundment, or tributary.
  - Waters within the 100-year floodplain and within 1,500 feet of a TNW, interstate water, territorial sea, impoundment, or tributary.
  - Waters within 1,500 feet of the high tide line or OHWM of a TNW or territorial sea.

(B) The USACE and USEPA will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a TNW unless excluded by rule (significant nexus test):

- Vernal pools that have a significant nexus to a TNW or territorial sea.
- Waters within the 100-year floodplain of a TNW, interstate water or territorial sea.
- Waters within 4,000 feet of the high tide line or OHWM of a TNW, interstate water, territorial sea, impoundment or tributary.

(C) The USACE and USEPA will not assert jurisdiction over the following features (excluded by rule):

- Waste treatment facilities including basins and percolation ponds.
- Prior converted cropland.
- The following types of ditches:
  - Ephemeral ditches that are not a relocated tributary or excavated in a tributary.
  - Intermittent ditches that are not a relocated tributary, excavated in a tributary, or drain wetlands.
  - Ditches that do not flow, either directly or through another water, into a TNW, interstate waters, territorial sea.
- Artificially irrigated areas that would revert to upland.
- Artificial, constructed lakes and ponds created in dry land such as stock watering ponds, irrigation ponds, settling basins, fields flooded for rice growing, cooling ponds
- Swimming pools or reflecting pools in dry land.
- Small ornamental waters created in dry land.
- Water-filled depressions created in dry land from mining or construction activities including pits for fill, sand, or gravel.
- Erosional features including gullies and rills that are not tributaries, non-wetland swales and constructed grass waterways.
- Puddles.

- Groundwater.
- Storm water control features created in dry land.
- Wastewater recycling structures created in dry land, including detention and retention basins, groundwater recharge basins, percolation ponds, and water distributary structures.
- USACE and the USEPA have issued a set of guidance documents detailing the process for determining Clean Water Act (CWA) jurisdiction over waters of the United States following the 2008 Rapanos decision. The USEPA and USACE issued a summary memorandum of the guidance for implementing the Supreme Court's decision in Rapanos that addresses the jurisdiction over waters of the United States under the CWA. The complete set of guidance documents, summarized as key points below, were used to collect relevant data for evaluation by the USEPA and the USACE to determine CWA jurisdiction over the proposed program and to complete the "significant nexus test" as detailed in the guidelines.
- Section 401 of the CWA gives the state authority to grant, deny, or waive certification of proposed federally licensed or permitted activities resulting in discharge to waters of the United States. The State Water Resources Control Board (State Water Board) directly regulates multi-regional projects and supports the Section 401 certification and wetlands program statewide. The Regional Water Quality Control Board (RWQCB) regulates activities pursuant to Section 401(a)(1) of the federal CWA, which specifies that certification from the state is required for any applicant requesting a federal license or permit to conduct any activity including but not limited to the construction or operation of facilities that may result in any discharge into navigable waters. The certification shall originate from the state or appropriate interstate water pollution control agency in/where the discharge originates or will originate. Any such discharge will comply with the applicable provisions of Sections 301, 302, 303, 306, and 307 of the CWA.
- The significant nexus test includes consideration of hydrologic and ecologic factors. For circumstances such as those described in point B below, the significant nexus test would take into account physical indicators of flow (evidence of an ordinary high water mark [OHWM]), if a hydrologic connection to a Traditionally Navigable Water (TNW) exists, and if the aquatic functions of the water body have a significant effect (more than speculative or insubstantial) on the chemical, physical, and biological integrity of a TNW. The USACE and USEPA will apply the significant nexus standard to assess the flow characteristics and functions of the tributary drainage to determine if it significantly affects the chemical, physical, and biological integrity of the downstream TNW.
- Wetlands (including swamps, bogs, seasonal wetlands, seeps, marshes, and similar areas) are also considered waters of the United States and are defined by USACE as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3[b]; 40 CFR 230.3[t]). Indicators of three wetland parameters (i.e., hydric soils, hydrophytic vegetation, and wetlands hydrology), as determined by field investigation, must be present for a site to be classified as a wetland by USACE (Environmental Laboratory 1987).

Rapanos Guidance Key Points Summary

(A) The USACE and USEPA will assert jurisdiction over the following waters:

- TNWs

- Wetlands adjacent to TNWs
- Non-navigable tributaries of TNWs that are relatively permanent (flows three months or longer)
  - Wetlands that abut such tributaries

(B) The USACE and USEPA will decide jurisdiction over the following waters based on whether they have a significant nexus with a TNW:

- Non-navigable tributaries that are not relatively permanent
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent
- Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary

(C) The USACE and USEPA will not assert jurisdiction over the following waters:

- Swales or erosional features (gullies, small washes characterized by low volume, infrequent, or short-duration flow)
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water

Rivers and Harbor Act of 1899 Section 10

Section 10 of the Rivers and Harbors Act of 1899 requires that regulated activities conducted below the ordinary high water (OHW) elevation of navigable waters of the United States be approved/permitted by the USACE. Regulated activities include placement and removal of structures, work involving dredging, disposal of dredged material, filling, excavation, or any other disturbance of soils/sediments or modification of a navigable waterway. Navigable waters of the United States are those that are subject to the ebb and flow of the tide shoreward to the mean high water mark and/or are presently used, or have been used in the past or may be susceptible to use to transport interstate or foreign commerce. Navigable waters of the United States are not necessarily the same as state navigable waterways. Tributaries and backwater areas associated with navigable waters of the United States, and located below the OHW elevation of the adjacent navigable waterway, are also regulated under Section 10.

3.3.3.2 State

California Endangered Species Act (California Fish and Game Code Sections 2050 et seq.)

CESA establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats. For projects that would affect a listed species under both the CESA and the FESA, compliance with the FESA would satisfy the CESA if CDFW determines that the federal incidental take authorization is "consistent" with the CESA under California Fish and Game Code Section 2080.1. For projects that would result in take of a species listed under the CESA only, the Applicant would have to apply for a take permit under Section 2081(b).

California Fully Protected Species

California fully protected species are described in California Fish and Game Code Sections 3511, 4700, 5050, and 5515. These statutes prohibit take or possession of fully protected species. The CDFW is unable to authorize incidental take of fully protected species when activities are proposed in areas inhabited by those species.

California State Fish and Game Code Sections 2080 and 2081

California Fish and Game Code Section 2080 states that "No person shall import into this state [California], export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the Commission [State Fish and Game Commission] determines to be an endangered species or threatened species, or attempt any of those acts, except as otherwise provided in this chapter, or the Native Plant Protection Act, or the California Desert Native Plants Act.". Pursuant to Sections 2080.1 or 2081 of the code, CDFW may authorize individuals or public agencies to import, export, take, or possess state-listed endangered, threatened, or candidate species. These otherwise prohibited acts may be authorized through permits or Memoranda of Understanding if the take is incidental to an otherwise lawful activity, impacts of the authorized take are minimized and fully mitigated, the permit is consistent with any regulations adopted pursuant to any recovery plan for the species, and the project operator ensures adequate funding to implement the measures required by CDFW, which makes this determination based on available scientific information and considers the ability of the species to survive and reproduce.

California State Fish and Game Code Sections 3503, 3503.5, 3513, and 3800

California Fish and Game Code Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. California Fish and Game Code Section 3800 affords protection to all nongame birds, which are all birds occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds. California Fish and Game Code Section 3513 upholds the MBTA by prohibiting any take or possession of birds that are designated by the MBTA as migratory nongame birds except as allowed by federal rules and regulations promulgated pursuant to the MBTA.

California State Fish and Game Code Section 1602

Under this section of the California Fish and Game Code, a project proponent is required to notify CDFW prior to any project that would divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake.

Clean Water Act Section 401

Under CWA Section 401, the local RWQCB must certify that actions receiving authorization under CWA Section 404 also meet state water quality standards. The RWQCB requires projects to avoid impacts to wetlands if feasible and requires that projects do not result in a net loss of wetland acreage or a net loss of wetland function and values. Compensatory mitigation for impacts to wetlands and/or waters of the state is required.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (California Water Code Sections 13000–16104) (Porter-Cologne Act) provides the basis for water quality regulation within California and defines water quality objectives as the limits or levels of water constituents that are established for reasonable protection of beneficial uses. Porter-Cologne is administered by the State Water Resources Control Board (State Water Board) and nine Regional Water Quality Control Boards (RWQCBs), collectively referred to as the Water Boards. The State Water Board sets statewide water quality standards, issues statewide general permits, conducts statewide surface and groundwater monitoring and assessment, administers water rights, regulates drinking water supplies, and issues orders for cleaning up contaminated sites.

The nine semi-autonomous Regional Water Boards are responsible for setting water quality standards and objectives, issuing waste discharge requirements, determining compliance with those requirements, and taking appropriate enforcement actions. Each Water Quality Control Region is regulated through a Water Quality Control Plan, or "Basin Plan," which is updated every three years. The Basin Plans contain the regulations adopted by the Regional Water Boards to control the discharge of waste and other controllable factors affecting the quality or quantity of waters of the state. The Los Cerritos Wetlands Restoration Plan area lies on the boundary of two water quality control regions: Los Angeles and Santa Ana. This boundary is defined by the City and County line.

The Porter-Cologne Act requires the Los Angeles Regional Water Quality Control Board (LARWQCB) to establish water quality objectives, while acknowledging that water quality may be changed to some degree without unreasonably affecting beneficial uses. Beneficial uses, together with the corresponding water quality objectives, are defined as standards, per federal regulations. Therefore, the regional plans form the regulatory standards for meeting state and federal requirements for water quality control. Changes in water quality are only allowed if the change is consistent with the maximum beneficial use designated by the state, does not unreasonably affect the present or anticipated beneficial uses, and does not result in water quality less than that prescribed in the water quality control plans.

California Coastal Act

The state legislature enacted the CCA (PRC Sections 30000 et seq.) to provide for the conservation and planned development of the state's coastline. The CCA defines the "coastal zone" as the area of the state which extends 3 miles seaward and generally about 1,000 yards inland; however, the inland extent of the coastal zone can extend in certain circumstances to a maximum of 5 miles inland from mean high tide line. In developed urban areas, the coastal zone extends substantially less than 1,000 yards inland.

The CCC approves coastal development permits (CDPs) for areas within its original and retained jurisdiction, such as waters of the state and tidelands, energy projects, and federal (federally approved, conducted, or funded) projects consistent with CCA policies. Local jurisdictions may obtain permitting authority under the CCA once a local coastal program has been certified by the CCC.

Applicable CCA policies regarding biological resources include:

Section 30230. Marine resources shall be maintained, enhanced, and, where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30231. The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Section 30233. (a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

(1) New or expanded port, energy, and coastal-dependent industrial facilities, including ~~c~~ ~~ommercial~~commercial fishing facilities.

(2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.

(3) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.

(4) Incidental public service purposes, including, but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.

(5) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.

(6) Restoration purposes.

(7) Nature study, aquaculture, or similar resource-dependent activities.

(b) Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation. Dredge spoils suitable for beach replenishment should be transported for these purposes to appropriate beaches or into suitable longshore current systems.

(c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary. Any alteration of coastal wetlands identified by the Department of Fish and Game, including, but not limited to, the 19 coastal wetlands identified in its report entitled, "Acquisition Priorities for the Coastal Wetlands of California", shall be limited to very minor incidental public facilities, restorative measures, nature study, commercial fishing facilities in Bodega Bay, and development in already developed parts of south San Diego Bay, if otherwise in accordance with this division.

For the purposes of this section, "commercial fishing facilities in Bodega Bay" means that not less than 80 percent of all boating facilities proposed to be developed or improved, where the improvement would create additional berths in Bodega Bay, shall be designed and used for commercial fishing activities.

(d) Erosion control and flood control facilities constructed on watercourses can impede the movement of sediment and nutrients that would otherwise be carried by storm runoff into coastal waters. To facilitate the continued delivery of these sediments to the littoral zone, whenever feasible, the material removed from these facilities may be placed at appropriate points on the shoreline in accordance with other applicable provisions of this division, where feasible mitigation measures have been provided to minimize adverse environmental effects. Aspects that shall be considered before issuing a coastal development permit for these purposes are the method of placement, time of year of placement, and sensitivity of the placement area.

Section 30240.

(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

3.3.3.3 Local

City of Seal Beach Municipal Code (Section 9.40)

The City of Seal Beach Public Works Department is responsible for administering Seal Municipal Code (Tree Maintenance Policy), which is to preserve and protect the community's urban forest and to promote the health and safety of City trees, from the time they are planted through maturity.

The City's Tree Maintenance Policy stipulates guidelines for planting, maintenance and removal of street trees[4] located in the public rights-of-way. A permit must be obtained from the Director of Public Works prior to removal of trees from City property.

City of Seal Beach General Plan

Hellman Ranch Specific Plan

Project goals have been established for the development of the Hellman Ranch Specific Plan that essential to achieving balance and sustainable development. These goals that are applicable to the project include:

- Maintain significant acreage for restoration/creation of wetlands and plan for long-term retention of viable wildlife habitat and biodiversity on the site.
- Create/restore a wetlands and environmental ecosystem that provides a meaningful contribution to the regional system of coastal wetlands and open space along the Pacific Flyway.

[4] Street trees are those included in the City of Long Beach's Approved Street Tree List 2012 (City of Long Beach 2017).

Open Space/Recreation/Conservation Element

A 100-acre portion of the Hellman Ranch Specific Plan area has been deed restricted for 25 years for sale at fair market value to a public agency for the purposes of wetlands restoration, open space, and environmental education purposes. The adjacent oil production property (approximately 50 acres) has been similarly restricted, although the 25-year deed-restricted time period does not commence until cessation of the oil production activities. It is the intent and goal of the City to address future uses for these areas and cooperate with the property owner, state, local, and private agencies, as well as the community, to provide the means to accomplish this goal.

City of Long Beach Municipal Code (Section 14.28)

The City of Long Beach Public Works Department is responsible for administering Long Beach Municipal Code (Tree Maintenance Policy), which is to preserve and protect the community's urban forest and to promote the health and safety of City of Long Beach trees, from the time they are planted through maturity.

The City of Long Beach's Tree Maintenance Policy stipulates guidelines for planting, maintenance and removal of street trees[5] located in the public rights-of-way. A permit must be obtained from the Director of Public Works prior to removal of trees from City of Long Beach property. The City also requires that the trees' condition be determined by a City-employed certified arborist prior to removal.

City of Long Beach General Plan

Conservation Element

Vegetation Management Goals

- To provide protective controls for lands supporting distinctive native vegetation and wildlife species that can be used for ecological, scientific and educational purposes.
- To locate, define, and protect other beneficial natural habitats in and about the City.

Wildlife Management Goals

- To promote measures and plans which protect and preserve distinctive types of wildlife including mammals, birds, marine organisms and especially endangered species.

Southeast Area Development and Improvement Plan

The Wetlands

1. The wetlands and associated habitats, and all fresh, brackish and tidal water supply and control systems, shall be constructed at the expense of the developers of Areas 11a, 25 and 26, unless otherwise provided for by agreements between landowners and the managing agency. The developer(s) of Areas 11a and 25 shall be responsible for wetlands development of Areas 23 and 33. The developer(s) of Area 26 shall be responsible for wetlands development of Area 27.

7. Owing to the need to make connections with the existing tidal marsh, the major wetlands restoration project between Los Cerritos Channel and Westminster Avenue shall be

[5] Street trees are those included in the City of Long Beach's Approved Street Tree List 2012 (City of Long Beach 2017).

accomplished at one time. Restoration of wetlands north of the Los Cerritos Channel and south of the San Gabriel River need not be accomplished concurrently with the major restoration project, or with each other. Prior to the issuance of permits for residential, commercial or industrial development, each applicant shall develop a detailed phasing plan that assures that restoration of wetlands will be completed prior to or concurrently with the completion of urban development on related parcels as specified above. Said detailed phasing plans shall be submitted for approval to the agency responsible for granting the coastal permit.

8. The standard of wetlands restoration is that it shall be completed prior to or concurrently with upland development on related areas. This standard may be satisfied by using one of the following options: (a) Percentage Option: whenever part of the development acreage is built upon, an equal percentage of the future wetland acreage will be developed as wetlands; and (b) Acre-for-Acre Option: for every acre of wetland identified for fill and/or consolidation under the Local Coastal Plan that will be covered by the development, the developer shall improve 1 acre of wetland.

9. Exceptions to this standard may arise in Areas 25, 26, and 27 where continuing oil operations and/or leasing problems may make it impossible to fulfill part of a permanent wetlands obligation in connection with upland developments. In such instances (and only in such instances), the following method of fulfilling the wetland obligation may be utilized.

    a. The developer must first develop wetlands on all areas designated for wetlands, which are not encumbered, by active oil operations and/or leases.

    b. If the full wetlands obligation is not satisfied thereby, the remainder of his obligation may be fulfilled by construction of interim wetland areas as a temporary wetlands restoration measure. If such an interim restoration alternative is needed, an interim wetlands restoration program may be developed for up to 8 acres of the total wetlands obligation for development of Parcel 26, and up to 8 acres for development of Parcel 25, where continuing oil operations and/or leasing problems may interfere with the total restoration program as set forth in the Wetlands Enhancement Plan. Such a program shall be subject to review and approval by the Executive Director of the California Coastal Commission in consultation with the Department of Fish and Game.

        This alternate interim wetlands restoration program, limited for up to 16 acres total, shall at minimum, include provisions that:

        (1) Identify location and size of affected developable areas and proposed interim wetland areas, and provide for the construction of interim wetlands equal in productivity and size to areas filled. They shall be maintained for wildlife by the developer until such time as the major restoration program can be accommodated on encumbered lands.

        (2) Provide for a monitoring system undertaken in conjunction with Department of Fish and Game, assuring biological values of the interim wetlands.

        (3) Where legally possible, place deed restrictions over the interim wetlands prohibiting development in such areas until the implementation of the primary restoration program.

        (4) Provide for the construction of the interim wetlands prior to or concurrently with the development of wetland areas of Areas 25 and 26 that cannot be directly mitigated by the acre-for-acre restoration option set forth in the land use plan.

        (5) Ensure that interim wetlands are to be viewed as temporary and shall not in any way be construed to increase the total wetland obligation within the study area. These areas may be converted to upland areas for development purposes upon completion of the primary restoration project.

(6) When sufficient on-site acreage is not available, use of off-site acreage within the San Gabriel River Wetlands system may be permitted for interim wetlands, with such location of off-site interim wetlands being subject to the approval of the Executive Director of the California Coastal Commission in consultation with the Department of Fish and Game.

10. If an owner/developer elects to utilize the temporary wetlands option to obtain permits and proceed with development, it is necessary to provide a mechanism, which will assure that monies for future construction of permanent wetlands to replace the temporary wetlands will be available when such permanent construction is imminent. This is particularly important in view of the fact that many years may separate the construction of the temporary and permanent wetlands, and that during that span of time, title may change several times and the obligation for permanent wetlands construction may become clouded or lost. Therefore, when an owner/developer utilizes the temporary wetlands option (in the limited circumstances described in #4 above), he/she must deposit monies in a Wetlands Restoration Fund, under the terms described below, (or provide other means to guarantee development of the permanent wetlands):

    a. The construction assurance funds shall be deposited at the time the developer applies for construction permits for a temporary wetlands program;

    b. The amount of the funds to be deposited shall be derived from the cost estimate referred to in Item 5c, below;

    c. The first developer shall be responsible for the preparation of construction drawings, specifications, and cost estimates for the total wetland plan in his area. Such cost estimates shall include a contingency factor, which is normal and customary in projects of this magnitude and complexity. These shall be approved by the engineer of the local jurisdiction in consultation with the Department of Fish and Game;

    d. The Wetlands Restoration Fund shall be established by the City of Long Beach when the first assurance payment is imminent. The fund shall be established in an interest-bearing account. Interest shall accrue to the account. As much as possible, the account shall be managed to earn sufficient annual interest to match the annual increases in the Consumer Price Index for Southern California. Monies shall be withdrawn from the fund to pay for the construction of permanent wetlands deferred through use of the temporary option. Any monies remaining in the fund, including interest, after all wetlands are totally restored, shall be utilized for on-going maintenance of the wetlands. When an agency or non-profit corporation accepts permanent management responsibilities of the wetlands, the Fund may be transferred to that agency or corporation.

    e. Wetlands in those areas for which assurance funds were deposited shall be developed at the first available opportunity. When an agency or non-profit corporation accepts permanent management responsibilities of the wetlands, the Fund may be transferred to that agency or corporation.

11. Overall custodial and interpretive management and financial responsibility for maintenance of Los Cerritos Wetlands shall be vested in an appropriate governmental agency or private non-profit corporation upon the initiation of the first wetlands restoration project. Prior to issuance of any permits for any projects related to wetlands construction, nomination of the managing agency shall be made by the City of Long Beach with the concurrence of the state Department of Fish and Game.

The Buffers

1. The wetlands are to be separated from urban developments by "buffers". In the context of this LCP, the buffers are treated as a part of the adjacent urban developments, as they will form a part of the amenities. Construction and maintenance of the buffers, therefore, falls entirely on the developers and their successors in interest. The reader should note that buffers are constructed only north of Westminster Avenue. The restored wetlands south of Westminster Avenue will have no buffers, owing to the fact that they will be separated from other uses by natural barriers.

7. Buffers between subareas 11a and 33 shall be created by developer(s) of 11a prior to or concurrently with development of upland areas. The berm between wetlands and development shall be created as a part of the grading operation of the wetland. If build out is phased over a period longer than two years, then the landscaping and irrigation system for the buffer can be phased with each phase of landscaping for the development with this exception; that at the beginning of each phase, prior to finish grading for that phase, a row of shrubs shall be planted at the top of the berm to offer protection during construction. Provisions must be made to deny public access to all portions of areas not included in the current building program. Design of the buffers must conform to the standards set forth in the certified Local Coastal Plan for the Los Cerritos Wetlands.

8. If urban development remains the property of landowners and/or developers, they shall be responsible for continuous maintenance of the buffers. This responsibility shall run with the land. If urban development becomes condominiums, the buffers shall become a part of the area held in common, and continuous maintenance shall be the responsibility of the property owner's association(s). The agency in charge of the management of the restored wetlands may provide comments and recommendations to those responsible for maintenance of the buffers if lack of proper maintenance is causing the buffers to fail in their primary mission to prevent visual and physical access to the wetlands habitats. Breeches in the buffer which seriously threaten habitat values in the wetlands, and which have been reported by the wetlands management agency and have not been repaired in a timely fashion by the individual or agency responsible for maintenance, may be repaired by the wetlands management agency. Costs for such repairs shall be collected from the property owner's association.

9. Where property owners' associations are formed, the requirement for continuous buffer maintenance shall be included in their Articles of Incorporation, and monthly dues shall be sufficient for this purpose.

10. The primary mission of the buffer is to prevent physical access into the wetlands and to prevent visual disturbances of wetland wildlife. The buffer, as shown in the Local Coastal Plan, consists of a berm of mounded soil, a fence, and plant material. Plant material will be chosen to be (in descending order of priority):

    a. Of a growth form that supports the primary mission (i.e., of assistance in preventing access and/or screening development from the wetlands);

    b. Compatible with soil, water and climate conditions of the immediate site;

    c. Fast growing;

    d. Compatible with adjacent development;

    e. Low maintenance; and

    f. of wildlife food and/or cover value.

South East Area Specific Plan 2060[6]

5.8 Wetlands Delineations

New projects within the Coastal Habitat, Wetlands, and Recreation designation require the preparation of a biological study to determine in the location and extent of wetlands resources on a site, if any. When a wetland delineation is required by the City for a new development application or permit, one of two options may be provided by the applicant:

1. A preliminary jurisdictional delineation approved by the U.S. Army Corps of Engineers showing the location and extent of wetlands or sensitive resources, or
16. A letter signed by a qualified biologist declaring that no wetlands or sensitive resources will be impacted by the proposed development.

5.9 Wetland Conservation and Monitoring Fund

The City shall establish a Wetland Conservation and Monitoring Fund and establish fees pursuant to a Property Analysis Record (PAR). Each development or redevelopment shall contribute its fair share based on the size of the development to this fund, which will be created to provide restoration and long-term management to the publicly owned wetlands within the SEASP Plan area.

Mitigation for impacts for water of the state and United States will be provided pursuant to Coastal Commission and regulatory agency permits.

5.10 Wetland Buffers

Buffers are typically required 100 feet from a wetland resources. However, due to site-specific conditions, a smaller buffer may be approved. Any portion of the buffer less than 100 feet shall require contribution to the Wetland Conservation and Monitoring Fund at the current market rate per each quarter of an acre as established by the City. At a minimum, the applicant must incorporate a 25-foot vegetated "habitat separation" area within the buffer which shall be approved by the City. The habitat separation area must be designed to shield the existing wetland from lighting, noise, urban runoff, and human intrusion resulting from the project. Buffers should:

- Minimize the disturbance to a wetland from adjacent development.
- Be designed, where necessary, to help minimize the effect of erosion, sedimentation and pollution arising from urban, industrial, and agricultural activities; however, to the extent possible, erosion sedimentation, and pollution control problems should be dealt with at the source not in the wetland or buffer area.
- Allow for passive recreational uses within the area, only if it can be shown that these uses will not adversely impact the wetland ecosystem or the buffer's function. These uses may include bird watching, walking, jogging, and bike riding, and may include the construction of paths and interpretive signs and displays. All access, trails, or paths should be constructed to minimize impact to plants and animals.

[6] The City is in the process of replacing the existing PD-1 (SEADIP) with the proposed South East Area Specific Plan (SEASP) 2060. The proposed SEASP 2060 was adopted by the City Council on September 19, 2017. Note that the time of writing this PEIR, the CCC has yet to certify the proposed SEASP 2060; however, it is anticipated that the SEASP 2060 will be completed and issued in its final form within the lifetime of the proposed program.

Buffers are intended to serve as a transition from urbanized areas to natural areas. No new residential, commercial, or industrial buildings will be located within 100 feet of a delineated wetland. Public facilities or buildings (utilities, interpretive centers, etc.) and uses in compliance with the CHWR land use designation may be allowed within the 100-foot buffer. Existing roadways are allowed within buffers. In addition, the future alignment of the completion of Shopkeeper Road between 2nd Street and Studebaker Road, as described in Chapter 6, Mobility, Section 6.6.8, shall be designed so that it does not impact any delineated wetland.

Developments with wetland buffers will be required to prepare and record covenants regarding maintenance obligations of buffer areas. The agency in charge of the management of the restored wetlands may provide comments and recommendations to those responsible for maintenance of the buffers if lack of proper maintenance is causing the buffers to fail in their primary mission to prevent visual and physical access to the wetlands habitats. Breaches in the buffer which seriously threaten habitat values in the wetlands, and which have been reported by the wetlands management agency and have not been repaired in a timely fashion by the individual or agency responsible for maintenance, may be repaired by the wetlands management agency. Costs for such repairs shall be collected from the property owner's association.

5.11 Standards Applicable to All Areas Adjacent to Jurisdictional Waters and Wetlands

Development projects in proximity to jurisdictional waters or habitat for special status species and all land within the Coastal Habitat, Wetlands, and Recreation land use shall comply with the following:

- Prior to approval of a trails/access plan within or adjacent to jurisdictional waters, the location, design, and text for urban-open space interface signage shall be developed. The signage shall be located at all pedestrian access points. The signage shall educate users on the responsibilities associated with the open space interface and shall address relevant issues, including the role of natural predators in the wildlands and how to minimize impacts of human and domestic pets on native communities and their inhabitants.
- Prior to approval of any development adjacent to jurisdictional waters or habitat for special status species and all land within the Coastal Habitat, Wetlands, and Recreation land use, the project applicant shall submit a photometric plan demonstrating that the project will be designed and shielded so that the nighttime lighting shall be no greater than 0.10 foot-candles at the edge of the habitat. This would ensure that spill light does not result in exposure of artificial light at levels exceeding the intensity of moonlight (approximately 0.5 foot-candles).
- Prior to the issuance of building permits, the project applicant and/or subsequent builder shall prepare an urban-open space interface brochure to be approved by the Long Beach Development Services Department to educate residents on the responsibilities associated with living near sensitive biological habitat. The brochure shall address relevant issues, including the role of natural predators in the wildlands and how to minimize impacts of human and domestic pets on native communities and their inhabitants. The approved brochure, along with attachments, shall be included as part of the rental/lease agreements and as part of the sales literature for future developments.

7.3.14 Bird-Safe Treatments

In deference to the presence of significant wetlands areas in the SEASP area, new projects should be sensitive to the interface and transition between urban areas and natural areas. Many of these areas provide habitats for birds and therefore special design considerations should be applied to three primary areas: lighting, landscaping, and façade treatments.

The reflectivity and transparency of glass are the primary hazards to birds. Highly reflective surfaces falsely imitate the sky, clouds, or nearby trees or vegetation. Sheets of transparent glass are invisible to birds and become dangerous barriers to migration routes, shelter, and food. Lights may also disorient and confuse birds by inhibiting their ability to see navigational markers such as the stars and the moon.

In particular, the Los Cerritos Wetlands conservation area attracts a variety of bird species that utilize this unique coastal habitat. The endangered California Least Terns and several populations of Belding's Savannah Sparrows have been documented as present in the study area. The proximity of new development to the Los Cerritos Wetlands warrants bird-safe treatments.

All new buildings, and major renovations of existing buildings, shall be required to provide bird-safe building treatments for the façade, landscaping, and lighting consistent with the standards of this section.

The following standards and guidelines were derived from bird-safe building standards identified by the cities of San Francisco and Oakland, the Audubon Society, and Leadership in Energy and Environmental Design (LEED) documents.

Bird-Safe Façade Treatments

All new buildings and major renovations of existing buildings shall be required to provide bird-safe building façade treatments to reduce the potential for bird strikes.

A. Glass treatment or architectural design visible to birds shall be used to reduce the amount of untreated glass or glazing to less than 10 percent of the building façade above the ground floor. These treatments are also required for the portions of ground floors that face the Los Cerritos Wetlands. Figure 7-10, Bird-Safe Treatments for Transparent Surfaces, depicts a range of surfaces from the greatest to the least threat for strike potential. Treatment options for glass and architectural building design ideas include, but are not limited to:

   - **Film and Art Treatment of Glass.** This option may be used to reflect the community or type of use occupying the building through art. This method allows the windows to be used as art creating an attractive scene for the community that deters bird strikes.
   - **External Screens.** Screens can be used as an inexpensive and effective method of preventing bird strikes. Screening or netting, stretched several inches over windows or entryways to create a visual barrier and prevent birds from hitting the glass.
   - **Architectural Design Features.** The use of architectural features such as overhangs, louvers, and awnings can be used to block the view of glass from birds. They should be combined with window treatments to eliminate reflections.
   - **Fritted and Frosted Glass.** Fritting is a commonly used and inexpensive solution that is most successful when the frits are applied on the outside surface. Ceramic dots—or frits—applied between layers of insulated glass can also be used to reduce transmission

of light. Frits can be applied in different colors and patterns and can commonly be seen on commercial buildings.

- **Angled Glass.** Design buildings with angled glass at 20 to 40 degrees, most appropriate for low-scaled buildings with smaller panes and a limited amount of glass; generally, this technique is not effective for large buildings.
- **Ultra-Violet Glass.** Use glass that reflects ultra-violet light, this type of light is primarily visible to birds but not to people. Insulated glass is also available with ultra-violet patterns that are designed to deter birds while largely being imperceptible to humans.
- **Window Signage.** Similar to film and art treatments, window signage could be used to deter bird strikes as long as consistent with Chapter 21.44, On-Premises Signs, of the Long Beach Municipal Code.

B. Where applicable, vertical elements within the treatment pattern should be at least one-quarter inch (1/4") wide at a maximum spacing of four inches (4") and horizontal elements should be at least one-eighth-inch (1/8") wide at a maximum spacing of two inches (2").

C. No glazing shall have a "Reflectivity Out" coefficient exceeding 30 percent. The fraction of radiant energy that is reflected from glass or glazed surfaces shall not exceed 30 percent.

D. Building features such as freestanding glass walls, wind barriers, balconies, and greenhouses are also required to comply with these glazing treatments. See Figure 7-10 for acceptable levels of treatment for transparent surfaces.

E. Equivalent treatments recommended by a qualified biologist may be used if approved by the City and/or the Coastal Commission.

F. Building and site designs such as transparent passageways, corners, atria, or courtyards that can trap birds are prohibited.

Bird-Safe Landscaping

Landscaped areas next to buildings, including patios and interior courtyards, shall be designed and sited to avoid or minimize bird-strike hazards caused by reflective building surfaces. Landscaping shall be designed to keep birds away from the building's façade through the following standards:

A. Trees and other vegetation shall be sited so that the plants are not reflected on building surfaces.

B. To obscure reflections, trees and other vegetation planted adjacent to a reflective wall or window shall be planted close to (no further than three feet from) the reflective surface.

C. For exterior courtyard and recessed areas, building edges shall be clearly defined by using opaque materials or non-reflective glass.

D. Walkways constructed of clear glass shall be avoided.

E. Plant material shall comply with Appendix D, Plant Palette.

Lights Out for Birds

A. The City shall encourage building owners and operators to participate in "Lights Out for Birds" programs or similar initiatives by turning off lighting at night, particularly during bird migration periods.

Bird-Safe Building Interiors

A. Light pollution from interior lighting shall be minimized through the utilization of automated on/off systems and motion detectors.

Bird-Safe Lighting Design

Buildings shall be designed to use minimal external lighting (limited to pedestrian safety needs) and to minimize direct upward light, spill light, glare, and artificial night sky glow. Buildings shall also be designed to minimize light pollution from interior lighting to the maximum feasible extent.

A. Nighttime lighting shall be minimized to levels necessary to provide pedestrian security.

B. Buildings shall be designed to minimize light spillage and maximize light shielding to the maximum feasible extent.

C. Building lighting shall be shielded and directed downward, up-lighting is prohibited. Use of "event" searchlights or spotlights shall be prohibited.

D. Landscape lighting shall be limited to low-intensity and low-wattage lights.

E. Red and blue lights shall be limited to only that necessary for security and safety warning purposes, warm-white lights or filtered LEDs designed to minimize blue emissions shall be used.

F. See Chapter 5, Development Standards, Section 5.11, Standards Applicable to All Areas Adjacent to Jurisdictional Waters and Wetlands, for additional lighting requirements.

Wetland Proximity

In addition to the standards above, buildings located 100 feet from delineated wetlands shall also comply with the following:

A. Limited height.

B. Minimize the number of and, whenever possible, co-locate rooftop antennas and other rooftop structures.

C. Monopole structures or antennas shall not include guy wires.

9.4.2 Regional Plans, Programs, and Agencies

LCWA Wetlands Conceptual Restoration Plan

The restoration plan is a future vision of the wetlands and consists of two reports—Opportunities and Constraints Report and Watershed Impacts Report. Six goals guide implementation of the plan:

- Restore tidal wetland processes and functions to the maximum extent possible.
- Maximize contiguous habitat areas and maximize the buffer between habitat and sources of human disturbance.
- Create a public access and interpretive program that is practical, protective of sensitive habitat and ongoing oil operations, and economically feasible, and that will ensure a memorable visitor experience.
- Incorporate phasing of implementation to accommodate existing and future potential changes in landownership and usage, and as funding becomes available.

- Strive for long-term restoration success. » Integrate experimental actions and research into the project, where appropriate, to inform restoration and management actions for this project.

Although, funding has not been obtained for the restoration, the plan identifies funding opportunities such as mitigation credits as well as possible state and/or federal grants.

3.3.4 Significance Thresholds and Methodology

The following discussion examines the potential impacts to plant and wildlife resources that may occur as a result of implementation of the proposed program.

3.3.4.1 Significance Thresholds

For the purposes of this Program Environmental Impact Report (PEIR) and consistency with Appendix G of the *CEQA Guidelines*, the proposed program would have a significant impact on biological resources if it would:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or United States Fish and Wildlife Service;

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or United States Fish and Wildlife Service;

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

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

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

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.

As detailed in the Initial Study (refer to Appendix A of this PEIR), the proposed program would result in no impact to threshold "f". Although not required, evaluation of the proposed program's impact to threshold "f" was conducted in this section.

3.3.4.2 Methodology

Although specific impacts are not described in this PEIR, project-related impacts can be direct or indirect and can occur during construction or operation of future, proposed projects within the program area. This includes impacts associated with ecosystem restoration activities such as grading and revegetation as well as impacts associated with flood risk and stormwater management, public access and visitor facilities development and infrastructure and utility modifications as described in the project description.

Direct impacts are considered to be those that involve the loss, modification, or disturbance of plant communities, which in turn directly affect the flora and fauna of those habitats. Direct impacts also include the destruction of individual plants or wildlife, which may also directly affect regional population numbers of a species or result in the physical isolation of populations thereby reducing genetic diversity and population stability.

Other impacts, such as loss of foraging habitat, can occur although these areas or habitats are not directly removed by project activity (i.e., indirect impacts). Indirect impacts can also involve the effects of increases in ambient levels of noise or light, competition with exotic plants and animals, and increased human disturbance. Indirect impacts may be associated with the subsequent day-to-day activities associated with some projects, such as increased traffic use, exotic ornamental plantings that provide a local source of seed, which may be both short-term and long-term in their duration. These impacts are commonly referred to as "edge effects" and may result in a slow replacement of native plants by exotics, and changes in the behavioral patterns of wildlife and reduced wildlife diversity and abundance in habitats adjacent to the program area.

As stated in Chapter 1, *Introduction*, on March 8, 2019, the Los Cerritos Wetlands Authority sent a Notice of Preparation to responsible, trustee, and federal agencies, as well as to organizations, and individuals potentially interested in the proposed program to identify the relevant environmental issues that should be addressed in the PEIR. Issues related to biological resources were identified.

3.3.5 Program Impacts and Mitigation Measures

Impact BIO-1: The proposed program would result in a significant impact if the proposed program would have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or United States Fish and Wildlife Service.

Construction

Special-Status Plants

Suitable habitat is present or individuals have been observed in the proposed program area for 31 special-status plant species, including within the South, Isthmus, Central and North Areas (refer to Table 3.3-4). Many of these species have not been documented in the program area, but they have the potential to occur there. Ecosystem restoration activities, development of public access, and infrastructure and utility modifications may impact these species should they be present. The loss of any of these species, should they be present, would be significant. Implementation of Mitigation Measure BIO-1 would reduce impacts to these species to a less-than-significant level by requiring avoidance and/or re-establishment of special-status plants, and restoration of any impacts to these special-status species, respectively. Implementation of Mitigation Measure BIO-2 would further reduce impacts to these species through the implementation of a Worker Education Awareness Program (WEAP) and monitoring of initial work efforts by a qualified biological monitoring.

Special-Status Invertebrates

Mudflat Tiger Beetle, Wandering Skipper, Sandy Beach Tiger Beetle, Senile Tiger Beetle, Western Beach Tiger Beetle, and Western Tidal-Flat Tiger Beetle

Mudflat tiger beetle and salt marsh tiger beetle have been documented in the North Area. Suitable habitat for these special-status invertebrates occur within program area, including the South, Isthmus, Central, and North Areas. Focused surveys have not been performed; however, it is expected that these invertebrates may occur within and/or adjacent to the salt marsh habitats throughout the program area including within the South, Isthmus, Central, and North Areas. Ecosystem restoration activities would result in temporary loss of suitable habitat for these species. However, given the phased approach to minimize impacts across the program area, and the amount of suitable mudflat habitat that would be restored, impacts from restoration activities (i.e., grading) would be minimized, and the proposed program would result in a long-term benefit to invertebrate species. The temporary loss of existing mud flat habitat during the restoration process is not expected to cause a special-status invertebrate species to drop below self-sustaining levels, since a substantial amount of mudflat area will be preserved. Moreover, the loss of suitable habitat during grading is considered temporary and less than significant, since the purpose of the proposed program is to enhance and restore habitat that is suitable for wildlife, including special-status invertebrate species. Therefore, impacts to special-status invertebrates would be less than significant.

Mimic Tryonia

Suitable habitat for mimic tryonia occurs within program area, including the South, Isthmus, Central, and North Areas. Focused surveys have not been performed; however, it is expected that this species may occur within the aquatic habitats throughout the program area including within the South, Isthmus, Central, and North Areas. Ecosystem restoration activities would result in temporary loss of suitable habitat for these species. However, given the phased approach to minimize impacts across the proposed program area, and the amount of suitable aquatic habitat that would be restored, impacts from restoration activities (i.e., grading) would be minimized, and the proposed program would result in a long-term benefit to the species. The temporary loss of existing aquatic habitat during the restoration process is not expected to cause the species to drop below self-sustaining levels, since a substantial amount of aquatic habitat within the program area will be preserved and an abundance of aquatic habitat occurs outside the program area. Moreover, the loss of suitable habitat during grading is considered temporary and less than significant, since the purpose of the proposed program is to enhance and restore habitat that is suitable for wildlife, including special-status invertebrate species. Therefore, impacts to mimic tryonia would be less than significant.

Monarch Butterfly

The monarch butterfly was not observed in the program area during any general biological surveys and is not known to occur in the program boundary; however, the stands of palm and eucalyptus trees associated with the program areas provide suitable habitat for this species including within the South, Isthmus, Central, and North Areas. Ecosystem restoration activities, development of public access and infrastructure and utility modifications has the potential for limited impacts on this species; however, given the phased restoration approach and implementation of Mitigation Measures BIO-2 and BIO-8 that requires a WEAP, biological monitoring, preconstruction surveys and relocation, impacts to monarch butterfly would be less

than significant. Moreover, the loss of suitable habitat during grading is considered temporary and less than significant, since the purpose of the proposed program is to enhance and restore habitat that is suitable for wildlife, including monarch butterfly; as such, implementation of the proposed program would have a net benefit on this species.

Non-Special-Status Invertebrates

Wetlands are among the world's most valuable and most threatened habitats, and invertebrates are an extremely important component in these ecosystems. These invertebrates are one of the primary trophic links between lower plants and higher vertebrates (i.e., amphibians, birds and fish). Grading within wetland or mudflat areas could result in mortality of non-special-status invertebrates. As such, Mitigation Measure BIO-9 requires that soils within mudflat areas be salvaged (where feasible) for areas that are proposed for activities such as grading, and reintroduced to restoration areas as part of the revegetation of sensitive natural areas. This will increase invertebrate survival and dispersal into newly land converted areas.

Special-Status Mammals

Pacific Pocket Mouse

The Pacific pocket mouse was not observed in the program area during any general biological surveys and is not known to occur in the program boundary; however, the salt marsh associated with the program areas provides suitable habitat for this species including within the South, Isthmus, Central, and North Areas. Ecosystem restoration activities, development of public access, and infrastructure and utility modifications has the potential for limited impacts on this species; however, given the phased restoration approach and implementation of Mitigation Measures BIO-2 and BIO-8 that requires a WEAP, biological monitoring, preconstruction surveys and relocation, impacts to Pacific pocket mouse would be less than significant. Moreover, the loss of suitable habitat during grading is considered temporary and less than significant, since the purpose of the proposed program is to enhance and restore habitat that is suitable for wildlife, including Pacific pocket mouse; as such, implementation of the proposed program would have a net benefit on this species.

South Coast Marsh Vole and Southern California Salt Marsh Shrew

The south coast marsh vole and Southern California salt marsh shrew were not observed in the program area during any general biological surveys; however, the salt marsh areas associated with the program area provide suitable habitat for these species including within the South, Isthmus, Central, and North Areas. Ecosystem restoration activities, development of public access, and infrastructure and utility modifications have the potential for limited impacts on these species; however, given the phased restoration approach and implementation of Mitigation Measures BIO-2 and BIO-8 that require implementation of a WEAP, biological monitoring, preconstruction surveys and relocation, impacts to these vole and shrew species would be less than significant. Moreover, the loss of suitable habitat during grading will be limited and is considered temporary and less than significant, since the purpose of the proposed program is to enhance and restore habitat that is suitable for wildlife, including south coast marsh vole and Southern California marsh shrew; as such, implementation of the proposed program would have a net benefit on these species.

Western Mastiff Bat and Western Yellow Bat

The western mastiff bat and western yellow bat were not observed in the program area during any general biological surveys; however, all four areas may provide suitable habitat for these species and palm trees may provide roosting habitat including within the South, Isthmus, Central, and North Areas. Ecosystem restoration activities, development of public access and infrastructure and utility modifications exhibits potential for limited impacts on this species; however, given the phased restoration approach and the extensive area of suitable habitat preserved and restored, potential habitat impacts would not cause this species to drop below self-sustaining levels. Restoration activities would not be expected to result in the direct loss of individuals and the implementation of the proposed program would improve the condition and extent of these species' preferred habitat following completion of the proposed program. Implementation of Mitigation Measures BIO-2, BIO-7 and BIO-8 would ensure that these mammals would be unharmed if encountered and result in a less-than-significant impact.

Special-Status Aquatic and Reptile Species

Pacific Green Sea Turtle

Pacific green sea turtle has either been observed in or potential habitat has been identified within the North Area (Steamshovel Slough), Central Area (San Gabriel River), and South Area (Haynes Cooling Channel). Pacific green sea turtle has not been observed within the Isthmus Area and suitable habitat does not occur within the Isthmus Area. There is low potential for ecosystem restoration activities and flood risk and stormwater management activities to impact this species if impacts within the North Area (Steamshovel Slough), Central Area (San Gabriel River), and South Area (Haynes Cooling Channel) occur. Impacts to Pacific green sea turtle are not anticipated to occur within the Isthmus Area. In accordance with Mitigation Measures BIO-2 and BIO-8, potential impacts on Pacific green sea turtle would be less than significant through implementation of a WEAP, biological monitoring, pre-construction surveys and specific avoidance measures.

Steelhead – Southern California DPS

Steelhead has not been observed within the South, Isthmus, Central or North Areas; however, focused surveys have not been conducted. Suitable habitat for steelhead occurs within the North Area (Steamshovel Slough) and Central Area (San Gabriel River). There is low potential for ecosystem restoration activities and flood risk and stormwater management associated with the proposed program to impact this species within the Central and North Areas. In accordance with Mitigation Measures BIO-2 and BIO-8, potential impacts on steelhead would be less than significant through implementation of a WEAP, biological monitoring, pre-construction surveys and specific avoidance measures.

Tidewater Goby

Tidewater goby has not been observed within the South, Isthmus, Central or North Areas; however, focused surveys have not been conducted. Suitable habitat for tidewater goby occurs within the North Area (Steamshovel Slough), Central Area (San Gabriel River), Isthmus Area (Zedler Marsh), and South Area (Haynes Cooling Channel). There is low potential for ecosystem restoration activities and flood risk and stormwater management associated with the proposed program to impact this species within the South, Central and North Areas. In accordance with

Mitigation Measures BIO-2 and BIO-8, potential impacts on tidewater goby would be less than significant through implementation of a WEAP, biological monitoring, pre-construction surveys and specific avoidance measures.

Western Pond Turtle

Western pond turtle has not been observed in the program area and is unlikely to occur; however, potentially suitable habitat has been identified within the South, Central, and North Areas. There is low potential for ecosystem restoration activities and flood risk and stormwater management program activities to impact this species if impacts to freshwater marsh occur. In accordance with Mitigation Measures BIO-2 and BIO-8, potential impacts on western pond turtle would be less than significant through implementation of a WEAP, biological monitoring, pre-construction surveys and specific avoidance measures.

Coast Horned Lizard, Coastal Whiptail, Red Diamond Rattlesnake, and Southern California Legless Lizard

The coast horned lizard, coastal whiptail, and Southern California legless lizard were not observed in the program area during any general biological surveys. The red diamond rattlesnake was observed in the program area, although the individual may have been released into the area. The upland areas within the South, Central, Isthmus, and North Areas provide suitable habitat for these species. Ecosystem restoration activities, development of public access and infrastructure, and utility modifications could have limited impacts on this species; however, given the phased restoration approach and the extensive area of suitable habitat within the program area that would be preserved and restored, the restoration activities associated with the proposed program would not cause this species to drop below self-sustaining levels (if present). Moreover, direct impacts during grading activities would be less than significant through the implementation of Mitigation Measures BIO-2 and BIO-8 that requires implementation of a WEAP, biological monitoring, focused habitat assessment, pre-construction surveys, capture and relocation of special-status wildlife, including these special-status reptile species, and analysis and mitigation of impacts in a project-level CEQA document. Also, the loss of suitable habitat during grading is considered temporary and less than significant, since the purpose of the proposed program is to enhance and restore habitat that is suitable for these reptile species; therefore, implementation of the proposed program would have a net benefit on these species.

Special-Status Avian Species

American Peregrine Falcon

American peregrine falcon has been observed within the program area. The South, Isthmus, Central, and North Areas contain suitable foraging habitat for the peregrine falcon, which is expected to forage at least occasionally within the proposed program area, particularly during the wintering period when populations of waterfowl and shorebirds are highest. No suitable breeding habitat for this species has been documented within the program area. Ecosystem restoration activities, flood risk and stormwater management, development of public access and infrastructure, and utility modifications may temporarily prevent American peregrine falcons from foraging within the program area; however, the proposed program would improve the overall habitat conditions, which includes foraging habitat for American peregrine falcon.

Therefore, impacts to peregrine falcon and its foraging habitat would be less than significant following the implementation of the proposed program.

Belding's Savannah Sparrow

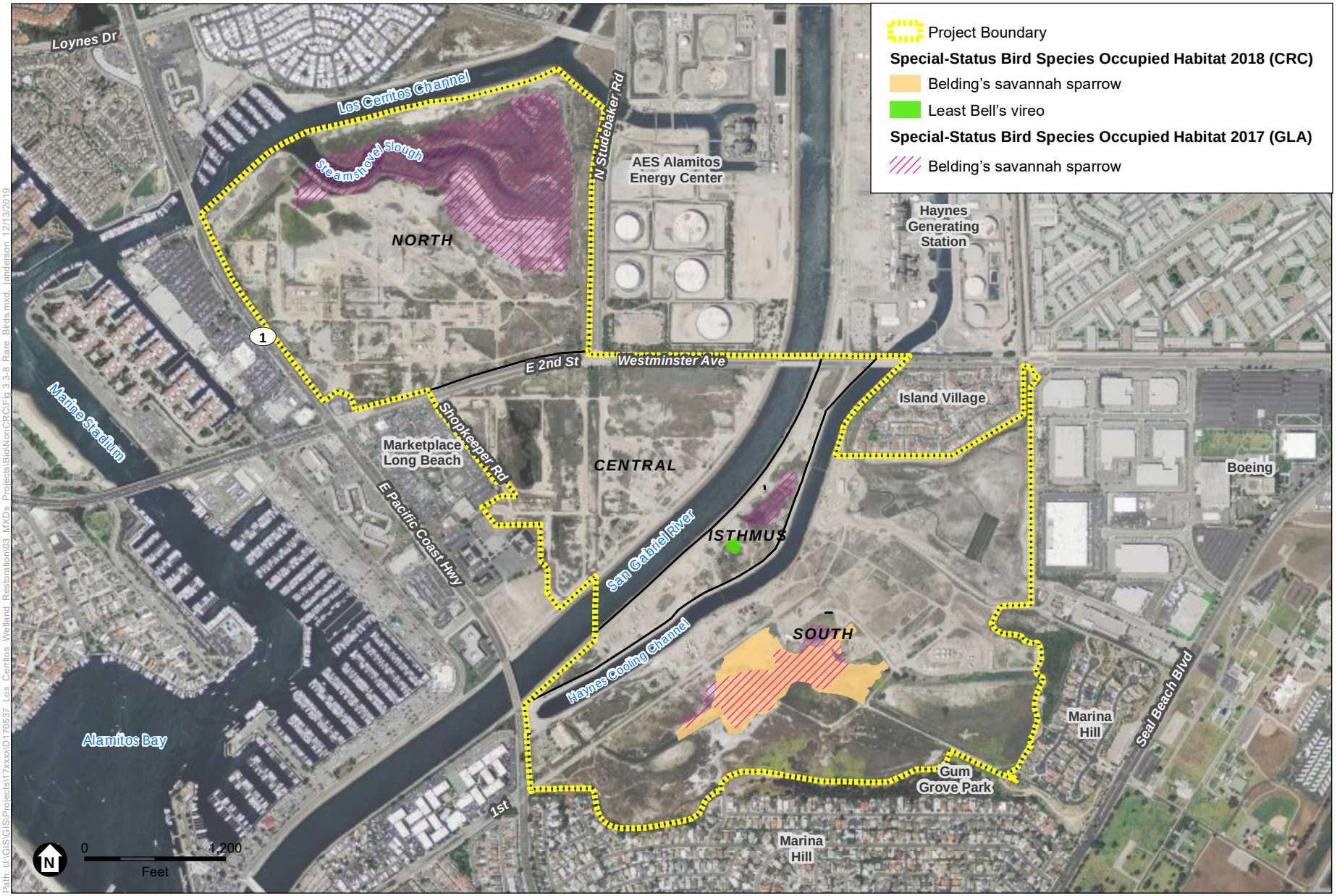
Habitat occupied by Belding's savannah was observed in the South, Isthmus, and North Areas and was not observed in the Central Area as depicted in **Figure 3.3-8**, *Special-Status Bird Species Occupied Habitat*. The South, Central, Isthmus, and North Areas provide suitable foraging and nesting habitat for the species. Ecosystem restoration activities would result in potentially significant direct impacts on the Belding's savannah sparrow from grading activities and removal of suitable nesting and foraging habitat, as well as indirect impacts from noises, vibrations and dust generated from heavy equipment. The proposed program would improve and expand the existing habitat conditions following the completion of restoration activities. However, temporary impacts to existing habitat from implementation of the restoration impacts would be less than significant with the implementation of Mitigation Measures BIO-2 and BIO-3, which requires implementation of a WEAP, biological monitoring, a minimum habitat replacement ratio of 1:1 (created:impacted); Mitigation Measure BIO-4 that requires minimization and avoidance measures for preserving active bird nests; and Mitigation Measure BIO-9, which requires re-establishment of permanent and temporary impacts to CDFW Sensitive Natural Communities.

Black Skimmer

Black skimmer has been observed foraging within the program area and is expected to forage in the South, Central, and North Areas; however, there are no potential breeding areas present in the program boundary. The Isthmus Area does not contain suitable habitat for the species. Ecosystem restoration activities, flood risk and stormwater management, and infrastructure and utility modifications along aquatic areas within the North Area (Steamshovel Slough), Central Area (San Gabriel River), and South Area (Haynes Cooling Channel) may temporarily affect foraging activities for brief periods; however, given that expansive areas of foraging areas that exist elsewhere within these waterways, such short-term and localized impacts on black skimmer would not be considered significant.

Burrowing Owl

Wintering burrowing owls have been observed in the Isthmus Area; however, they have not been observed in the South, Central, or North Areas or during the breeding season in the program area. Nevertheless, suitable habitat is present in the South, Isthmus, Central, or North Areas. Ecosystem restoration activities, development of public access and visitor facilities, and infrastructure and utility modifications exhibit potential for direct and indirect impacts on wintering individuals; should a burrowing owl or owls occupy the program area prior to program activities. In accordance with Mitigation Measures BIO-2 and BIO-5, potential impacts on burrowing owl would be less than significant through implementation of a WEAP, biological monitoring, pre-construction surveys and specific avoidance measures.



SOURCE: Mapbox, LCWA, Coastal Restoration Consultants, Glenn Lukos Associates

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 3.3-8

Special-Status Bird Species Occupied Habitat

ESA

California Black Rail

California black rail has not been observed in the program area and is not expected to occur within the South, Isthmus, Central, and North Areas. However, suitable habitat is present in the North Area (Steamshovel Slough) and other marsh areas in the South, Isthmus, and Central Areas. Ecosystem restoration activities and infrastructure and utility modifications exhibit potential for direct impacts. In addition, indirect impacts on California black rail could occur through disruption of breeding and nesting from construction noise and dust. Impacts on California black rail would be less than significant following implementation of a WEAP and biological monitoring as identified in Mitigation Measure BIO-2 and pre-construction nesting bird surveys and avoidance as identified in Mitigation Measure BIO-4. Moreover, the loss of suitable habitat during grading is considered temporary and less than significant, since the purpose of the proposed program is to enhance and restore habitat that is suitable for wildlife, including California black rail; therefore, implementation of the proposed program would have a net benefit on this species.

California Brown Pelican

California brown pelican have been observed foraging within the program area and is expected to forage in the South, Central, and North Areas; however, there are no potential breeding areas in the program boundary. The Isthmus Area does not contain suitable habitat for the species. Ecosystem restoration activities, flood risk and stormwater management and infrastructure and utility modifications along aquatic areas within the North Area (Steamshovel Slough), Central Area (San Gabriel River), and South Area (Haynes Cooling Channel) may temporarily affect foraging activities for brief periods; however, given that expansive foraging areas exist elsewhere within these waterways, such short-term and localized impacts on California brown pelicans would not be considered significant.

California Least Tern

California least tern have been observed foraging within the South, Isthmus, Central, and North Area; however, there are limited potential breeding areas on salt flats located within the proposed program. Ecosystem restoration activities, flood risk and stormwater management, and infrastructure and utility modifications along aquatic areas within the North Area (Steamshovel Slough), Central Area (San Gabriel River), and South Area (Haynes Cooling Channel) exhibits potential for affecting foraging activities for brief periods; however, given that expansive foraging areas exist elsewhere within these waterways, such short-term and localized impacts on California least tern foraging habitat is considered temporary and not significant. Potential impacts on California least tern would be avoided and minimized through implementation of a WEAP and biological monitoring as identified in Mitigation Measure BIO-2 and pre-construction bird surveys and avoidance as identified in Mitigation Measure BIO-4. Since the purpose of the proposed program is to enhance and restore habitat that is suitable for wildlife, including California least tern; implementation of the proposed program would have a net benefit on this species.

Coastal California Gnatcatcher

Coastal California gnatcatcher has not been observed within the program area; the potential for this species to occur is considered low. However, there is suitable foraging and breeding habitat present within the program area. Suitable habitat is present in the South, Isthmus, Central, and

North Areas. To ensure that this species is not impacted during ecosystem restoration activities, development of public access, and infrastructure and utility modifications activities, implementation of a WEAP and biological monitoring as identified in Mitigation Measure BIO-2 and pre-construction nesting avian surveys and avoidance as identified in Mitigation Measure BIO-4 shall be conducted. Implementation of this mitigation measure would reduce potential impacts to coastal California gnatcatcher to a level of less than significant.

Least Bell's Vireo

Least Bell's vireo has been observed foraging within the Isthmus Area and suitable foraging habitat also occurs in the Central and North Areas; however, no breeding behavior or nesting territories have been documented in the program area and nesting habitat within the program area is considered marginal at best. The species has been documented breeding just south of the program area in the Heron Pointe Bioswale. Suitable foraging habitat exists in the Isthmus, Central, and North Areas. Nevertheless, ecosystem restoration activities that would occur near potential riparian foraging and nesting habitat may temporarily impact this species, which could result in significant impacts. However, potential impacts would be reduced to a level of less than significant through implementation of Mitigation Measures BIO-2 and BIO-4, which requires implementation of a WEAP, biological monitoring, pre-construction nesting avian surveys and avoidance measures.

Loggerhead Shrike

Loggerhead shrike ~~have~~ has been observed foraging within the program area and is expected to forage within the South, Isthmus, Central and North Areas. Ecosystem restoration activities, development of public access, and infrastructure and utility modifications could result in significant direct and indirect impacts on the loggerhead shrike if this species was found to be nesting on site. Potential nesting impacts to loggerhead shrike will be avoided and minimized through implementation of a WEAP, biological monitoring, pre-construction nesting avian surveys and avoidance as identified in Mitigation Measures BIO-2 and BIO-4; therefore, impacts to this species is considered less than significant.

Merlin

Merlin ~~have~~ has been observed within the program area; however, there is no potential breeding habitat on site within the South, Isthmus, Central and North Areas. Suitable foraging habitat occurs within the South, Isthmus, Central and North Areas. Ecosystem restoration activities, development of public access, and infrastructure and utility modifications exhibit potential for affecting foraging activities for brief periods; however, given that expansive areas of foraging areas both on site and off site are available, such short-term and localized impacts would not be considered significant.

Northern Harrier (Nesting)

Northern harrier ~~have~~ has occasionally been observed foraging within the program area; however, there are no records of this species nesting within the program area. Suitable foraging habitat occurs within the South, Isthmus, Central, and North Areas. Ecosystem restoration activities, development of public access, and infrastructure and utility modifications associated with the proposed program could result in significant impacts on the northern harrier if this species was

found to be nesting within the program area. However, such impacts to northern harrier would be less than significant through implementation of a WEAP, biological monitoring, pre-construction nesting avian surveys and avoidance as identified in Mitigation Measures BIO-2 and BIO-4.

Osprey

Osprey have occasionally been observed foraging within the program area; however, there are no records of this species nesting within the program area. Suitable foraging habitat occurs within the South, Isthmus, Central, and North Areas. Ecosystem restoration activities, development of public access, and infrastructure and utility modifications associated with the proposed program could result in significant impacts on the osprey if this species was found to be nesting within the program area. However, such impacts to osprey would be less than significant through implementation of a WEAP, biological monitoring, pre-construction nesting avian surveys and avoidance as identified in Mitigation Measures BIO-2 and BIO-4.

Ridgway's Rail

The Ridgway's rail has not been observed within the program area, but had potential to occur within the North Area where suitable Pacific cordgrass habitat is present in Steamshovel Slough as well as within the Isthmus and South Areas. They have never been documented nesting within the proposed program as suitable breeding habitat does not exist due to lack of tall cordgrass or brackish marsh vegetation. Ecosystem restoration activities, flood risk and stormwater management, and development of public access associated with the proposed program could result in potential direct impacts should a Ridgway's rail be nesting within or adjacent to areas that will be disturbed from grading activities. In addition, indirect impacts on Ridgway's rail could occur through disruption of nesting or other essential behaviors from construction noise and dust. Potential impacts on Ridgway's rail would be avoided and minimized through implementation of a WEAP, biological monitoring, pre-construction nesting bird surveys and avoidance as identified in Mitigation Measures BIO-2 and BIO-4. Moreover, the loss of suitable habitat during grading is considered temporary and less than significant, since the purpose of the proposed program is to enhance and restore habitat that is suitable for wildlife, including Ridgway's rail; therefore, implementation of the proposed program would have a net benefit on this species.

Short-Eared Owl

Short-eared owl has been observed foraging within the program area; however, there are no records of this species nesting within the program area. Suitable foraging habitat occurs within the South, Isthmus, Central, and North Areas. Ecosystem restoration activities, development of public access, and infrastructure and utility modifications activities associated with the proposed program could result in significant impacts on the short-eared owl if this species was found to be nesting on site. However, potential impacts to nesting short-eared owls would be less than significant through implementation of a WEAP, biological monitoring, pre-construction nesting avian surveys and avoidance as identified in Mitigation Measures BIO-2 and BIO-4.

Southern California Rufous-Crowned Sparrow

Southern California rufous-crowned sparrow have not been observed within the program area during various surveys and site assessments; therefore, the potential for this species to occur is considered low. However, there is suitable foraging and breeding habitat present within the

program area, including the South, Isthmus, Central, and North Areas. To ensure that this species is not impacted during ecosystem restoration activities, development of public access and infrastructure and utility modifications activities, implementation of a WEAP, biological monitoring, pre-construction nesting avian surveys and avoidance as identified in Mitigation Measures BIO-2 and BIO-4 shall be conducted. Implementation of these mitigation measures would reduce potential impacts to Southern California rufous-crowned sparrow to a level of less than significant.

Southwestern Willow Flycatcher

Southwestern willow flycatcher has not been observed foraging within the program area and there is no suitable breeding habitat present within the program area. Suitable foraging habitat is limited to the Isthmus, Central, and North Areas. Because suitable riparian woodland breeding habitat is absent in the program area, the potential for this species to occur is considered low. Ecosystem restoration activities, development of public access, and infrastructure and utility modifications activities associated with the proposed program could result in potential direct impacts to migrants that may forage within the program area. However, potential impacts on southwestern willow flycatcher would be avoided and minimized through the implementation of a WEAP, biological monitoring, pre-construction nesting avian surveys and avoidance as identified in Mitigation Measures BIO-2 and BIO-4 shall be conducted. Implementation of these mitigation measures would reduce potential impacts to southwestern willow flycatcher to a level of less than significant.

Tri-Colored Blackbird

Tri-colored blackbird has ~~not~~ been observed in 2015 by the El Dorado Audubon Society at the Marketplace Marsh within the program area and there is potential for the species to nest and forage on marshland located within the Central Area. Suitable foraging habitat is present in the South, Isthmus, Central, and North Areas. ~~As such, the potential for this species to occur is considered low.~~ Ecosystem restoration activities, including development of public access, infrastructure and utility modifications activities associated with the proposed program, could result in potential direct impacts to foraging and nesting tri-colored blackbird, if present. Potential impacts on tri-colored blackbird would be avoided and minimized through the implementation of a WEAP, biological monitoring, pre-construction nesting avian surveys and avoidance as identified in Mitigation Measures BIO-2 and BIO-4 shall be conducted. Implementation of these mitigation measures would reduce potential impacts to tri-colored blackbird to a level of less than significant.

Western Snowy Plover

The western snowy plover has not been observed foraging or nesting within the program area but there is potential for the species to nest on salt flats located within the Central Area. It is not expected to nest within the South, Isthmus, or North Areas. Suitable foraging habitat occurs within the South, Isthmus, Central, and North Areas. Ecosystem restoration activities and flood risk and stormwater management activities associated in the North Area (Steamshovel Slough) and other tidal areas in the South, Isthmus and Central Areas would temporarily remove potential foraging and nesting habitat. Potential impacts on western snowy plover would be avoided and minimized through implementation of a WEAP, biological monitoring, pre-construction bird surveys and avoidance as identified in Mitigation Measures BIO-2 and BIO-4. Moreover, the loss

of suitable habitat during grading is considered temporary and less than significant, since the purpose of the proposed program is to enhance and restore habitat that is suitable for wildlife, including western snowy plover; therefore, implementation of the proposed program would have a net benefit on this species.

White-Tailed Kite

White-tailed kite have been observed foraging within the program area and there are limited potential nesting sites located on eucalyptus trees located in the South, Isthmus, Central and North Areas. Suitable foraging habitat occurs within the South, Isthmus, Central, and North Areas. Ecosystem restoration activities, development of public access, and infrastructure and utility modifications activities within the South, Isthmus, Central, and North Areas could result in significant impacts on white-tailed kite if this species was found to be nesting on site. However, potential impacts to would be less than significant through implementation of a WEAP, biological monitoring, pre-construction nesting avian surveys and avoidance as identified in Mitigation Measures BIO-2 and BIO-4.

Yellow Rail

Yellow rail has not been observed within the program area; however, suitable freshwater marsh habitat is present within the South, Central and North Areas. Ecosystem restoration activities, including flood risk and stormwater management and development of public access associated with the proposed program, could result in potential direct impacts should a yellow rail be nesting within or adjacent to areas that will be disturbed from these activities. In addition, indirect impacts on yellow rail could occur during nesting from adjacent noise, vibrations and dust generated during construction activities. However, potential impacts on yellow rail would be avoided and minimized through implementation of a WEAP, biological monitoring, pre-construction nesting bird surveys and avoidance as identified in Mitigation Measures BIO-2 and BIO-4. Moreover, the loss of suitable habitat during grading is considered temporary and less than significant, since the purpose of the proposed program is to enhance and restore habitat that is suitable for wildlife, including yellow rail; therefore, implementation of the proposed program would have a net benefit on this species.

Yellow Warbler

Yellow warbler has not been observed nesting or foraging within the program area and nesting habitat is not present; however, suitable foraging habitat occurs within the Isthmus Area. Ecosystem restoration activities, including development of public access and infrastructure and utility modification activities associated with the proposed program, could result in potential impacts on the foraging yellow warblers. However, potential impacts would be less than significant through implementation of a WEAP, biological monitoring, pre-construction nesting avian surveys and avoidance as identified in Mitigation Measures BIO-2 and BIO-4.

Yellow-Breasted Chat

Yellow-breasted chat has been observed foraging within the program area; however, there are no records of this species nesting within the program area and there is no nesting habitat present. Suitable foraging habitat occurs within the South, Isthmus, Central, and North Areas. Ecosystem restoration activities, development of public access, and infrastructure and utility modification

activities associated with the proposed program could result in significant impacts on the yellow-breasted chat if this species was found to be nesting on site. However, potential impacts to would be less than significant through implementation of a WEAP, biological monitoring, pre-construction nesting avian surveys and avoidance as identified in Mitigation Measures BIO-2 and BIO-4.

Nesting Birds

Habitat within the South, Isthmus, Central, and North Areas has the potential to support a variety of nesting birds. Impacts to migratory and resident nesting avian species are prohibited under the MBTA as well as provisions of the California Fish and Game Code. Ecosystem restoration activities, flood risk and stormwater management, development of public access and visitor facilities, and infrastructure and utility modifications associated with the proposed program could result in potential impacts to nesting birds and raptors. However, impacts would be less than significant through implementation of a WEAP, biological monitoring, pre-construction nesting avian surveys, and avoidance as identified in Mitigation Measures BIO-2 and BIO-4.

Marine Mammals

Harbor seal and California sea lion have both been observed within the program area and the Central and North Areas provide open water habitat for these species; however, suitable habitat does not occur within the South or Isthmus Areas as open waters which occur are either blocked by culverts that are too small to allow passage or contain grates which prevent entry. Impacts to marine mammal species are prohibited under the MMPA. There is low potential for ecosystem restoration activities and flood risk and stormwater management activities to impact marine mammal species if impacts within the North Area (Steamshovel Slough) and Central Area (San Gabriel River) occur due to the limited size and scope of activities along the banks of areas containing open water. Although, work activities may occur along the open water-land interface, work activities will avoid deeper areas away from the banks where marine mammals are more likely to occur. Impacts to marine mammals are not anticipated to occur within the South or Isthmus areas. In accordance with Mitigation Measures BIO-2 and BIO-8, potential impacts on marine mammals would be less than significant through implementation of a WEAP, biological monitoring, pre-construction surveys, and specific avoidance measures.

Operation

Operational impacts associated with the ecosystem restoration activities, flood risk and stormwater management, development of public access and visitor facilities, and infrastructure and utility modifications could result in an adverse indirect minor impacts to special-status species, such as the introduction and spread of noxious, invasive weeds that could compete with native plants for water and nutrients and alter habitat conditions for some wildlife species. Such indirect impacts caused by the invasion of weed species would be reduced through implementation of Mitigation Measure BIO-1, which requires the preparation and implementation of weed management, maintenance, and monitoring procedures.

Operation impacts associated with nighttime lighting of the visitor center and parking lot areas include disruption to nocturnal wildlife species that could affect their breeding and foraging habits. Without proper placement and/or shielding, light trespass and/or glare onto wildlife habitat

areas from these nighttime lighting sources could occur. Implementation of Mitigation Measure BIO-6 would minimize nighttime lighting impacts on wildlife by requiring the preparation of a lighting plan and requiring that nighttime lighting is shielded downward to minimize spillage onto adjacent areas; therefore, impacts would be less than significant.

Lastly, the proposed program would not have an effect on tidal-influenced or storm-generated water levels based on modeling of sea-level rise scenarios (see Section 3.8, *Hydrology and Water Quality*, of this PEIR); therefore, no impacts to tidal marsh-dependent species would occur following the installation and/or relocation of the ecosystem restoration activities, flood risk and stormwater management, development of public access and visitor facilities and infrastructure and utility modifications.

Mitigation Measures

Mitigation Measure BIO1: Avoidance of Special-Status Plants. Prior to ~~ground-disturbing activities (e.g., vegetation removal and grading)~~ LCWA's approval of project plans or publication of subsequent CEQA documents, a qualified botanist/biologist shall conduct a habitat assessment to determine the presence or absence of suitable habitat for special-status plant species. If suitable habitat is determined to be present, focused plant surveys should be conducted in accordance with Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW, March 20, 2018). Consistent with the CDFW protocol, such focused special-status plant surveys will be conducted during the appropriate blooming period for these species, with May and June likely having the highest number of species in flower. The results of focused special-status plant species will be incorporated into restoration design plans. The locations of any special-status plants within 25 feet of proposed disturbance areas shall be identified and mapped. Individual plants shall be flagged for avoidance and an avoidance buffer of at least 10 feet shall be established around the plant(s).

If special-status plants cannot be avoided, they shall be incorporated into the proposed program's restoration design at a minimum ratio of 1:1 (one plant planted for every one plant removed, or 1 square foot of absolute cover planted for every 1 square foot of absolute cover removed). For special-status plant species with small population numbers (less than 50 individuals), higher mitigation ratios up to 7:1 will be incorporated, where on-site seed sources are available. Higher mitigation ratios of up to 3:1 will be incorporated where suitable habitat area can support populations of large individual numbers. Special-status plants that cannot be avoided shall be salvaged prior to impacts using species-specific propagation methods, such as transplanting, seed and cuttings. Seed collection shall occur during the appropriate time of year for each species. Seeds shall be propagated by a qualified horticulturalist or in a local nursery, and shall be incorporated into habitat-specific seed mixes that will be used for revegetation of the restoration areas. Plant transplantation of perennial species is a potential mitigation technique but must be used sparingly and only when receiving site parameters are a suitable match from the donor location. Performance standard for the success of propagated or transplanted species will be achieved with the survival of the appropriate number of individuals meeting the mitigation ratio (1:1 for most species) after five years of growth and the establishment of a self-propagating population for annual species for a minimum of three years after revegetation completion for a specific area.

Mitigation Measure BIO-2: Environmental Awareness Training and Biological Monitoring. Prior to commencement of activities within the program area, a qualified biologist shall prepare a Worker Environmental Awareness Program (WEAP) that provides a description of potentially occurring special-status species and methods for avoiding inadvertent impacts. The WEAP training shall be provided to all construction personnel. Attendees shall be documented on a WEAP training sign-in sheet.

Initial grading and vegetation removal activities shall be supervised by a qualified monitoring biologist, who will be present during all construction activities. The biologist shall ensure that impacts to special-status plants and wildlife, including wetland vegetation, are minimized to the greatest extent feasible during implementation of program activities on the South, Isthmus, Central and North Areas. If any special-status wildlife species are encountered during construction and cannot be avoided, the monitoring biologist shall have the authority to temporarily halt construction activities until a plan for avoidance has been prepared and approved by CDFW, and implemented by the monitoring biologist. Relocation of a federal- or state-listed species shall not be allowed without first obtaining take authorization from USFWS and/or CDFW.

Mitigation Measure BIO-3: Belding's Savannah Sparrow Breeding Habitat. ~~Prior to the commencement of activities within the program area~~ Prior to LCWA's approval of project plans or publication of subsequent CEQA documents, a qualified biologist shall map suitable Belding's savannah sparrow habitat as the location and amount of suitable habitat is anticipated to change over time. The results of habitat mapping will be incorporated into restoration design plans. Project activities shall be limited to July 16 through February 14 within suitable costal marsh habitat to avoid impacts to breeding Belding's savannah sparrow. Suitable Belding's savannah sparrow breeding habitat that will be impacted by the proposed program shall be created within the program area at a minimum ratio of 1:1 (area created:area impacted). Restored breeding habitat shall consist of a minimum 60 percent absolute cover of salt marsh vegetation, and shall consist of a hydrologic regime similar to that currently present in the North Area or South Area, respectively. Other unique conditions within coastal salt marsh communities shall exist as well, such as, similar slope, aspect, elevation, soil, and salinity. A Mitigation, Maintenance and Monitoring Program shall be prepared and approved by CDFW prior to implementation. The proposed program shall be implemented by a qualified restoration ecologist, and at a minimum, shall include success criteria and performance standards for measuring the establishment of Belding's savannah sparrow breeding habitat, responsible parties, maintenance techniques and schedule, 5-year monitoring and reporting schedule, adaptive management strategies, and contingencies. Moreover, in accordance the CESA, an Incidental Take Permit (or other mitigation options identified in accordance with Fish & Game Code, §§ 2080.1, 2081, subds. (b) and (c)) shall be obtained from CDFW if any Belding's savannah sparrow may be impacted during construction or operations of the program. The amount of potential take shall be determined prior to design approval of each restoration area based on consultation with CDFW. Lastly, take authorization shall be obtained prior to commencement of any ground disturbing activities.

Mitigation Measure BIO4: Nesting Bird and Raptor Avoidance. A qualified biologist shall identify areas where nesting habitat for birds and raptors is present ~~prior to the commencement of activities within the program area~~ prior to LCWA's approval of

project plans or publication of subsequent CEQA documents. To ensure the avoidance of impacts to nesting avian species, the following measures shall be implemented:

- Construction and maintenance activities shall be limited to the non-breeding season (September 1 through December 31) to the extent feasible. If construction or maintenance activities will occur during the avian nesting season (January 1 through August 31), a qualified biologist shall conduct pre-construction nesting avian surveys within no more than 5 days prior to the initiation of construction activities to identify any active nests. If a lapse in work of 5 days or longer occurs, another survey shall be conducted to verify if any new nests have been constructed prior to work being reinitiated.
- If active nests are observed, an avoidance buffer shall be demarcated by a qualified biologist with exclusion fencing and shall be maintained until the biologist determines that the young have fledged and the nest is no longer active.

Mitigation Measure BIO5: Habitat Assessment and Pre-Construction Surveys for Burrowing Owl. A qualified biologist shall conduct a pre-construction burrowing owl survey of each restoration area (including required survey buffer areas) prior to LCWA's approval of project plans or publication of subsequent CEQA documents~~.~~ ~~the program area within suitable habitat prior to construction activities.~~ If burrowing owls are detected, the habitat will be avoided and/or enhanced by the restoration design. In addition,~~-~~ a Burrowing Owl Management Plan shall be prepared and approved by CDFW, and implemented~~,~~ prior to commencement of construction. The Burrowing Owl Management Plan shall be prepared in accordance with the CDFW 2012 Staff Report on Burrowing Owl Mitigation and shall address specific minimization and avoidance measures for burrowing owls, such as avoidance of occupied habitat, translocation of individuals, and on site revegetation.

Mitigation Measure BIO-6: Minimization of Light Spillage. A Program Lighting Plan shall be designed to minimize light trespass and glare into adjacent habitat areas prior to the commencement of activities within the program area. Nighttime lighting associated with the visitor center, parking lot, and trails shall be shielded downward and/or directed away from habitat areas to minimize impacts to nocturnal species, including breeding birds.

Mitigation Measure BIO-7: Pre-Construction Bat Surveys. A qualified biologist shall conduct a pre-construction bat survey of each restoration area prior to final approval of the area's restoration plan. ~~the program area prior to construction activities.~~ If suitable bat roosting habitat is determined to be present, a presence/absence survey shall be conducted ~~P~~prior to commencement of construction activities. A~~, a~~ qualified biologist shall conduct the~~a~~ preconstruction clearance survey of suitable bat roosting habitat, such as mature palm trees. If bats are determined to be roosting, the biologist will determine whether it is a day roost (non-breeding) or maternity roost (lactating females and dependent young). If a day roost is determined, the biologist shall ensure that direct mortality to roosting individuals will not occur by requiring that trees with roosts are not directly impacted (e.g., removed) until after the roosting period.

If a maternity roost is determined to be present, the biologist shall determine a suitable buffer distance between construction activities and the roosting site. If direct disturbance to the maternity roost could occur, a Bat Exclusion Plan shall be prepared and approved by CDFW, and implemented, prior to impacting the roost. At a minimum, the Plan shall

include avoidance and minimization measures to reduce potential impacts to breeding bats during construction activities and prescribed methods to safely and humanely evict bats from the roost to avoid mortality.

Mitigation Measure BIO-8: Focused Surveys for Special-Status Wildlife Species. Should suitable habitat occur for terrestrial or aquatic special-status species, a qualified biologist shall conduct focused habitat assessments and focused surveys to determine presence, absence and/or abundance for special-status wildlife species listed in Table 3.3-45. Both habitat assessments and focused surveys shall occur prior to LCWA's approval of the project plans or the publication of subsequent CEQA documents for any project site that potentially contains special-status species. Agency-approved protocols shall be used for specific species where appropriate during the required or recommended time of year. For all other target (special-status) species, prior to initiating surveys, survey methods shall be verified and approved in writing by CDFW and USFWS or NMFS for all state- and/or federally-protected species, respectively. If special-status species are detected, the project-specific restoration plan should be designed to minimize impacts to special-status wildlife to the greatest extent feasible and a Wildlife Avoidance Plan shall be prepared and approved by CDFW and USFWS or NMFS prior to commencement of construction. The Wildlife Avoidance Plan shall include specific species minimization and avoidance measures, measures to minimize impacts to occupied habitat, such as avoidance and revegetation, as well as relocation/translocation protocols. The plan shall require that a qualified biological monitor approved by CDFW be onsite prior to and during ground and habitat disturbing activities to move special status species or other wildlife of low mobility out of harm's way that could be injured or killed by ground disturbing activities.

If special-status species cannot be avoided, Incidental Take Permits from the National Marine Fisheries Service or United States Fish and Wildlife Service and California Department of Fish and Wildlife will be required. The amount of potential take shall be determined prior to design approval of each restoration area based on consultation with NMFS or USFWS and CDFW and take authorization shall be obtained prior to commencement of any ground disturbing activities. If an incidental take permit is being obtained, compensatory mitigation for the loss of occupied habitat shall be provided through purchase of credit from an existing mitigation bank, private purchase of mitigation lands, or on-site preservation, as approved by the resource agencies. Compensatory mitigation shall be provided at a minimum 1:1 ratio to reduce potential effects to less-than-significant levels.

Significance after Mitigation

Less than Significant with Mitigation

Impact BIO-2: The proposed program would result in a significant impact if the proposed program would have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or United States Fish and Wildlife Service.

Construction

Direct impacts would be limited to grading necessary to reintroduce tidal flows, restore native plant communities, construction of the trails and berms, as well as temporary impacts associated with enhancement and development of berms and trails, and infrastructure and utility modifications. The following CDFW Sensitive Natural Communities and riparian habitats are present within the program area: *Anemopsis californica – Helianthus nuttallii – Solidago spectabilis* Herbaceous Alliance, *Arthrocnemum subterminale* Herbaceous Alliance, *Baccharis salicina* Provisional Shrubland Alliance, *Cressa truxillensis – Distichlis spicata* Herbaceous Alliance, *Frankenia salina* Herbaceous Alliance, *Isocoma menziesii* Shrubland Alliance, *Leymus cinereus – Leymus triticoides* Herbaceous Alliance, *Salicornia pacifica* Herbaceous Alliance, *Salix gooddingii* Woodland Alliance, *Schoenoplectus californicus – Typha (angustifolia, domingensis, latifolia)* Herbaceous Alliance and *Spartina foliosa* Herbaceous Alliance. Impacts associated with implementation of the proposed program will consist of grading, berm installation, fill for the overlook terrace, berm/road removal, sidewalk grading, and relocation of infrastructure and utilities. These direct impacts would be temporary given that these areas would be restored to coastal salt marsh, transitional wetland, or other native habitat as part of the proposed program. As such, there would be no net loss of habitat following implementation of the proposed program.

Signs would be installed along restored trails to inform the public of the sensitive habitats and to prohibit access into the restoration areas. Trails would be separated from the wetland areas by native upland buffer. A visitor center would be constructed on an existing raised building pad. In addition, temporary impacts would be mitigated with implementation of Mitigation Measure BIO-9 that requires reestablishment of Sensitive Natural Communities that will be impacted by restoration activities.

There are several aboveground pipelines and racks sited throughout the program boundary, many of which occur over wetland areas and will need to be removed. Based on the method of pipeline, rack, and tank removal, and the already disturbed areas that would be used to facilitate the removals, no impacts to CDFW Sensitive Natural Communities or riparian habitats are expected to occur. However, in the event that inadvertent and temporary impacts to Sensitive Natural Communities or riparian habitats occur, potentially significant impacts would be reduced to a less-than-significant level with implementation of Mitigation Measure BIO-9.

Operation

Operational impacts associated with the ecosystem restoration activities, flood risk and stormwater management, development of public access and visitor facilities, and infrastructure and utility modifications could result in adverse direct impacts to Sensitive Natural Communities or riparian habitats, such as the introduction and spread of noxious, invasive weeds that could compete with native plants for water and nutrient and alter the composition of communities. Such direct impacts caused by the invasion of weed species would be reduced through implementation

of Mitigation Measure BIO-1, which requires the preparation and implementation of weed management, maintenance and monitoring procedures and Mitigation Measure BIO-9 which requires the revegetation of sensitive natural communities.

Mitigation Measure

Mitigation Measure BIO-9: Revegetation of Sensitive Natural Communities. Sensitive natural communities located on the program area include: *Anemopsis californica – Helianthus nuttallii – Solidago spectabilis* Herbaceous Alliance, *Arthrocnemum subterminale* Herbaceous Alliance, *Baccharis salicina* Provisional Shrubland Alliance, *Cressa truxillensis – Distichlis spicata* Herbaceous Alliance, *Frankenia salina* Herbaceous Alliance, *Isocoma menziesii* Shrubland Alliance, *Leymus cinereus – Leymus triticoides* Herbaceous Alliance, *Salicornia pacifica* Herbaceous Alliance, *Salix gooddingii* Woodland Alliance, *Schoenoplectus californicus – Typha (angustifolia, domingensis, latifolia)* Herbaceous Alliance and *Spartina foliosa* Herbaceous Alliance.

Prior to ~~impacts to Sensitive Natural Communities~~ LCWA's approval of project plans or publication of subsequent CEQA documents, the area(s) that will be impacted shall be delineated and quantified using current Global Information System (ArcGIS) mapping software. Sensitive Natural Communities that will be impacted by the proposed program shall be created within the program area at a minimum ratio of 1:1 (area created:area impacted). A mitigation ratio of a minimum 2:1 for natural communities with a rarity ranking of S3 or higher will be incorporated into the restoration designs. Restored Sensitive Natural Communities shall consist of a minimum 60 percent absolute vegetation cover and shall include community-specific growing conditions, such as, similar slope, aspect, elevation, soil, and salinity. Moreover, soils within mudflat areas shall be salvaged (where feasible) for areas that are proposed for activities such as grading, and reintroduced in new mudflat and/or wetland areas that will be created. A Mitigation, Maintenance and Monitoring Program shall be prepared and approved by CDFW prior to implementation. The Program shall be implemented by a qualified restoration ecologist, and at a minimum, shall include success criteria and performance standards for measuring the establishment of Sensitive Natural Communities, responsible parties, maintenance techniques and schedule, 5-year monitoring and reporting schedule, adaptive management strategies, and contingencies.

Significance after Mitigation

Less than Significant with Mitigation

Impact BIO-3: The proposed program would result in a significant impact if the proposed program would have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, and coastal wetlands) through direct removal, filling, hydrological interruption, or other means.

Construction

Direct impacts to jurisdictional waters and wetlands would occur on all four areas. However, the impacts that would occur are associated with the implementation of the proposed program, which would result in long-term preservation, restoration and enhancement of waters of the United States/state. As such, no compensatory mitigation for temporary loss of waters of the United

States/state is required; however, permits and/or approvals from the USACE, RWQCB, CDFW, and the CCC would be required for impacts to resources under their jurisdiction.

Permanent and temporary impacts to wetlands and other waters of the United States/state, including features subject to CDFW jurisdiction and coastal wetlands, would be restored in accordance with a Restoration Plan and Mitigation Measure BIO-9. This includes temporary direct impacts to jurisdictional resources during the creation of tidal channels. The habitat types proposed for restoration will include coastal salt marsh and transitional wetland habitats, as well as establishment of upland scrub buffers. The primary goal of the proposed program is the restoration and expansion of coastal salt marsh throughout much of the program area including on existing oil production facilities, much of which includes jurisdictional waters. There will be a net increase in jurisdictional wetlands and waters following implementation of the proposed program.

Operation

The proposed program includes consolidation and abandonment of oil wells and associated racks and pipelines. Based on the guidelines set forth for removal by the California Geologic Energy Management Division (CalGEM) and the already disturbed areas that surround the wells that would be used to facilitate the removals, impacts to jurisdictional wetlands or waters are not anticipated. By restoring tidal connection, the proposed program could impact but is not anticipated to significantly affect wetland habitats by allowing rising sea levels to enter and flood the marsh. In some locations, such as in the South Area, the new tidal connection to the Haynes Cooling Channel would improve the hydrology in the wetlands with sea-level rise as compared to existing conditions, where drainage would be limited under sea-level rise. In the Central Area, the existing tidal connection provides only minor inundation of the site, and the proposed program would expand this and create much more tidal salt marsh. With sea-level rise, there would still be more tidal marsh for a longer period of time and with more natural hydrology in the Central Area under the program than under Existing Conditions. However, it is also anticipated that portions of the restored habitat would eventually convert from tidal marsh to mudflat and eventually subtidal habitat. As part of the Hydrodynamics Modeling Technical Report (ESA 2020), State projections (OPC 2018) were used to develop sea-level rise scenarios for the program. The scenarios identify 1.7 feet of sea-level rise between 2040 and 2070 and 3.3 feet of sea-level rise between 2070 and 2110. The Hydrodynamic Modeling Technical Report also provides habitat elevation bands and how the elevations are expected to change over time with sea-level rise. Grading plans developed during the design phase of projects within the proposed program will evaluate the balance of marsh habitat today and into the future based on the habitat elevation bands. An in-depth analysis and discussion of sea-level rise can be found in Section 3.8, *Hydrology and Water Quality*, of this PEIR.

The primary goal of the proposed program is the restoration and expansion of coastal salt marsh throughout much of the program area including on existing oil production facilities, much of which includes jurisdictional waters. As indicated above, there will be a net increase in jurisdictional wetlands and waters following implementation of the proposed program. Any inadvertent impacts that may occur to jurisdictional wetlands during the oil operation abandonment period would be restored in accordance with a Restoration Plan and Mitigation Measure BIO-9. Impacts to jurisdictional waters and wetlands would be less than significant with the implementation of a Monitoring and Adaptive Management Plan and Mitigation Measure

BIO-9, Mitigation Measure BIO-10 that requires a jurisdictional delineation and issuance of jurisdictional resources permits as well as Mitigation Measure BIO-11 that requires a functional assessment of the wetland areas that will be restored in the program area.

Mitigation Measure

Mitigation Measure BIO-10: Jurisdictional Resources Permitting. ~~Prior to project construction~~Prior to LCWA's approval of project plans or publication of subsequent CEQA documents, a jurisdictional delineation report shall be prepared that describes these jurisdictional resources and the extent of jurisdiction under the USACE, RWQCB, CDFW, and CCC. If it is determined during final siting that jurisdictional resources cannot be avoided, the project applicant shall be subject to provisions as identified below:

1. If avoidance is not feasible, prior to ground disturbance activities that could impact these aquatic features, the project applicant shall file the required documentation and receive the following.
    a. Nationwide Permit or equivalent permit issued from USACE;
    b. Water Quality Certification issued from the Los Angeles RWQCB;
    c. Streambed Alteration Agreement issued from CDFW; and
    d. Coastal Development Permit issued from CCC.
2. Compensatory mitigation for impacts to jurisdictional resources is not anticipated as the proposed program's goal is the restoration and expansion of coastal salt marsh within the proposed program.
3. The project proponent shall comply with the mitigation measures detailed in permits issued from the USACE, RWQCB, CDFW, and CCC.

Mitigation Measure BIO-11: Monitoring and Adaptive Management Plan. In conjunction with Section 3.8, *Hydrology and Water Quality*, a Monitoring and Adaptive Management Plan (MAMP) shall be prepared and implemented prior to commencement of construction or restoration activities. The MAMP shall provide a framework for monitoring site conditions in response to the proposed program implementation. The MAMP shall include provisions for conducting a pre-construction survey to collect baseline data for existing wetland function. The MAMP shall require that monitoring focus on the functional wetland values as well as sediment quality in areas subject to the greatest deposition from storm events and that are also not subject to regular tidal flushing, (e.g., the southwestern corner of the Long Beach Property site). The MAMP shall identify habitat functions, such as biotic structure and hydrology, that shall be monitored as part of the proposed program's monitoring and reporting requirements. The MAMP shall identify sediment quality monitoring requirements that shall be performed at a frequency that would capture the potential build-up of contaminants in the deposited sediment before concentration are reached that would impact benthic macro-invertebrates and other sensitive species. The MAMP shall require that the findings of the monitoring efforts be used to identify any source of functional loss of wetlands and water quality impairment, and if discovered, provide measures to improve wetland function and for remediation of the sediment source area(s). Upon completion of restoration activities, the proposed program shall demonstrate a no net loss of aquatic resource functions and demonstrate an increase in wetland functions and values throughout the entire site.

The MAMP shall be submitted for review and approval to responsible permitting agencies prior to commencement of construction or restoration activities.

Significance after Mitigation

Less than Significant with Mitigation

Impact BIO-4: The proposed program would result in a significant impact if the proposed program would 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

The San Gabriel River levees act as a terrestrial wildlife corridor and are the only terrestrial wildlife corridor within or adjacent to the program area. Terrestrial wildlife movement within the program area is primarily localized due to the surrounding urban landscape that includes Pacific Coast Highway, Studebaker Road, and Westminster Boulevard. The San Gabriel River levees will continue to be operated and maintained by the LACFCD and segments are anticipated to be directly impacted by construction activities to facilitate improvement of wildlife movement and nursery sites. Direct impacts to the San Gabriel River levees, which include breaching segments, are not considered significant as project impacts will restore habitats adjacent to the levees providing additional opportunities for terrestrial wildlife movement adjacent to the levees. Temporary increases in noise and dust may have a temporary indirect impact to terrestrial wildlife movement. However, such indirect impacts are not considered significant as an existing bike bath, Pacific Coast Highway and Westminster Boulevard provide a high level of disturbance to terrestrial wildlife movement in the program area. Furthermore, future project impacts will restore habitats adjacent to the levees providing additional opportunities for terrestrial wildlife movement in the program area. The Alamitos Bay, Los Cerritos Channel, Steamshovel Slough, Haynes Cooling Channel and San Gabriel River could provide limited movement into and out of the program area for marine fish, mammals, or reptiles species (i.e., green sea turtle). However, the San Gabriel River and Alamitos Bay are the only waterways that have an outlet and have connectivity to other water bodies allowing a corridor for marine animals to move through the program area. Fish species that are managed under the Coastal Pelagic Fishery Management Plan and the Pacific Groundfish Fishery Managed Plan potentially could swim into the channel; however, the ~~Further,~~ Alamitos Bay, Los Cerritos Channel, and Steamshovel Slough would be avoided during construction activities and no in-water work would occur within these waterways. ~~Such p~~Potentially significant impacts to the movement of any native resident or migratory fish or wildlife species would be reduced to a less-than-significant level with implementation of Mitigation Measure BIO-8.

Operation

Impacts to the San Gabriel River, its levees, or any other watercourses, would not occur following completion of ecosystem restoration activities, flood risk and stormwater management, development of public access and visitor facilities and infrastructure and utility modifications

associated with the proposed program. In the event some minor improvements are required to be conducted and will interfere with aquatic wildlife movement, implementation of Mitigation Measure BIO-8 would reduce impacts to a less-than-significant level.

Mitigation Measure

Mitigation Measure BIO-8.

Significance after Mitigation

Less than Significant with Mitigation

Impact BIO-5: The proposed program would result in a significant impact if the proposed program would have a substantial adverse effect and conflict with biological resources protected by local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Construction

Protected Trees

Potential impacts to street trees protected by the City of Seal Beach's Protective Tree Ordinance and the City of Long Beach's Tree Maintenance Policy could include tree removal or trimming. Tree removal would result in a permanent impact, while trimming would be considered a temporary encroachment. A permit from the City of Seal Beach Department of Public Works or City of Long Beach Department of Public Works would be required prior to the removal or trimming of any street trees. In accordance with the City of Seal Beach's Protective Tree Ordinance and the City of Long Beach's Tree Maintenance Policy, trees that are removed must be replaced either within an approved 15-gallon tree or within an approved, minimum 24-inch box tree, respectively. Replacement trees shall be planted at a minimum 1:1 ratio (tree planted:tree impacted) and shall be located in an area appropriate for their prolonged growth.

ESHA

Pursuant to CCA Section 30240 of the CCA, impacts to ESHA are generally limited to activities such as habitat restoration as noted by the Coastal Commission Staff Report (GLA 2017d). Moreover, the CCA establishes a high standard for protection of areas that are identified as environmentally sensitive. Only resource-dependent uses, such as habitat restoration, are allowed within an ESHA. Implementation of Mitigation Measures BIO-1 through BIO-10 would ensure that impacts to existing EHSA are temporary and minimized, as well as less than significant.

Potential ESHA occur throughout the South, Isthmus, Central and North Areas based on the suitability to provide habitat for special-status species and/or the presence of a CDFW Sensitive Natural Community. Areas within the restoration program area would qualify as ESHA wherever habitat supports special-status species or where sensitive natural communities exist. Therefore, if additional special-status species are found during subsequent surveys, these areas would also qualify as being potential ESHA.

Ground disturbing activities associated with ecosystem restoration activities, flood risk and stormwater management, development of public access and visitor facilities, and infrastructure and utility modifications would temporarily impact ESHA. These impacts, needed to implement the habitat restoration, can be allowed pursuant to Section 30240 and Section 30233(a)(b) of the CCA. Following completion of grading and restoration efforts, the overall ESHA would be expanded primarily due to the conversion of non-ESHA to ESHA. This would include the conversion of abandoned oil facilities to natural communities. With the successful implementation of the restoration program, most of the program area may qualify for designation as ESHA.

Operation

Tree Protection

No impacts to city-protected trees are anticipated to occur during the operation phase of the proposed program (i.e., post-restoration). Should street tree removal or trimming be required, it will be conducted in accordance with the City of Seal Beach's Protective Tree Ordinance and the City of Long Beach's Tree Maintenance Policy. If applicable within the restoration program area, the California Coastal Commission Special Condition 1. Tree Trimming and Tree Removal Policy for coastal development permit 5-08-187 approved in 2009 would take precedence over the City of Long Beach's Tree Maintenance Policy provisions. Therefore, impacts to protected trees would be less than significant.

ESHA

Potential ESHA occur throughout the South, Isthmus, Central, and North Areas. Impacts during the operation of the proposed program (i.e., post-restoration) may occur during vegetation maintenance, irrigation, non-native plant removal, trash removal and maintenance of levees, berms, flood walls and water-control structures. However, these impacts would be negligible, and as described in the construction analysis above, the nature of the proposed program would expand the amount of ESHA within the program area over time. Any negligible impacts that occur by foot traffic from maintenance personnel, are permitted in accordance with Section 30240 and Section 30233(a)(b) of the CCA. Therefore, impacts to ESHA during the operational phase of the program area would be less than significant.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

Impact BIO-6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Based on a review of the California Department of Fish and Wildlife California Regional Conservation Plans, there are no Habitat Conservation Plans or other approved habitat conservation plans prepared for the program area (CDFW 2017b). Given that the program area is not subject to an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan, no impacts would occur.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

No Impact

3.3.6 Cumulative Impacts

3.3.6.1 Construction

The project that may contribute to a cumulative impact in the study area is the Los Cerritos Wetlands Oil Consolidation and Restoration Project (Cumulative Project No. 24), which occurs in portions of the Central and North Areas and contains sensitive biological resources. Other future projects in the cumulative study area are primarily located within urban, developed areas that are generally disturbed and do not support sensitive biological resources, although some of these projects may occur adjacent to open space areas that support sensitive biological resources, including the Seal Beach Residential Project (Cumulative Project No. 3), which occurs approximately 0.25 miles from the southwestern most portion of the program area in an undeveloped area surrounded by residential development. In addition, the Haynes Generating Station Intake Channel Infill Project (Cumulative Project No. 22) is located adjacent to the program area and may result in impacts to aquatic resources, including essential fish habitat.

The Los Cerritos Wetlands Oil Consolidation and Restoration Project is proposed in portions of the Central and North Areas and could result in significant impacts to special-status wildlife and plant species, riparian areas and sensitive natural communities, federally protected wetlands, and wildlife movement and nursery sites. However, construction-related impacts to sensitive biological resources associated with the Los Cerritos Wetlands Oil Consolidation and Restoration Project would primarily be temporary, such as 0.462 acres of permanent impacts and 1.12 acres of temporary impacts to waters of the U.S/state within the North and Central Areas. Impacts associated with the Los Cerritos Wetlands Oil Consolidation and Restoration Project would be mitigated to a less-than-significant level through the implementation of Mitigation Measures BIO-1 through BIO-11 described in its EIR which avoid, minimize or mitigate for impacts to sensitive biological resources such as special-status plants and wildlife and waters of the U.S. to name a few. Similar to the proposed program, the Los Cerritos Wetlands Oil Consolidation and

Restoration Project would restore, enhance, and create estuarine and associated habitats as well as provide long-term benefits for Belding's savannah sparrow and other special-status species which occur in the overlapping portions of the Central and North Areas. The Los Cerritos Wetlands Oil Consolidation and Restoration Project is the only known restoration project within the assessment area of cumulative impacts and as such will have an overall benefit to biological resources and impacts during construction would not be cumulatively considerable (Table 3-1). The majority of the proposed program's impacts to sensitive biological resources would be temporary, and permanent impacts have largely been avoided by design or are very limited in extent. Therefore, the proposed program's contribution to cumulative impacts during construction would not be cumulatively considerable.

The Seal Beach Residential Project is proposed on a large, vacant lot that could result in significant impacts to special-status wildlife species such as burrowing owl; therefore, development of this parcel could result in significant impacts to protected biological resources. The Haynes Generating Station Intake Channel Infill Project is proposed on primarily aquatic habitat partially within the South Area that could result in significant impacts to special-status aquatic species such as the Pacific green sea turtle and California least tern; therefore, the development of the project could result in significant impacts to biological resources. The construction-related impacts associated with restoration activities within the program area would be short-term, as the majority of area would be temporary impacts and will be largely avoided or enhanced by design and are very limited in extent. Therefore, cumulative impacts to biological resources during construction would not be cumulatively considerable.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

3.3.6.2 Operation

Upon completion of the proposed program and any nearby cumulative projects, including the Los Cerritos Wetlands Oil Consolidation and Restoration Project, the Seal Beach Residential Project, and the Haynes Generating Station Intake Channel Infill Project, the project would be required to comply with federal and state regulations, as well as applicable municipal codes, pertaining to the protection of biological resources. The Seal Beach Residential Project is not anticipated to have additional impacts to sensitive biological resources during its operation as undeveloped lands where sensitive biological resources could potentially occur would be developed during construction and replaced with residential uses. The Haynes Generating Station Intake Channel Infill Project is not anticipated to have additional impacts to sensitive biological resources during its operation as aquatic resources where sensitive biological resources could potentially occur would be filled in during construction. Therefore, the cumulative impacts to biological resources during operations of both the Seal Beach Residential Project and the Haynes Generating Station Intake Channel Infill Project would not be cumulatively considerable. Further, in conjunction

with the Los Cerritos Wetlands Oil Consolidation and Restoration Project the proposed program would have an overall net beneficial effect upon coastal wetlands and other sensitive biological resources as efforts to restore, enhance, and create estuarine and associated habitats will continue during operation. Mitigation Measures BIO-1, BIO-6, and BIO-8 through BIO-11 will continue to be implemented during operation to avoid, minimize and mitigate for impacts to sensitive biological resources. Therefore, the cumulative impacts to biological resources during operations would not be cumulatively considerable.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

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SECTION 3.4
Cultural Resources

3.4.1 Introduction

This section evaluates the potential for the proposed program to result in adverse cultural resources impacts related to historical resources, archaeological resources, and human remains. The analysis is based on a records search conducted at the California Historical Resources Information System – South Central Coastal Information Center (SCCIC); a Sacred Lands File (SLF) search through the Native American Heritage Commission (NAHC); a review of historic topographic maps and aerial photographs; a desktop geoarchaeological study; and a reconnaissance-level site visit. This section identifies the potential for both program-level and cumulative environmental impacts to occur, as well as feasible mitigation measures that would minimize or avoid the proposed program's impacts on cultural resources.

Information sources for the analysis presented in this section include the following:

- *Los Cerritos Wetlands Restoration Plan Program, Los Angeles County and Orange County, California: Cultural Resources Assessment Report* (ESA, 2019)
- *Staff Report: Coastal Development Permit for the Los Cerritos Wetlands Oil Consolidation and Restoration Project* (California Coastal Commission [CCC], 2018)
- *City of Long Beach Los Cerritos Wetlands Project: Historic Resources Assessment* (ESA, 2017)
- *Native American Heritage Commission Sacred Lands File Search* (Quinn, 2019)

All information sources used are included as citations within the text; sources are listed in Section 3.4.7, *References*.

3.4.2 Environmental Setting

3.4.2.1 Prehistoric Setting

The chronology of coastal southern California is typically divided into three general time periods: the Early Holocene (11,000 to 8,000 before present [B.P.]), the Middle Holocene (8,000 to 4,000 B.P.), and the Late Holocene (4,000 B.P. to A.D. 1769). Within this general timeframe, the archaeology of southern California is generally described in terms of cultural "complexes." A complex is a specific archaeological manifestation of a general mode of life, characterized archaeologically by technology, particular artifacts, economic systems, trade, burial practices, and other aspects of culture.

Early Holocene (11,000 to 8,000 B.P.)

While it is not certain when humans first came to California, their presence in southern California by about 11,000 B.P. has been well documented. At Daisy Cave, on San Miguel Island, cultural materials have been radiocarbon dated to between 11,100 and 10,950 years B.P. (Byrd and Raab, 2007). Radiocarbon evidence confirms occupation of the Orange County and San Diego County coast by about 9,000 B.P., primarily in lagoon and river valley locations (Gallegos, 2002). Similarly, the southern Channel Islands were inhabited by 8,000 B.P. as indicated by radiocarbon dates from the Eel Point site on San Clemente Island (Byrd and Raab, 2007). Early Holocene subsistence activities at Eel Point focused on maritime resources and included shellfish collection, as well as seal, sea lion, and dolphin hunting (Byrd and Raab, 2007).

During the Early Holocene, the climate of southern California became warmer and more arid and the human population, residing mainly in coastal or inland desert areas, began exploiting a wider range of plant and animal resources (Horne and McDougall, 2003). The primary Early Holocene cultural complex in coastal southern California was the San Dieguito Complex. The people of the San Dieguito Complex (about 10,000–8,000 B.P.) inhabited the chaparral zones of southwestern California, exploiting the plant and animal resources of these ecological zones (Moratto, 1984; Warren, 1967). Leaf-shaped and large-stemmed projectile points are typical of San Dieguito Complex material culture.

Middle Holocene (8,000 to 4,000 B.P.)

Middle Holocene settlement and subsistence patterns identified in the archaeological record are referred to as the La Jolla Complex (about 8,000–4,000 B.P.), which appears to be a continuation of the Early Holocene San Dieguito Complex. La Jolla groups lived in chaparral zones or along the coast, often migrating between the two. Coastal settlement focused around the bays and estuaries where shellfish and plant resources (i.e., grass seeds and nuts) were the primary subsistence resource (Byrd and Raab, 2007). La Jolla peoples produced large, coarse stone tools, but also produced well-made projectile points and milling slabs. The La Jolla Complex represents a period of population growth and increasing social complexity; however, the archaeological record indicates abandonment of the coastline after 4,000 B.P. possibly due to estuary silting and declining shellfish populations (Byrd and Raab, 2007).

Work on the southern Channel Islands indicates potential Middle Holocene trade networks connecting the southern California La Jolla populations to the groups of the Mojave Desert and the Great Basin's western margins (Byrd and Raab, 2007). Excavations on Santa Catalina Island, San Clemente Island, and San Nicolas Island identified evidence for the manufacture of the distinctive Olivella grooved rectangle (OGR) bead dating to approximately 5,000 B.P. OGR bead distribution appears to be limited to the southern Channel Islands and neighboring mainland, as well as the northern and western Great Basin. Curiously, no evidence for the presence of OGR beads comes from the northern Channel Island region, indicating a Middle Holocene trade/migratory corridor that extended from the southern Channel Islands to the neighboring mainland and beyond to the Mojave Desert and Great Basin (Byrd and Raab, 2007)

Late Holocene (4,000 B.P. to A.D. 1769)

During the Late Holocene, native populations of southern California were becoming less mobile and populations began to gather in small sedentary villages with satellite resource-gathering camps. Evidence indicates that the overexploitation of larger, high-ranked food resources may have led to a shift in subsistence towards a focus on acquiring greater amounts of smaller resources, such as shellfish and small-seeded plants (Byrd and Raab, 2007). The reliance on intensively harvested lower-ranged resources likely placed Late Holocene groups in a precarious position in terms of food acquisition. The cultural complexity that emerges during this period, which is characterized by extensive trade networks, emergent political and social leadership, and the development of new technologies, may have been driven in part to reduce food shortages. Trade during the Late Holocene reached its zenith, with asphaltum (tar), seashells, and steatite being traded from southern California to the Great Basin.

3.4.2.2 Ethnographic Setting

The program area is located in a region traditionally occupied by two Native American groups: the Gabrielino (including the Tongva and Kizh) and Juaneño (or Acjachemen)~~Native Americans~~. The terms Tongva, Kizh, and Acjachemen are preferred by many descendant groups over the Spanish words that have historically been used to describe them. Each group is described below.

The main sources on the Gabrielino (Tongva and Kizh) include Hugo Reid (see Heizer 1968), Zephyrin Engelhardt, Alfred Kroeber, John P. Harrington, Bernice E. Johnston, Thomas C. Blackburn, and C. Hart Merriam. The main sources on the Juaneño (or Acjachemen) include Fray Gerónimo de Boscana (see Robinson 1846 and Harrington 1933, 1934), Alfred Kroeber, and John P. Harrington (other accounts describing Luiseño groups may also be applicable). In 1978, the Smithsonian Institution complied the *Handbook of North American Indians* – a 20-volume encyclopedia summarizing the work of previous ethnographers and what was known about the prehistory, history, and culture of indigenous North American groups. *Volume 8: California* serves as the primary source material for the information presented in this section. Where possible, this information has been supplemented with information gleaned from other published sources (such as McCawley, 1996, and O'Neil and Evans, 1980). The following summaries are not intended to provide a comprehensive account of these groups, but are instead brief historical overviews based on available information. However, tribes are the authority on their culture history.

It should be noted that the information presented herein is related to living tribes who still reside in Los Angeles and Orange counties and who maintain a vested interest in their history, culture, practices, customs, and beliefs. Currently, there are five Gabrielino (Tongva and Kizh) and three Juaneño (or Acjachemen) groups that are recognized by the State as California Native American Tribes (as indicated by the NAHC): Gabrieleño Band of Mission Indians – Kizh Nation; Gabrielino Tongva Indians of California Tribal Council; Gabrieleno-Tongva San Gabriel Band of Mission Indians; Gabrielino-Tongva Tribe; Gabrielino/Tongva Nation; Juañeno Band of Mission Indians, Acjachemen Nation – Belardes; Juañeno Band of Mission Indians, Acjachemen Nation – Romero; Juaneño Band of Mission Indians. These tribes are living communities who actively participate in the preservation of their culture and tribal resources, and were consulted during the

preparation of this PEIR (see section 3.15.2.3 – Identification of Tribal Cultural Resources for a summary of consultation efforts).

Gabrielino (or Tongva and Kizh)

The term "Gabrielino" is a general term that refers to those Native Americans who were sent by the Spanish to the Mission San Gabriel Arcángel. The term first appears, spelled Gabrieleños, -in an 1876 report by Oscar Loew (Bean and Smith, 1978). Two indigenous terms are commonly used by tribal groups refer to themselves and are preferred by descendant groups: Tongva and Kizh. The term Tongva was recorded by ethnographer C. Hart Merriam in 1903 (Heizer, 1968). The term Kizh was first published by ethnologist Horatio Hale in 1846 (Heizer, 1968). Since there are two terms that are used by different groups to refer to themselves, the term Gabrielino is used in this section to encompass both Tongva and Kizh groups.

Prior to European colonization, the Gabrielino occupied a diverse area that included: the watersheds of the Los Angeles, San Gabriel, and Santa Ana rivers; the Los Angeles basin; and the islands of San Clemente, San Nicolas, and Santa Catalina (Bean and Smith, 1978). Their neighbors included the Chumash and Tataviam to the north, the Juañeno to the south, and the Serrano and Cahuilla to the east. The Gabrielino are reported to have been second only to the Chumash in terms of population size and regional influence (Bean and Smith, 1978). The Gabrielino language was part of the Takic branch of the Uto-Aztecan language family.

The Gabrielino Indians were hunter-gatherers and lived in permanent communities located near the presence of a stable food supply. Subsistence consisted of hunting, fishing, and gathering. Small terrestrial game was hunted with deadfalls, rabbit drives, and by burning undergrowth, while larger game such as deer were hunted using bows and arrows. Fish were taken by hook and line, nets, traps, spears, and poison (Bean and Smith, 1978). The primary plant resources were the acorn, gathered in the fall and processed in mortars and pestles, and various seeds that were harvested in late spring and summer and ground with manos and metates. The seeds included chia and other sages, various grasses, and islay or holly-leafed cherry. Community populations generally ranged from 50 to 100 inhabitants, although larger settlements may have existed. The Gabrielino are estimated to have had a population numbering around 5,000 in the pre-contact period (Kroeber, 1925).

The Late Prehistoric period, spanning from approximately 1,500 years B.P. to the mission era, is the period associated with the florescence of the Gabrielino (Wallace, 1955). Coming ashore near Malibu Lagoon or Mugu Lagoon in October of 1542, Juan Rodriguez Cabrillo was the first European to make contact with the Gabrielino Indians.

Maps produced by early explorers indicate that at least 26 Gabrielino villages were within proximity to known Los Angeles River courses, while an additional 18 villages were reasonably close to the river (Gumprecht, 2001). As defined by Raymond White (1963: 116-117), a village (or rancheria as he refers to it), is "composed of several definite topographical units, arranged so that all necessary types of terrain are included within these boundaries… None is so large that a man could not reach any part of it on foot in about half a day, starting from the major dwelling site or village; each includes all features necessary for maximum efficient in the harvesting of

food and other resources according to daily need, seasonal availability, accessibility, and defensibility."

The closest villages to the program area ~~was~~ were the villages of *Puvungna*, the archaeological manifestation of which is located approximately 0.75 miles north of the program area (McCawley, 1996), and *Motuucheyngna*, the archaeological manifestation of which is located on a portion of the former Hellman Ranch property that has since been developed as a residential subdivision (CCC, 2018). The Kirkman-Harriman Pictorial and Historical Map of Los Angeles County (Los Angeles Public Library, 1938) depicts two unnamed villages located approximately 2 miles northwest and 5 miles southeast of the program area.

Puvungna is ~~reported to be~~ the birthplace of *Chingichngish* (or *Chinigchinich*), the primary deity of a ~~protohistoric and early historic~~Native American belief system ~~and ceremonial complex~~ that spread to multiple Southern California Native American tribes, including the Acjachemen, Payómkawichum, Yuhaaviatam~~throughout the Los Angeles basin, Orange County, western Riverside County, and northern San Diego County~~. The belief system based on the teachings of *Chinigchinich* continues to be part of modern tribal spiritual and cultural practices. Most ethnohistoric data suggest that the main village of *Puvungna* was located on Alamitos Mesa at Bixby Ranch. However, as villages often covered large areas and could move to meet changing needs (see White's definition of village above), *Puvungna* may refer to the entire rim of Alamitos Bay (Cleland et al., 2007).

Juañeno (or Acjachemen)

The Juaneño spoke a language belonging to the Cupan group of the Takic subfamily of the Uto-Aztecan language family. The Juaneño people were so called because of their association with Mission San Juan Capistrano, although some contemporary Juaneño identify themselves by the indigenous term *Acjachemen*. The term Acjachemen is the name of the main village and was used by Fray Gerónimo de Boscana describe the indigenous group associated with the Mission San Juan Capistrano. During his time at San Juan Capistrano, Boscana complied an ethnographic account of the Acjachemen, including an account of the belief system centered around *Chingichngish*, as described above.

The Juaneño were linguistically and culturally related to the neighboring Luiseño (with whom they are often grouped; see Bean and Shipek, 1978), Cahuilla, and Cupeño. Juaneño territory extended from just above Aliso Creek in the north to San Onofre Canyon in the south and inland from the Pacific Ocean to Santiago Peak and the ridges above Lake Elsinore (Bean and Shipek, 1978).

The Juaneño lived in sedentary autonomous villages located in diverse ecological zones. Each settlement claimed specific fishing and collecting regions. Typically, villages were located in valley bottoms, along coastal strands and streams, and near mountain foothills. Villages were usually sheltered in coves or canyons, on the side of slopes near water and in good defensive spots. The are no reported ethnographic Juaneño village in the vicinity of the program area; the closest village sites are more than 20 miles south of the program area (O'Neil and Evans, 1980).

Trails, hunting sites, temporary hunting camps, quarry sites, and ceremonial and gaming locations were communally owned, while houses, gardens, tools, ritual equipment, and ornamentation were owned by individuals or families. Most groups had fishing and gathering sites along the coast that they visited annually from January to March when inland supplies were scarce. October to November was acorn-gathering time, when most of the village would settle in the mountain oak groves. Houses were conical in form, partially subterranean, covered with thatch, reeds, brush, or bark. Sweathouses were round and earth covered. Each village was enclosed with a circular fence and had a communal ceremonial structure at the center (Bean and Shipek, 1978).

~~In~~

3.4.2.3 Historic Setting

Spanish Period (1769–1821)

Although Spanish explorers made brief visits to the region in 1542 and 1602, sustained European exploration of southern California began in 1769, when Gaspar de Portolá and a small Spanish contingent began their exploratory journey along the California coast from San Diego to Monterey. This was followed in 1776 by the expedition of Father Francisco Garcés (Johnson and Earle, 1990). In the late 18th century, the Spanish began establishing missions in California and forcibly relocating and converting native peoples. In 1771, Fathers Pedro Benito Cambón and Angel Fernandez Somera y Balbuena founded the Mission San Gabriel Arcángel, located approximately 23 miles north of the program area (California Missions Resource Center, 2018). Disease and hard labor took a toll on the native population in California; by 1900, the Native Californian population had declined by as much as 90 percent (Cook, 1978). In addition, native economies were disrupted, trade routes were interrupted, and native ways of life were significantly altered (Castillo, 1978).

In an effort to promote Spanish settlement of Alta California, Spain granted several large land concessions from 1784 to 1821. At this time, unless certain requirements were met, Spain retained title to the land (State Lands Commission, 1982).

Mexican Period (1821–1846)

The Mexican Period began when Mexico won its independence from Spain in 1821. Mexico continued to promote settlement of California with the issuance of land grants. In 1833, Mexico began the process of secularizing the missions, reclaiming the majority of mission lands and redistributing them as land grants. According to the terms of the Secularization Law of 1833 and Regulations of 1834, at least a portion of the lands would be returned to the Native populations, but this did not always occur (Milliken et al., 2009).

Many ranchos continued to be used for cattle grazing by settlers during the Mexican Period. Hides and tallow from cattle became a major export for Californios, many of whom became wealthy and prominent members of society. The Californios led generally easy lives, leaving the hard work to vaqueros and Indian laborers (Pitt, 1994; Starr, 2007).

American Period (1846–present)

In 1846, the Mexican-American War broke out. Mexican forces were eventually defeated in 1847 and Mexico ceded California to the United States as part of the Treaty of Guadalupe Hildalgo in 1848. California officially became one of the United States in 1850. While the treaty recognized the right of Mexican citizens to retain ownership of land granted to them by Spanish or Mexican authorities, the claimant was required to prove their right to the land before a patent was given. The process was lengthy, and generally resulted in the claimant losing at least a portion of their land to attorney's fees and other costs associated with proving ownership (Starr, 2007).

When the discovery of gold in northern California was announced in 1848, a huge influx of people from other parts of North America flooded into California. The Gold Rush also had an impact on California Native American tribes. Disease and governmental policies continued to take a toll on tribal groups. State and local laws allowed for the legalized enslavement of Native Americans and provided monetary rewards for killing them. Federal policies forced tribes onto reservations and forcibly suppressed resistance. Between 1845 and 1855, California's indigenous population declined from about 150,000 to 50,000 (Cook, 1978).

The Gold Rush and resulting ~~The increased~~ population increase provided an additional outlet for the Californios' cattle. As demand increased, the price of beef skyrocketed and Californios reaped the benefits. However, a devastating flood in 1861, followed by droughts in 1862 and 1864, led to a rapid decline of the cattle industry; over 70 percent of cattle perished during these droughts (McWilliams, 1946; Dinkelspiel, 2008). This event, coupled with the burden of proving ownership of their lands, caused many Californios to lose their lands during this period (McWilliams, 1946). Former ranchos were subsequently subdivided and sold for agriculture and residential settlement.

The first transcontinental railroad was completed in 1869, connecting San Francisco with the eastern United States. Newcomers poured into northern California. Southern California experienced a trickle-down effect, as many of these newcomers made their way south. The Southern Pacific Railroad extended this line from San Francisco to Los Angeles in 1876. The second transcontinental line, the Santa Fe, was completed in 1886 and caused a fare war, driving fares to an unprecedented low. Settlers flooded into the region and the demand for real estate skyrocketed. As real estate prices soared, land that had been farmed for decades outlived its agricultural value and was sold to become residential communities. The subdivision of the large ranchos took place during this time (Meyer, 1981; McWilliams, 1946).

History of the Program Area

The program area's historic-period use has largely focused on oil production and followed the overall trajectory of the Los Angeles Basin's oil industry. The Los Angeles Basin proved to be a hotbed for the oil industry; oil was found close to the surface and with railroads and ports nearby, it was easy to get California oil to market. Oil prospecting, production, and refinery activities were one of the main industries in the region, further stimulated by the rise in automobile traffic—demand for the product skyrocketed.

By the mid to late 1920s, the industry was fueling the local and national economies. The discovery of large deposits of oil in Huntington Beach (1920), Santa Fe Springs (1921) and Signal Hill (1921) immediately increased land values and black-gold fever spread throughout the Los Angeles Basin (Creason, 2010). The effects of the industry were apparent in Los Angeles area—by 1923, California was the number one oil-producing state, and was responsible for one-quarter of the world's oil output. Since the production of oil exceeded the domestic demand, much of the Los Angeles Basin oil was shipped out of the Port of Long Beach to overseas markets (Paleontological Research Institute, 2017). The landscape, economy, and culture of the Los Angeles Basin was transformed by the oil industry. The area became so well known for its oil production that it became the topic of Upton Sinclair's popular novel *Oil!*

Seal Beach Oil Production

In 1912, Geologist Dr. Ralph Arnold surveyed Rancho Los Alamitos and thought that the area would not be conducive to oil exploration and production. Because of Dr. Arnold's findings, Jotham Bixby did not support further exploration of oil drilling. However, the turning point for the Los Alamitos Land Company followed the death of the Los Alamitos Land Company's President, I.W. Hellman, in 1920. Fred H. Bixby, a rancher and co-owner of the Los Alamitos Land Company, was elected to take Hellman's place as President. Once elected, not believing Dr. Arnold's survey, he began leasing tracts of land owned by the Alamitos Land Company to the Royal Dutch Shell Company and Standard Oil in 1921, and later to the Marland Oil Company in 1924 (Copp, 1927).

The first attempts at the discovery of oil began in 1921. Given that the oil field was within tide lands, significant preliminary work was necessary to prepare the area before drilling could commence. Roads were constructed through the excavation and piling of mud to create roadbeds above the high tide level. Derrick foundations were set on driven pilings (Copp, 1927).

Initial prospecting was conducted by Standard Oil Company. The company's Bixby No. 1 well was spudded on February 26, 1921 and drilled to 5,540 feet without penetrating an oil-bearing formation. The Alamitos No. 1 well was spudded on September 28, 1921 and drilled to a depth of 5,760 feet without encountering significant oil deposits. Other wells were drilled by various entities, such as the Seal Beach Oil Company, H.R. Dabney, Shell Company, Associated Oil Company, and Marland Oil Company, with varying degrees of success, though none proved commercially viable (Copp, 1927).

The discovery of commercial production finally came after five and a half years of wildcatting in various different locations of the Seal Beach Oil Field. On June 4, 1926, the Marland Oil Company began drilling Bixby No. 2, located on the Synergy Oil Field site, and by August 4th of the same year the Bixby No. 2 had sent the Seal Beach Oil Field into commercial production (Copp, 1927). After the success of Bixby No. 2, the Marland Oil Company began drilling four more new wells in 1926. Less than one year later, other companies began drilling leases at the Seal Beach Oil Field, including the Union Oil Company of California and the Superior Oil Company (Beyer et al., 1998). The Seal Beach Oil Field reached its peak production at 70,000 barrels per day in June of 1927 transforming the landscape from open ranch land to a field of oil derricks (Heck, 2017). A 1927 Subsurface Contour Map published in the *Mining and Metallurgy*

Journal shows Tract Numbers 1077 and 1779, the McGrath Oil lease, and the Bixby lease dotted with oil wells, including the Marland Oil Company's Bixby No. 2 well.

After the opening of Seal Beach Oil Field, Fred H. Bixby directly benefited from its oil production – making him one of the wealthiest individuals in Long Beach. Bixby made over 404 acres of Rancho Los Alamitos land available for a naval hospital and Long Beach State College (Williams, 1962). He attributed much of his wealth to his business pursuits with the Los Alamitos Land Company.

Oil extraction continued in the Seal Beach Oil Field until the Postwar period when subsidence issues and three small earthquakes damaged a total of 518 wells across all Long Beach oil fields, causing a rapid decline. Major improvements in the mid-1950s lead many fields to adopt water flooding programs to help extract oil and fight subsidence, improving oil extraction output. In 1974, 80 percent of the wells (223 total) located in Seal Beach were still in production, but had minor production numbers due to the expansion of offshore drilling in San Pedro Bay at the Wilmington Field (California Department of Conservation: Division of Oil and Gas, 1974).

Long Beach Oil Production

Prosperity and growth came quickly to Long Beach in 1921, with the discovery of oil. The Royal Dutch Shell Oil Company discovered oil in a section of Rancho Los Cerritos, known as Signal Hill, which would dramatically impact Rancho Los Cerritos and the future of the City of Long Beach.

This oil boom triggered a sudden increase in housing. Signal Hill became the catalyst for a "$1 million per month" building boom in the downtown area, leading to the construction of high-rise buildings (Long Beach Area Convention & Visitors Bureau, 2017.) The oil industry became the central economic engine for the City of Long Beach. In 1936, oil was discovered in the Long Beach Harbor, and this production produced money for the City of Long Beach. Many of the oil companies offered to pay the City of Long Beach 85 percent royalties on their future oil production, and this in turn provided the City of Long Beach with money for a police and fire department, and infrastructure improvements to the City of Long Beach and its port (C-SPAN, 2017). By 1939, the Long Beach Oil Development Company was the primary oil operator and "bringing in revenues of more than $10 million a year" (Heck, 2017). By 1940, 19 million barrels of oil annually were coming from the 400 oil wells in the harbor, and by 1953, 720 wells were along the shoreline. The City of Long Beach would benefit from these oil royalties until the late 1950s, when the State of California demanded revenues from the oil production in Long Beach. Up until 1965, oil production and export covered the entire cost of harbor development in the City of Long Beach.

In the Postwar Period, Long Beach experienced a resurgence in oil production when the development of offshore oil fields at Wilmington Beach were developed. In 1963, the Wilmington Field was estimated to have 1.16 billion barrels of oil, but it wasn't until three years later, that the increase in oil "recoverability caused by water flooding" increased that value to three billion barrels (Tennyson, 2005). Many of the land-based drilling sites in Long Beach were soon over-shadowed by off-shore drilling ventures. Seal Beach, Signal Hill, and Wilmington Beach Oil Fields are all significant to the growth and development of the City of Long Beach, and still remain important economic drivers.

3.4.2.4 Archaeological Setting

A number of archaeological resources are located in the vicinity of the program area. Two areas in particular – Landing Hill, an elevated L-shaped landform that abuts and partially overlaps the South LCWA and Hellman Retained sites at the southern extremity of the program area, and Alamitos Mesa, an elevated landform located about a half mile north of the program area – contain rich assemblages of Native American archaeological sites[1].

Many of the sites on Landing Hill were first documented in the 1950s, including CA-ORA-256 through -265, all of which are prehistoric shell midden deposits. Four of the sites (CA-ORA-258, -259, -260, and -261) were subject to limited excavations in the 1950s prior to development. These sites yielded flaked and groundstone artifacts, including manos, metates, mortars, hammerstones, pestles, polishing stones, projectile points, and a variety of other items. Sites CA-ORA-256, -257, -258, and -259 were later impacted by the Marina Shores development, but remnants of the sites reportedly still exist, while sites CA-ORA-264 and -265 were impacted by development of the Boeing Company facility (Cleland et al, 2007).

In 2002-2004 data recovery efforts at sites CA-ORA-260, -261, -262, -263, -264, and -1472 uncovered 35 human burials and cultural materials dating to between about 5,600 cal B.P. to 3,000 cal B.P. Of note, Feature 2 at CA-ORA-263, a large secondary cremation feature, yielded a dense collection of "killed"[2] groundstone artifacts, stone and shell beads, fossil megafauna, and cremated human bone (Cleland et al., 2007). It should be noted that "the Heron Pointe development has mostly obliterated the remaining portion of the northern arm of the [Landing] hill, including ORA-260, -261, -262, -263, -264, and -1472" (Cleland et al., 2007: 5).

Sites at Alamitos Mesa were studied as early as the 1970s, with research largely focused on possible associations with *Puvungna*. Sites CA-LAN-234, -235, and -306 are reported to be the location of *Puvungna*. Excavations at site CA-LAN-270, a Late Prehistoric deposit situated within the lowlands a short distance to the north of Alamitos Mesa, yielded 21 human burials and a wide variety of utilitarian and ceremonial artifacts. Most sites on Alamitos Mesa have been heavily impacted by modern-day development, such as construction of the California State University – Long Beach campus and the U.S. Veterans Administration Hospital (Cleland et al., 2007).

3.4.2.5 Identification of Cultural Resources

Archival Research

SCCIC Records Search

A records search was conducted on May 15, 2019 by ESA staff. The records search included a review of all recorded archaeological resources and previous studies within the program area and a 1-mile radius, and historic architectural resources within the program area and a 0.25-mile radius (study area). The records search also included a review of the National Register of Historic Places (National Register), California Register of Historical Resources (California Register),

[1] Some sites or portions thereof may remain, but many sites have been destroyed or partially destroyed as a result of modern development.

[2] Artifacts that are intentionally broken as part of ceremonial activities.

California Points of Historical Interest, California Historical Landmarks, Archaeological Determinations of Eligibility, and California State Historic Resources Inventory (HRI).

Previous Cultural Resources Investigations

The SCCIC records search results indicate that 112 cultural resources studies have been conducted within a 1-mile radius of the program area. Of these 112 previous studies, 86 included some form of field study, such as survey, excavation, or monitoring. Of the 86 previous field studies, 11 overlap the program area. Approximately 55 percent of the 1-mile records search radius and 100 percent of the program area have been included in previous cultural resources field studies.

Previously Recorded Cultural Resources

The records search results indicate that 40 archaeological resources have been previously recorded within a 1-mile radius of the program area, and 10 historic architectural resources have been recorded within a 0.25-mile radius of the program area (**Table 3.4-1**, *Previously Recorded Cultural Resources within SCCIC Study Area*). Of the 40 archaeological resources, 35 are prehistoric archaeological sites, 3 are historic-period archaeological sites, and 2 are multicomponent[3] archaeological sites. The 10 historic architectural resources include 6 buildings associated with the Seal Beach Naval Weapons Station; the Long Beach Marine Stadium; the Bixby Ranch Field Office; the Los Alamitos Pump Station; and a fuel oil tank farm.

A total of 15 resources are located within or immediately adjacent to (within 150 feet of) the program area. Of these 15 resources, 8 are located within the program area and include 5 prehistoric archaeological resources (P-19-001821; P-30-000256, -000261, -000851, and -001473); 1 historic-period archaeological resource (P-19-004781); and 2 historic architectural resources (P-19-186926 [Los Alamitos Pump Station] and -187657 [Bixby Ranch Field Office]). The remaining 7 resources are located immediately adjacent to the program area and include 6 prehistoric archaeological resources (P-30-000257, -000258, -000259, -000262, -000850, and -001544) and 1 multicomponent archaeological site (P-30-001542).

TABLE 3.4-1
PREVIOUSLY RECORDED CULTURAL RESOURCES WITHIN SCCIC STUDY AREA

Primary Number (P-)	Permanent Trinomial (CA-)	Description	Date Recorded	Eligibility Status
Archaeological Resources				
19-000102	LAN-000102	Prehistoric archaeological site: shell midden containing lithic and groundstone artifacts	1966	Not evaluated
19-000231	LAN-000231	Prehistoric archaeological site: shell midden	1961	Not evaluated
19-000232	LAN-000232	Prehistoric archaeological site: shell midden	1961	Not evaluated
19-000233	LAN-000233	Prehistoric archaeological site: shell midden	1961	Not evaluated

[3] Contains both prehistoric and historic-period elements.

TABLE 3.4-1
PREVIOUSLY RECORDED CULTURAL RESOURCES WITHIN SCCIC STUDY AREA

Primary Number (P-)	Permanent Trinomial (CA-)	Description	Date Recorded	Eligibility Status
19-000271	LAN-000271	Prehistoric archaeological site: shell midden	1959	Not evaluated
19-000273	LAN-000273	Prehistoric archaeological site: shell midden	1961	Not evaluated
19-000274	LAN-000274	Prehistoric archaeological site: shell midden	1961	Not evaluated
19-000275	LAN-000275	Prehistoric archaeological site: shell midden	1961	Not evaluated
19-000306	LAN-000306	Prehistoric archaeological site: village site containing shell midden	1951, 1964, 1972, 1973, 1997	Listed in NR
19-000702	LAN-000702	Prehistoric archaeological site: shell midden	1974	Not evaluated
19-001007	LAN-001007	Prehistoric archaeological site: shell midden	1979	Not evaluated
19-001821*	LAN-001821	Prehistoric archaeological site: shell midden	1990	Not evaluated
19-003040	LAN-003040H	Historic-period archaeological site: remnants of oil tanks	2000	Not evaluated
19-004781*	LAN-004781H	Historic-period archaeological site: landfill	2017	Recommended ineligible for CR
30-000143	ORA-000143	Prehistoric archaeological site: shell midden	1964, 1965, 1969, 1997	Not evaluated
30-000256*	ORA-000256	Prehistoric archaeological site: shell midden	1969, 1996	Not evaluated
30-000257**	ORA-000257	Prehistoric archaeological site: shell midden	1969, 1996	Not evaluated
30-000258**	ORA-000258	Prehistoric archaeological site: shell midden	1969, 1996	Not evaluated
30-000259**	ORA-000259	Prehistoric archaeological site: shell midden	1969 and 1996	Not evaluated
30-000260	ORA-000260	Prehistoric archaeological site: shell midden	1969, 1996	Eligible for CR
30-000261*	ORA-000261	Prehistoric archaeological site: shell midden	1969, 1996	Eligible for CR
30-000262**	ORA-000262	Prehistoric archaeological site: shell midden	1969, 1996	Eligible for CR
30-000263	ORA-000263	Prehistoric archaeological site: shell midden	1969, 1996	Eligible for CR
30-000264	ORA-000264	Prehistoric archaeological site: shell midden	1969	Eligible for CR
30-000322	ORA-000322/H	Multicomponent archaeological site: prehistoric shell midden and historic-period structural remnants and refuse	1971, 1988, 1992, 1996, 2000	Listed in NR
30-000850**	ORA-000850	Prehistoric archaeological site: shell midden	1969, 1996	Not evaluated
30-000851*	ORA-000851	Prehistoric archaeological site: shell midden	1996	Not evaluated

TABLE 3.4-1
PREVIOUSLY RECORDED CULTURAL RESOURCES WITHIN SCCIC STUDY AREA

Primary Number (P-)	Permanent Trinomial (CA-)	Description	Date Recorded	Eligibility Status
30-001118	ORA-001118	Prehistoric archaeological site: shell scatter	1988, 1992, 1997, 2000	Not evaluated
30-001455	ORA-001455	Prehistoric archaeological site: shell scatter	1996,1997	Not evaluated
30-001472	ORA-001472	Prehistoric archaeological site: shell scatter	1996	Ineligible for CRHR
30-001473*	ORA-001473	Prehistoric archaeological site: shell midden	1996	Not evaluated
30-001537	ORA-001537	Prehistoric archaeological site: shell scatter	2000	Not evaluated
30-001540	ORA-001540	Prehistoric archaeological site: shell scatter	2000	Not evaluated
30-001542**	ORA-001542/H	Multicomponent archaeological site: prehistoric shell scatter and historic-period refuse scatter	2000	Not evaluated
30-001543	ORA-001543H	Historic-period archaeological site: refuse scatter	2000	Not evaluated
30-001544**	ORA-001544	Prehistoric archaeological site: shell scatter	2000	Not evaluated
30-001545	ORA-001545	Prehistoric archaeological site: shell scatter	2000	Not evaluated
30-001546	ORA-001546	Prehistoric archaeological site: shell scatter	2000	Not evaluated
30-001644	ORA-001644	Prehistoric archaeological site: shell midden deposits	2006	Not evaluated
30-001711	ORA-001711	Prehistoric archaeological site: shell scatter	2011	Not evaluated
Historic Architectural Resources				
19-186115	-	Historic architectural resource: Long Beach Marine Stadium constructed in 1932	1993, 1994, 2009	Listed in NR
19-186880	-	Historic architectural resource: petroleum storage farm constructed in the 1950s	2004	Recommended ineligible for CR
19-186926*	-	Historic architectural resource: flood control pump station constructed in 1957 (no longer extant)	2003	Not evaluated
19-187657*	-	Historic architectural resource: Bixby Ranch Field Office constructed prior to 1927	1996, 2016	Recommended eligible for CR
30-176506	-	Historic architectural resource: office building associated with Seal Beach Naval Weapons Station constructed in 1945	1992	Determined ineligible for NR; Not evaluated for CR
30-176507	-	Historic architectural resource: office building associated with Seal Beach Naval Weapons Station constructed in 1945	1992	Determined ineligible for NR; Not evaluated for CR

TABLE 3.4-1
PREVIOUSLY RECORDED CULTURAL RESOURCES WITHIN SCCIC STUDY AREA

Primary Number (P-)	Permanent Trinomial (CA-)	Description	Date Recorded	Eligibility Status
30-176508	-	Historic architectural resource: sentry structure associated with Seal Beach Naval Weapons Station constructed in 1945	1992	Determined ineligible for NR; Not evaluated for CR
30-176513	-	Historic architectural resource: water tower associated with Seal Beach Naval Weapons Station constructed in 1944	1992	Determined ineligible for NR; Not evaluated for CR
30-176515	-	Historic architectural resource: garages associated with Seal Beach Naval Weapons Station constructed in 1945	1992, 2007	Determined ineligible for NR; Not evaluated for CR
30-176516	-	Historic architectural resource: living quarters associated with Seal Beach Naval Weapons Station constructed in 1945	1992, 2007	Determined ineligible for NR; Not evaluated for CR

NOTES:
NR = National Register of Historic Places; CR = California Register of Historical Resources
* Denotes resource within the program area.
** Denotes resource immediately adjacent to (within 150 feet of) the program area.
SOURCE: Cleland et al., 2007; SCCIC, 2019.

Other Identified Resources

Synergy Oil Field (ESA-LCW-1) and Bixby No. 2 Discovery Well (ESA-LCW-2)

In addition to the Bixby Ranch Field Office (P-19-187657), there are two additional historic architectural resources within the program area not yet on file at the SCCIC. Synergy Oil Field (ESA-LCW-1) and Bixby No. 2 Discovery Well (ESA-LCW-2). These two resources were documented as part of the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR, and evaluated for listing in the California Register and for designation as Long Beach Historic Landmarks (ESA, 2017). The Synergy Oil Field (ESA-LCW-1) was recommended ineligible for listing in the California Register. The Bixby No. 2 Discovery Well (ESA-LCW-2) was recommended eligible for individual listing in the California Register under Criterion 1 and for designation as a Long Beach Historic Landmark under Criterion A.

Tribal Cultural Landscape

In 2018, the CCC conducted consultation with the Gabrieleño Band of Mission Indians - Kizh Nation (Kizh Nation), Gabrieleno-Tongva San Gabriel Band of Mission Indians (Gabrieleno-Tongva), and a member of the Acjachemen Tribe. Consultation was conducted in support of a Coastal Development Permit for the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse Number 2016041083), whose boundary includes the entirety of the North Area (North and South Synergy Oil Field sites), Long Beach City Property site, and Pumpkin Patch site[4], which are all within the program area. The CCC report states that representatives of the Kizh Nation "described the tribe's view that the Los Cerritos Wetlands area is a sacred land, just as all land, water and animals are sacred" (CCC, 2018: 125). The CCC report

[4] Only the eastern portion of the Pumpkin Patch site is within the program area.

also states that representatives of the Gabrieleno-Tongva and Acjachemen Tribe "described the project site as Sacred Lands that are part of a larger area of connected tribal sites that constitute a Tribal Cultural Landscape that may be eligible for listing by the National Register as a Tribal Cultural Property" and that "this Tribal Cultural Landscape includes several significant tribal sites and resources in close proximity to the project site, including the site of *Puvungna*, Rancho Los Alamitos (Long Beach Area), and the Hellman Ranch property" (CCC, 2018: 125). The following discussion of the tribal cultural landscape is summarized from the Coastal Development Permit (CCC, 2018). It should be noted that the tribal cultural landscape was not and has not since been formally documented or evaluated for listing in the National Register or California Register.

Tribal representatives described the Los Cerritos Wetlands and its surroundings as sacred lands that encompass a larger area of connected tribal sites. Tribal representatives indicated that the Hellman Ranch area was an extension of *Puvungna* and was connected to a network of villages surrounding the area. They noted that during development of the Hellman Ranch property in the 2000s, approximately 35 prehistoric burials and numerous artifacts were discovered. Tribes ~~believe~~ identified these resources to be associated with a Gabrieleno-Tongva settlement in Seal Beach, known as *Motuucheyngna* (sometimes referred to as *Puvungna East*). ~~Since t~~The Los Cerritos Wetlands are located in between the archaeological manifestations of *Puvungna* and *Motuucheyngna*, and the wetlands ~~are~~ were identified ~~thus considered~~ by tribes to be part of the larger cultural landscape of *Puvungna* and the surrounding villages.

In addition to being culturally connected, the wetlands and surrounding area are connected biologically. These connections occur through the waterways and the plants and animals present. All the tribal members that were part of the CCC's consultation effort agreed that these biological resources are sacred to tribal people as an integral component of tribal resources.

Sacred Lands File Search

The NAHC maintains a confidential file which contains sites of traditional, cultural, or religious value to the Native American community. The NAHC was contacted on March 12, 2019 to request a search of the SLF. The NAHC responded to the request in a letter dated March 21, 2019, indicating that the SLF search was positive. The letter did not provide details on the resource(s) identified, but recommended that Native American groups be contacted for additional information regarding the resource(s). LCWA consulted with five California Native American Tribes (also sometimes referred to as "participating California Native American Tribes" in this PEIR). The results of consultation efforts are documented in Section 3.15, *Tribal Cultural Resources*, of this PEIR.

Historic Map and Aerial Photograph Review

Historic maps and aerial photographs were examined to provide historical information about land uses of the program area, to assist in the identification of potential historic architectural resources, and to contribute to an assessment of the program area's archaeological sensitivity. Available topographic maps include: the 1896, 1899, 1902, and 1943 Downey 15-minute quadrangles; the 1896 Las Bolsas 15-minute quadrangle; the 1925 Long Beach 7.5-minute quadrangle; the 1935, 1949, and 1964 Los Alamitos 7.5-minute quadrangles; and the 1935, 1949, and 1965 Seal Beach 7.5-minute quadrangles. A 1942 map depicting the Seal Beach Oil Field was also reviewed.

Historic aerial photographs were available for the years 1938, 1952, 1954, 1956, 1958, 1960, 1962, 1965, 1968, 1974, 1975, 1994, and 2001 (UCSB, 2019).

Historic Topographic Maps

A review of historic topographic maps indicates that the entire program area was part of Alamitos Bay in 1896 (the date of the earliest available topographic map). The meandering course of the pre-channelized San Gabriel River is shown emptying into the bay. By 1925, the bay had been largely filled in. Naples Island had been created to the west of the program area by this time.

On the 1925 map, Steamshovel Slough and wetlands are present within the Northern Synergy Oil Field site. On the 1925 and 1935 maps, wetlands are depicted in portions of the Southern Synergy Oil Field site, South LCWA site, and Hellman Retained site. Two water retention basins are depicted in portions of the Southern Synergy Oil Field site and Long Beach City Property site. The pre-channelized San Gabriel River is shown cutting through the program area, and a manmade channel (Hellman Channel) is shown in the South LCWA site.

By 1949, the program area is largely developed with oil wells and tanks. Steamshovel Slough and wetlands are present within the Northern Synergy Oil Field site. The Southern Synergy Oil Field site, Long Beach City Property site, Central Bryant site, Central LCWA site, Zedler Marsh site, and Hellman Retained site appear fully devoted to oil extraction. The South LCWA site appears undeveloped, but the channel present in 1925 remains. The San Gabriel River had been channelized by 1949, and a channel or creek was located in the approximate location of where the Haynes Cooling Channel would later be constructed.

The 1964/1965 maps depict similar conditions to those that existed in 1949. Steamshovel Slough and wetlands are still present within the Northern Synergy Oil Field site, and the Southern Synergy Oil Field, Long Beach City Property, Central Bryant, Central LCWA, Zedler Marsh, and Hellman Retained sites remain developed with oil extraction facilities. By this time, the Los Alamitos Retarding Basin had been created. A building is depicted in the State Lands Parcel site. The Haynes Cooling Channel had been constructed in its current course. The residential development on a portion of Landing Hill, located to the south of the program area, had been developed by this time.

1942 Seal Beach Oil Field Map

A review of the 1942 Seal Beach Oil Field map indicates that portions of the program area were under ownership or extraction by several different entities. The following list provides the companies in operation in 1942.

- Union Oil Co. of California (North Synergy Oil Field site)
- Continental Oil Co. (North Synergy Oil Field, South Synergy Oil Field, Long Beach City Property, and Pumpkin Patch sites)
- Tide Water Associated Oil Co. (South Synergy Oil Field, Long Beach City Property, Central Bryant, Central LCWA, Isthmus Bryant, Zedler Marsh, Isthmus LCWA, Los Alamitos Pump Station, Los Alamitos Retarding Basin, Haynes Cooling Channel, Hellman Retained, and South LCWA sites)

Historic Aerial Photographs

A review of historic aerials indicates that portions of the program area were in use as part of the oil industry as early as 1938 (date of oldest available aerial photograph) or were undeveloped. The San Gabriel River had been channelized to its current course by this time, and a channel or creek is shown in the approximate location of where the Haynes Cooling Channel would later be constructed. A human-made channel (Hellman Channel) is visible in the South LCWA site. A building and tanks are visible on the Long Beach Property site. Buildings and tanks are also visible on the Isthmus LCWA site, and buildings are visible on the Hellman Retained site.

The 1952 aerial photograph depicts similar conditions as present in 1938 throughout the program area, although there is additional oil infrastructure present. A building is shown within the State Lands Parcel site. Conditions are nearly identical in the 1956 aerial photograph, but the first indication of the culvert for Calloway Marsh is visible. The 1958 aerial photograph depicts the South Area, with the first indication of the culvert for Zedler Marsh visible. Construction of the housing development on Landing Hill to the south of the program area is evident. A basin had been created in the Los Alamitos Retarding Basin site by this time.

The 1960 aerial depicts similar conditions within the program area to those present in the 1950s. The housing development on Landing Hill to the south of the program area had been largely constructed by this time, and the Haynes Generating Station to the northeast of the program area appears to be under construction. The 1960 aerial photograph depicts tanks within the Hellman Retained site. No significant changes are apparent in the 1965 aerial, with the exception of the construction of the Haynes Cooling Channel. The 1965 aerial also depicts additional buildings within the Hellman Retained site. No significant changes are apparent in the 1974 aerial photograph, but the building within the State Lands Parcel site had been demolished by this time.

Geoarchaeological Review

A geoarchaeological review of the program area and its surroundings was conducted to assess the archaeological sensitivity and the potential for the proposed program to encounter subsurface cultural materials. Literature reviewed included previous archaeological survey reports and site records, geological maps, geotechnical borings, hydrologic reports, and historic maps and photos.

Environmental and Geological Setting

The proposed program is located within the Los Cerritos Wetlands complex, situated within the Peninsular Ranges Geomorphic Province of California. Younger bedrock within this Province is composed of uplifted marine and terrestrial sedimentary rock dating from the Cretaceous period (approximately 80 million years ago [mya]) to the Pleistocene epoch (less than 2 mya). The program area is specifically located in the southeastern portion of the Los Angeles Basin on the coastal floodplain of the San Gabriel River, which is bounded generally by Bolsa Chica Mesa to the south, and Signal Hill and the Dominguez Hills to the north (CCC, 2018).

The Los Cerritos Wetlands are situated within the Alamitos Gap, an erosional feature, between Landing Hill to the south and Bixby Hills to the north (Earth Technology Corporation, 1988). The

hills consist of uplifted late to middle Pleistocene shallow marine deposits including siltstone, sandstone, and conglomerate (Saucedo et al., 2016: Figure 1).

Evolution of the Los Cerritos Wetlands complex would have broadly followed a sequence similar to one observed in the well-studied Ballona Wetlands in Santa Monica Bay (see Altschul et al., 2005; also Homburg et al., 2014). During the last Ice Age, approximately 26,000 to 12,000 years ago, global sea level was substantially lower than current conditions and the edge of the coastal plain was well west of its present day location. Coastal drainages were progressively inundated as sea levels rose following the Late Glacial Maximum forming a series of bays and lagoons. Evidence from Ballona suggests that marine transgression reached its maximum around 7,000 years ago (Altschul et al., 2005); during this time, higher base level may have reduced the influx of terrestrial alluvium into coastal embayments. Stabilization of sea levels by around 4,000 years ago was followed by renewed deltaic building and sedimentation along the interior margins of embayments, and forming marsh and tidal mud flat environments (Cleland et al., 2007).

Historically, the program area was naturally a vegetated tidal wetland in Alamitos Bay. The wetland received fresh water from the meandering channel, Coyote Creek, as well as precipitation runoff from Landing Hill. In places, the tidal wetlands would have been bordered by freshwater marsh and willow swamp. An intertidal flat surrounded Steamshovel Slough, a tidal slough that is still present today. Prior to development of the area, the Los Cerritos Wetlands complex covered approximately 2,400 acres and extended up to 2 miles inland (CCC, 2018). However, starting in the late 1800 and early 1900s, the wetlands were progressively filled and drained for oil production, agriculture, landfilling, and residential and commercial development.

Surface geology within the program area is mapped entirely as artificial fill, which includes deposits from a range of human activities. The greatest amount of fill is likely upland material imported to support development of the numerous oil wells that formerly operated within the program area. Large portions of the wetlands were also used at times as a landfill. Surface elevations within the program area range between 0 and approximately 15 feet above mean sea level (amsl); since natural elevation of the low-lying tidal marsh would have been a few inches to feet, high elevations likely mark the location of particularly thick fill.

Natural deposits directly underlying the artificial fill consist of paralic estuary material, surface manifestations of which are present to the north and south of the artificial fill. The estuary deposits, which consist of unconsolidated, interfingered terrestrial and marine fine-grained sand, silt, and clay, are late Holocene to late Pleistocene in age (Saucedo et al., 2016). The interfingering of marine and terrestrial deposits reflects the interplay of changes in sea level, tectonics, and climate. Beneath the estuary deposits are layers of alluvium. The results of geotechnical borings near the center of the program area suggest that estuary and alluvial deposits cumulatively are approximately 75 feet thick, and are underlain by Pleistocene-aged San Pedro Formation deposits (Camp et al., 1991; see also Earth Technology Corporation, 1988; Engineering Enterprises, 1989).

Soils within the program area are mapped as Bolsa series silty clay loam (NRCS, 2019). This soil series develops in mixed alluvium on alluvial fans. The silty clay loam and silt loam textures in a

typical pedon are consistent with marsh deposits; the soil mapping does not appear to account for the presence of placed fill.

Archaeological Sites in the Vicinity of the Program Area

Archaeological sites recorded at the historic extent of the wetland complex suggest a subsistence pattern based largely on shellfish. Landing Hill (e.g., CA-ORA -256, -257, -258, -259, -260, -261, -262, -263, -264, -1472, -1473) and Bixby Hill (e.g., CA-LAN-102, -231, -232, -233, -271, -273, -274, -275, -306, -702, -1007) both contain multiple pre-contact sites overlooking the program area at elevations between approximately 20 and 60 feet amsl. At a minimum, the sites contain shell debris (chione and pectin) and, typically, dark, organic soils. These upland sites also contain varying quantities of groundstone and/or chipped stone artifacts. The sites have been classified as seasonal camps (e.g., McKinney, 1969a,b,c,d). Near the toe of Landing Hill at elevations of approximately less than 10 feet amsl, there is a second group of sites (e.g., CA-ORA-850, -851, -1542, -1543, -1544), some of which have been interpreted as temporary camps for exploiting estuary and marsh resources (Underwood, 2000a,b). The sites contain chione and pectin shell, as well as dark soil. No features are noted at these sites, and artifacts are generally absent.

Archaeological Sensitivity

The program area appears to have a high sensitivity for archaeological resources. The general vicinity of the program area was clearly a focus of prehistoric human activity prior to its widespread conversion to oil production in the historic period. Fill layers have the potential to contain prehistoric archaeological resources, although such resources have a low likelihood of retaining sufficient archaeological context due to disturbances. Fill layers also have a high sensitivity for subsurface archaeological deposits associated with oil production, as well as agriculture and other historic uses; such deposits have the potential to be in context.

Use of marsh landforms for prehistoric resource procurement has the potential to have resulted in discernable accumulations of shellfish processing and other cultural materials within lowland wetlands. The low-lying, saturated environment is unlikely to have attracted occupation, so dense, rich cultural accumulations would not be expected. However, inadvertent loss of tools, as well as processing of subsistence resources, may have left traces of past activities in the uppermost portions of the soil stratum. Distinguishing shellfish procurement sites from naturally-occurring accumulations of shell, particularly in the absence of artifacts and features, could be challenging.

Alluvium underlying the estuary deposits reflects an earlier coastal plain environment. The coastal plain may have been more amenable to sustained human occupation than on later estuary landforms; if present, archaeological sites associated with camps would be expected to contain a more diverse artifact assemblage reflecting a greater range of human behaviors than those associated with temporary resource procurement sites.

Cultural Resources Reconnaissance Survey

A reconnaissance-level site visit of the program area was conducted on June 13, 2019 by ESA archaeologist Candace Ehringer, M.A., RPA, and ESA architectural historian Alison Garcia

Kellar, M.S. During the site visit, staff documented the general cultural resources context and noted key features and resources that might warrant discussion in the existing conditions context of the PEIR. No resources were formally documented during the survey, but resources were noted on field maps, photographed, and assigned temporary field designations for ease of reference. Previously recorded resources were not visually inspected during the site visit.

A total of seven previously unrecorded cultural resources were noted during the survey, including five historic architectural resources (LCWA-CRE-002-B, LCWA-CRE-003-B, LCWA-CRE-005-B, LCWA-CRE-006-B, and LCWA-CRE-007-B) and two historic-era archaeological resources (LCWA-CRE-001-H and LCWA-CRE-004-H) (**Table 3.4-2**, *Cultural Resources Observed during Site Visit*).

TABLE 3.4-2
CULTURAL RESOURCES OBSERVED DURING SITE VISIT

Temporary Designation	Area	Site	Description	Notes
LCWA-CRE-001-H	Central	Long Beach City Property	Archaeological resource: foundation (unknown use)	Foundation with former structure visible in 1938 aerial.
LCWA-CRE-002-B	Central	Long Beach City Property	Historic architectural resource: tanks	Tanks visible in 1938 aerial as a much larger grouping.
LCWA-CRE-003-B	Isthmus	Isthmus LCWA	Historic architectural resource: 7 buildings/structures; 3 metal tanks; 1920s German equipment	Buildings and structures visible in aerials as early as 1938.
LCWA-CRE-004-H	South	State Lands Parcel	Archaeological resource: concrete pad related to the Airport Club/Marina Palace constructed in 1950.	Building is visible in 1952 and 1968 aerials, and is no longer extant by the 1974 aerial. The no longer extant building was a Quonset hut that served as a gambling house and music venue.
LCWA-CRE-005-B	South	Hellman Retained	Historic architectural resource: operations shed, workshops, and related equipment; decommissioned tank farm; decommissioned service tank	Several of these buildings and structures are visible in 1938 aerial. They appear in their current configuration in the 1965 aerial.
LCWA-CRE-006-B	South	Haynes Cooling Channel	Historic architectural resource: Haynes Cooling Channel	Visible in 1965 aerial photograph.
LCWA-CRE-007-B	South	South LCWA	Historic architectural resource: Hellman Channel	Hellman Channel visible on 1935 topo map.

3.4.3 Regulatory Framework

3.4.3.1 State

California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects occurring in the state and is codified at Public Resources Code (PRC) Section 21000 et seq. CEQA requires lead agencies to determine if a proposed project would have a significant effect on the environment, including significant effects on historical or unique archaeological resources. Under CEQA

(Section 21084.1), a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.

The *CEQA Guidelines* (Title 14 California Code of Regulations [CCR] Section 15064.5) recognize that historical resources include: (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register; (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record. The fact that a resource does not meet the three criteria outlined above does not preclude the lead agency from determining that the resource may be an historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

If a lead agency determines that an archaeological site is a historical resource, the provisions of Section 21084.1 of CEQA and Section 15064.5 of the *CEQA Guidelines* apply. If an archaeological site does not meet the criteria for a historical resource contained in the *CEQA Guidelines*, then the site may be treated in accordance with the provisions of Section 21083, which is as a unique archaeological resource. As defined in Section 21083.2 of CEQA a "unique" archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or,
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archaeological site meets the criteria for a unique archaeological resource as defined in Section 21083.2, then the site is to be treated in accordance with the provisions of Section 21083.2, which state that if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place (Section 21083.1(a)). If preservation in place is not feasible, mitigation measures shall be required. The *CEQA Guidelines* note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment (*CEQA Guidelines* Section 15064.5(c)(4)).

A significant effect under CEQA would occur if a project results in a substantial adverse change in the significance of a historical resource as defined in *CEQA Guidelines* Section 15064.5(a). Substantial adverse change is defined as "physical demolition, destruction, relocation, or

alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired" (*CEQA Guidelines* Section 15064.5(b)(1)). According to *CEQA Guidelines* Section 15064.5(b)(2), the significance of a historical resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics that:

A. Convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the California Register; or

B. Account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in a historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

C. Convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a Lead Agency for purposes of CEQA.

In general, a project that complies with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* (Standards) (Grimmer, 2017) is considered to have mitigated its impacts to historical resources to a less-than-significant level (*CEQA Guidelines* Section 15064.5(b)(3)).

California Register of Historical Resources

The California Register is "an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1[a]). The criteria for eligibility for the California Register are based upon National Register criteria (PRC Section 5024.1[b]). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register.

To be eligible for the California Register, a prehistoric or historic-period property must be significant at the federal, state, and/or local level under one or more of the following four criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

A resource eligible for the California Register must meet one of the criteria of significance described above, and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible

that a historic resource may not retain sufficient integrity to meet the criteria for listing in the National Register, but it may still be eligible for listing in the California Register.

Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed on the National Register and those formally determined eligible for the National Register;
- California Registered Historical Landmarks from No. 770 onward; and,
- Those California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the California Register.

Other resources that may be nominated to the California Register include:

- Historical resources with a significance rating of Category 3 through 5 (those properties identified as eligible for listing in the National Register, the California Register, and/or a local jurisdiction register);
- Individual historical resources;
- Historical resources contributing to historic districts; and,
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

California Health and Safety Code Section 7050.5

California Health and Safety Code Section 7050.5 requires that in the event human remains are discovered, the County Coroner be contacted to determine the nature of the remains. In the event the remains are determined to be Native American in origin, the Coroner is required to contact the NAHC within 24 hours to relinquish jurisdiction.

California Public Resources Code Section 5097.98

California PRC Section 5097.98, as amended, provides procedures in the event human remains of Native American origin are discovered during project implementation. PRC Section 5097.98 requires that no further disturbances occur in the immediate vicinity of the discovery, that the discovery is adequately protected according to generally accepted cultural and archaeological standards, and that further activities take into account the possibility of multiple burials. PRC Section 5097.98 further requires the NAHC, upon notification by a County Coroner, designate and notify a Most Likely Descendant (MLD) regarding the discovery of Native American human remains. The MLD has 48 hours from the time of being granted access to the site by the landowner to inspect the discovery and provide recommendations to the landowner for the treatment of the human remains and any associated grave goods (i.e., artifacts associated with human remains).

In the event that no descendant is identified, or the descendant fails to make a recommendation for disposition, or if the land owner rejects the recommendation of the descendant, the landowner

may, with appropriate dignity, reinter the remains and burial items on the property in a location that will not be subject to further disturbance.

California Government Code Sections 6254(r) and 6254.10

These sections of the California Public Records Act were enacted to protect archaeological sites from unauthorized excavation, looting, or vandalism. Section 6254(r) explicitly authorizes public agencies to withhold information from the public relating to "Native American graves, cemeteries, and sacred places maintained by the Native American Heritage Commission." Section 6254.10 specifically exempts from disclosure requests for "records that relate to archaeological site information and reports, maintained by, or in the possession of the Department of Parks and Recreation, the State Historical Resources Commission, the State Lands Commission, the Native American Heritage Commission, another state agency, or a local agency, including the records that the agency obtains through a consultation process between a Native American tribe and a state or local agency."

California Coastal Act

The California Coastal Act provides some guidance for addressing impacts to cultural resources in Article 3, Section 30344(2) and Article 5, Section 30244. Article 3, Section 30344(2) requires that manmade resources of cultural, historic, economic, and educational importance to the public be inventoried with a description of the resources' historic, educational, and technical notes of interest. Article 5, Section 30244 requires reasonable mitigation measures be implemented when coastal development would adversely impact archaeological resources as identified by the State Historic Preservation Officer.

3.4.3.2 Local

City of Seal Beach General Plan

The Seal Beach General Plan, Cultural Resources Element (2003), contains the following goal, policies, and implementation measures relevant to the program:

Goal 1: Preserve and protect historical, archaeological, and paleontological resources.

Policy 1: Balance the benefits of development with the project's potential impacts to existing cultural resources.

Policy 2: Identify, designate, and protect sites and buildings of historic importance.

Policy 3: Coordinate cultural resource programs and development project review with affected resources agencies and Native American representatives.

Policy 4: Identify funding programs to assist private and public property owners in the preservation of buildings and sites of historic importance.

Policy 5: Assess development proposal for potential impacts to significant archaeological resources pursuant to Section 15064.5 of the California Environmental Quality Act. Require a study conducted by a professional archaeologist for all development proposals located in areas known to be sensitive for cultural resources.

Implementation Measures

Protect Significant Archaeological Resources

Assess development proposal for potential impacts to significant archaeological resources pursuant to Section 15064.5 of CEQA. Require a study conducted by a professional archaeologist for all development proposal located in areas known to be sensitive for cultural resources. Guidance for such studies is provide within General Plan Appendix A. The objective of the study is to determine if significant archaeological resources are potentially present and if the project will significantly impact the resource if significant impacts are identified, either require the project to modified to avoid the impacts, or require measure to mitigate the impacts. Mitigation may involve archaeological investigation and resource recovery.

Preserve Significant Historic Resources

Assess development proposal for potential impacts to significant historic resources pursuant to Section 15064.5 of CEQA. For structures that potentially have historic significance, require a study conducted by a professional architectural historian or historian to determine the actual significance of the structure and potential impacts of the proposed development. Require modification of project to avoid significant impacts, or require mitigation measures. Protect historical buildings and sites to the extent possible.

Historical, Archaeological, and Paleontological Resource Management Guidelines

Prepare and maintain guidelines for historic, archaeological, and paleontological resources management to guide review of the development proposals. Archaeological resources management guidelines are provided within Appendix A of the General Plan.

Establishment of Programs for Preservation of Historic/Archaeological/Paleontologic Resources

Identify and implement programs to assist and encourage private property owners to preserve historic, archaeologic, and paleontologic resources within the City of Seal Beach.

Inventory of Historic and Cultural Landmarks

Establish and update as needed a City Inventory of Historic and Cultural Landmarks using criteria and recorded standards consistent with state regulation for use in evaluating development proposals under CEQA.

City of Long Beach General Plan

The Historic Preservation Element of the City of Long Beach General Plan (2010) includes the following goals, as well as detailed policies and implementation measures.

Goal 1: Maintain and support a comprehensive, citywide historic preservation program to identify and protect Long Beach's historic, cultural, and archaeological resources.

Goal 2: Protect historic resources from demolition and inappropriate alterations through the use of the City's regulatory framework, technical assistance, and incentives.

Goal 3: Maintain and expand the inventory of historic resources in Long Beach.

Goal 4: Increase public awareness and appreciation of the City's history and historic, cultural, and archaeological resources.

Goal 5: Integrate historic preservation policies into City's community development, economic development, and sustainable-city strategies.

Local Designation

The Long Beach Municipal Code (2.63.050) establishes criteria for designating local historic landmarks and landmark districts. A cultural resource may be recommended for designation as a Landmark if it retains integrity and manifests one or more of the following criteria:

A. It is associated with events that have made a significant contribution to the broad patterns of the City's history; or

B. It is associated with the lives of persons significant in the City's past; or

C. It embodies the distinctive characteristics of a type, period or method of construction, or it represents the work of a master or it possesses high artistic values;

D. It has yielded, or may be likely to yield, information important in prehistory or history.

A group of cultural resources may be recommended for designation as a Landmark District if it retains integrity as a whole and meets the following criteria:

A. The grouping represents a significant and distinguishable entity that is significant within a historic context.

B. A minimum of sixty percent (60%) of the properties within the boundaries of the proposed landmark district qualify as a contributing property.

3.4.4 Significance Thresholds and Methodology

3.4.4.1 Significance Thresholds

For the purposes of this Program Environmental Impact Report (PEIR) and consistency with Appendix G of the *CEQA Guidelines*, the proposed program would have a significant impact on cultural resources if it would:

a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5;

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

c) Disturb any human remains, including those interred outside of dedicated cemeteries.

3.4.4.2 Methodology

Historical Resources

Analysis of impacts to historic architectural resources that qualify as historical resources (as defined i*n CEQA Guidelines* Section 15064.5) requires that a lead agency shall first determine whether a building, structure, object or feature is a historical resource. If the lead agency

determines a historic architectural resource is a historical resource, its significance may be materially impaired for the reasons outlined below. Typically, the significance of a historical resource of an architectural or structural nature is materially impaired through demolition or alteration. The resource may also be materially impaired by incompatible adjacent new construction that alters the setting of the resource, thereby diminishing its integrity and significance.

According to the *CEQA Guidelines*, a project with an effect that may cause a substantial adverse change in the significance of a historical resource may have a significant effect on the environment (*CEQA Guidelines* Section 15064.5(b)). A substantial adverse change means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings, resulting in material impairment of the historical resource (*CEQA Guidelines* Section 15064.5(b)(1)). According to *CEQA Guidelines* Section 15064.5(b)(2), the significance of a historical resource is materially impaired when a project:

- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or
- Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the PRC or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the PRC, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
- Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA.

A historic district must preserve the majority of its components to retain integrity as a whole. Typically, a district that retains a majority of its contributors is considered to have sufficient integrity to be eligible for listing in the California Register. A district that does not retain the majority of its contributors is considered to have lost integrity, and is no longer able to convey its historical significance or considered eligible for listing in the California Register.

In general, a project that complies with the Standards (Grimmer, 2017) is considered to have mitigated its impacts to historical resources to a less-than-significant level (*CEQA Guidelines* Section 15064.5(b)(3)). In some circumstances, documentation of a historical resource, by way of historic narrative, photographs or architectural drawings, as mitigation for the effects of demolition of the resource will not mitigate the effects to a point where clearly no significant effect on the environment would occur (*CEQA Guidelines* Section 15126.4(b)(2)).

Archaeological Resources

Analysis of impacts to archaeological resources includes consideration of archaeological resources that qualify as historical resources (as defined in *CEQA Guidelines* Section 15064.5) and as unique archaeological resources (as defined in PRC Section 21083.2). Per *CEQA Guidelines* Section 15064.5(c), a lead agency shall first determine whether a site is a historical

resource. If the archaeological site does not meet the criteria for historical resource, it is then assessed for significance as a unique archaeological resource.

If a lead agency determines an archaeological site is a historical resource, its significance may be materially impaired for the same reasons outlined above under the heading "Historical Resources." Typically, the significance of a historical resource of an archaeological nature is materially impaired through ground-disturbing activities that destroy partially or in whole the surface and subsurface expression of the resource such that it no longer conveys its historical significance. However, the resource may also be materially impaired through the introduction of new visual elements that alter the setting of the resource, thereby diminishing its integrity. Other actions that can impact these types of resources include vandalism and unauthorized collection as a result of increased human presence during construction and/or operation of a project.

CEQA Guidelines Section 15126.4(b)(3) states that the lead agency should seek to avoid damaging effects on historical resources of an archaeological nature, and shall consider preservation in place as the preferred manner of mitigating impacts. If preservation in place is not feasible, mitigation must be developed to minimize significant adverse impacts. For resources eligible under California Register Criterion 4 (information potential), data recovery through excavation should be undertaken to recover the scientifically consequential information contained within the archaeological resource. For resources eligible under Criterion 1 (significant events), Criterion 2 (important persons), or Criterion 3 (design/workmanship) other types of mitigation may be necessary to address those elements of the resource. *CEQA Guidelines* Section 15370 provides guidance on the types of mitigation that may be considered, and includes: avoiding impacts altogether; minimizing impacts; rectifying impacts through repair, rehabilitation, or restoration; reducing impacts through preservation; and compensating for impacts by providing substitute resources. For resources eligible under Criteria 1-3, applicable mitigation could include documentary/archival research, oral history, public interpretation, etc., depending on the nature of the resource and the type/degree of impact.

If an archaeological site does not meet the criteria for a historical resource contained in the *CEQA Guidelines*, then the site may be treated in accordance with the provisions of PRC Section 21083.2, which is as a unique archaeological resource. Similar to that described for historical resources of an archaeological nature, impacts to unique archaeological resource can occur from project-related ground disturbance, and vandalism and unauthorized collection as a result of increased human presence during construction and/or operation of a project. PRC Section 21083.2(b) states that if the project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. If avoidance is not feasible, then mitigation measures, such as data recovery excavation, shall be required (PRC Section 21083.2(c)). It should be noted that the time and cost limitations of PRC Section 21083.2 only apply to unique archaeological resources (*CEQA Guidelines* Section15064.5(c)(2)).

Human Remains

A project may also cause a significant environmental effect if it disturbs human remains, including those interred outside of formal cemeteries. As with archaeological resources, impacts to human remains occur mainly as a result of project-related ground disturbance. Impacts to human remains can be mitigated by following the procedures outlined in California Health and Safety Code Section 7050.5 and PRC Section 5097.98.

As stated in Chapter 1, *Introduction*, on March 8, 2019, the Los Cerritos Wetlands Authority sent a Notice of Preparation to responsible, trustee, and federal agencies, as well as to organizations, and individuals potentially interested in the proposed program to identify the relevant environmental issues that should be addressed in the PEIR. Issues related to cultural resources were identified.

3.4.5 Program Impacts and Mitigation Measures

Impact CUL-1: The proposed program would result in a significant impact if the proposed program would cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5.

Construction

As described in Chapter 2, *Project Description*, of this PEIR, construction on the proposed program area would generally involve remediation of contaminated soil and groundwater, grading, revegetation, construction of new public access opportunities (including trails, visitor centers, parking lots, and viewpoints), construction of flood management facilities (including earthen levees and berms), and modification of existing infrastructure and utilities.

There are 23 potential historical resources within or immediately adjacent to the proposed program area, including 15 archaeological resources (11 prehistoric sites, 3 historic-period sites, and 1 multicomponent site) and 8 historic architectural resources. **Table 3.4-3**, *Known Cultural Resources within or adjacent to the Program Area*, lists the resources by area.

Of the 23 resources, only six have been evaluated for listing in the California Register. Resources P-19-004781 [City Landfill] and ESA-LCW-1 [Synergy Oil Field]) have been evaluated as ineligible for listing in the California Register, and they do not qualify as historical resources. These two resources require no further consideration or mitigation under CEQA. Resources P-19-187657 [Bixby Ranch Field Office] and ESA-LCW-2 [Bixby No. 2 Discovery Well]) have been evaluated as eligible for the California Register, and qualify as historical resources. These two resources were analyzed as part of the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse Number 2016041083). Resources P-30-000261 and -000262 have been evaluated as eligible for the California Register and qualify as historical resources. The remaining 17 known resources have not been evaluated for listing in the California Register, and it is unknown if they qualify as historical resources.

TABLE 3.4-3
KNOWN CULTURAL RESOURCES WITHIN OR ADJACENT TO THE PROGRAM AREA

Primary Number (P-)	Permanent Trinomial (CA-)	Temporary Designation	Description	Eligibility Status	Site	Comments
South Area						
30-000256	ORA-000256	—	Prehistoric archaeological site: shell midden	Not evaluated	South LCWA	—
30-000257	ORA-000257	—	Prehistoric archaeological site: shell midden	Not evaluated	Adj. South LCWA	—
30-000258	ORA-000258	—	Prehistoric archaeological site: shell midden	Not evaluated	Adj. South LCWA	—
30-000259	ORA-000259	—	Prehistoric archaeological site: shell midden	Not evaluated	Adj. South LCWA	—
30-000261	ORA-000261	—	Prehistoric archaeological site: shell midden	Eligible for CR	South LCWA	—
30-000262	ORA-000262	—	Prehistoric archaeological site: shell midden	Eligible for CR	Adj. South LCWA	—
30-000850	ORA-000850	—	Prehistoric archaeological site: shell midden	Not evaluated	Adj. Hellman Retained	—
30-000851	ORA-000851	—	Prehistoric archaeological site: shell midden	Not evaluated	Hellman Retained	—
30-001473	ORA-001473	—	Prehistoric archaeological site: shell midden	Not evaluated	South LCWA	—
30-001542	ORA-001542/H	—	Multicomponent archaeological site: prehistoric shell scatter and historic-period refuse scatter	Not evaluated	Adj. Los Alamitos Retarding Basin	—
30-001544	ORA-001544	—	Prehistoric archaeological site: shell scatter	Not evaluated	Adj. Los Alamitos Retarding Basin	—
—	—	LCWA-CRE-004-H	Historic-period archaeological site: building foundation	Not evaluated	State Lands Parcel	—
—	—	LCWA-CRE-005-B	Historic architectural resource: operations shed, workshops, and related equipment; decommissioned tank farm; decommissioned service tank	Not evaluated	Hellman Retained	—
—	—	LCWA-CRE-007-B	Historic architectural resource: Hellman Channel	Not evaluated	South LCWA	—

TABLE 3.4-3
KNOWN CULTURAL RESOURCES WITHIN OR ADJACENT TO THE PROGRAM AREA

Primary Number (P-)	Permanent Trinomial (CA-)	Temporary Designation	Description	Eligibility Status	Site	Comments
Isthmus Area						
—	—	LCWA-CRE-003-B	Historic architectural resource: 7 buildings/structures; 3 metal tanks; 1920s German equipment	Not evaluated	Isthmus LCWA	—
Central Area						
19-001821	LAN-001821	—	Prehistoric archaeological site: shell midden	Not evaluated	Long Beach City Property	—
19-004781	LAN-004781H	—	Historic-period archaeological site: landfill	Previously recommended ineligible for CR	Pumpkin Patch	—
—	—	LCWA-CRE-001-H	Historic-period archaeological site: building foundation (unknown use)	Not evaluated	Long Beach City Property	—
—	—	LCWA-CRE-002-B	Historic architectural resource: tanks	Not evaluated	Long Beach City Property	—
—	—	LCWA-CRE-006-B	Historic architectural resource: Haynes Cooling Channel	Not evaluated	Haynes Cooling Channel	—
North Area						
19-187657	—	—	Historic architectural resource: Bixby Ranch Field Office constructed prior to 1927	Previously recommended eligible for CR	Northern Synergy Oil Field	Addressed in the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse Number 2016041083)
—	—	ESA-LCW-1	Historic architectural resource: Synergy Oil Field	Previously recommended ineligible for CR	Northern and Southern Synergy Oil Fields	Addressed in the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse Number 2016041083)
—	—	ESA-LCW-2	Historic architectural resource: Bixby No. 2 Discovery Well	Previously recommended eligible for CR	Southern Synergy Oil Field	Addressed in the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse Number 2016041083)

SOURCES: ESA, 2019; SCCIC, 2019

In addition to the resources listed in the table, the Los Cerritos Wetlands is part of a tribal cultural landscape identified by some tribal representatives during consultation with the CCC. This tribal cultural landscape has not been formally documented or evaluated for listing in the California Register. In light of the information provided in the CCC Staff Report for the Coastal Development Permit for the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (CCC, 2018), LCWA has made a discretionary determination to treat this tribal cultural landscape as a historical resource for the purposes of this PEIR, consistent with *CEQA Guidelines* Section 15064.5(a)(4). The physical characteristics of the tribal cultural landscape that appear to convey its historical significance, as identified by the CCC's consultation efforts, include the village sites of *Puvungna* and *Motuucheyngna* (represented by prehistoric archaeological sites in the California State University – Long Beach and the Hellman Ranch areas, respectively), prehistoric archaeological sites within the Los Cerritos Wetlands, as well as the waterways, plants, and animals that are present in the area.

Also, given that the entire program area was not systematically surveyed as part of this assessment, there could be additional as-yet-unidentified archaeological and historic architectural resources within the program area that would require evaluation for listing in the California Register to determine if they qualify as historical resources. In particular, portions of the program area have been used historically for oil extraction/production, and there may be historic architectural resources related to the oil industry that have not been documented or evaluated for listing in the California Register either individually or as part of a potential district or landscape.

Additionally, the program area is considered to have a high potential to encounter buried prehistoric and historic-period archaeological resources. Intact prehistoric resources could be encountered below depth of fill, although historic-period archaeological resources, particularly those associated with the oil industry, could be encountered within fill layers. Should buried archaeological resources be encountered, they would require evaluation for listing in the California Register to determine if they qualify as historical resources.

Actions that have the potential to adversely impact historical resources include:

- Demolition, alteration, or incompatible changes to the setting of eligible or unevaluated historic architectural resources
- Soil remediation, excavation, grading, or other ground-disturbing activities within or in the immediate vicinity of eligible or unevaluated archaeological resources or that unearth subsurface archaeological resources
- Demolition or material alteration in an adverse manner to those physical characteristics of the tribal cultural landscape that convey its historical significance. Construction-related impacts of the proposed program on each sub-category of historical resources are considered below.

Historical Architectural Resources

Potential impacts to historic architectural resources within the program area are considered significant and unavoidable. There are unevaluated historic architectural resources that could qualify as historical resources (i.e., be found eligible for the California Register) and that may be demolished or materially altered in an adverse manner as a result of the proposed program.

Implementation of Mitigation Measures CUL-1 through CUL-3 would lessen the impact by requiring that qualified cultural resources personnel conduct future project-specific studies and develop appropriate treatment for significant resources. However, should a resource be found eligible for the California Register and subsequently be demolished or altered in such a manner that it no longer conveys its historical significance (i.e., is altered in a way that is inconsistent with the Standards), and the resource is no longer eligible for the California Register, it is possible that no feasible mitigation exists that would reduce this impact to a level of less than significant. Typically, impacts resulting from alteration of historic architectural resources can be mitigated to less than significant by following the Standards, which results in a resource that retains sufficient integrity to remain eligible for listing in the California Register. Impacts to historic architectural resources as a result of demolition are more difficult to mitigate to less than significant since the resource would no longer exist and would no longer be eligible for listing in the California Register. While documentation of the resources can lessen the impact from demolition, it does not in and of itself mitigate the impact to a level of less than significant. In order to develop effective mitigation, the nature of the resource and its physical characteristics would need to be understood to develop measures that would lessen the impact. Since it cannot be predicted at the program level why a resource may be eligible, or what comprises its essential physical characteristics, or what mitigation would be appropriate, or if it would be possible to develop feasible mitigation that would sufficiently reduce the impact, the proposed program's impact on historic architectural resources qualifying as historical resources is considered significant and unavoidable.

Archaeological Resources

Potential impacts to archaeological resources within the program area are considered significant and unavoidable. There are unevaluated archaeological resources that could qualify as historical resources and that may be demolished or materially altered in an adverse manner as a result of the proposed program. Also, since the proposed program includes ground disturbance, there is a potential to encounter subsurface archaeological resources that could qualify as historical resources during construction. Implementation of Mitigation Measures CUL-1 and CUL-4 through CUL-15 would lessen the impact by requiring that qualified cultural resources personnel conduct future project-specific studies, develop appropriate treatment for significant resources, and conduct archaeological and Native American monitoring of ground disturbance. However, should a resource be found eligible for the California Register and subsequently be destroyed or altered in such a manner that it no longer conveys its historical significance, and the resource is no longer eligible for the California Register, it is possible that no feasible mitigation exists that would reduce this impact to a level of less than significant. This is especially true for archaeological resources that are eligible for non-scientific values under Criteria 1-3 since data recovery excavations only mitigate impacts to scientific values under Criterion 4. Since it cannot be predicted at the program level under what criteria a resource may be eligible, or what mitigation would be appropriate, or if it would be possible to develop feasible mitigation that would sufficiently reduce the impact, the proposed program's impact on archaeological resources qualifying as historical resources is considered significant and unavoidable.

Tribal Cultural Landscape

Potential impacts from the proposed program on the tribal cultural landscape could occur if the proposed program resulted in the demolition or material alteration to the essential physical characteristics that convey the historical significance of the tribal cultural landscape, such as the village sites of *Puvungna* and *Motuucheyngna*, Native American or prehistoric archaeological sites within or near the Los Cerritos Wetlands, waterways, plants, or animals.

With regards to potential impacts to *Puvungna* and *Motuucheyngna*, the archaeological manifestations of these two village sites that contribute to the landscape's historical significance would not be impacted. *Puvungna* is located about 0.75 miles to the north of the proposed program area, in the area of California State University – Long Beach and its vicinity. *Motuucheyngna* is on a portion of the former Hellman Ranch property that has since been developed as a residential subdivision. No impacts to the archaeological sites associated with these two villages are anticipated as a result of the proposed program.

With regards to potential impacts to other Native American or prehistoric archaeological sites within the Los Cerritos Wetlands, there are 12 prehistoric archaeological sites within or immediately adjacent to (within 150 feet of) the program area. These include five archaeological sites that are within or partially overlap the program boundary (CA-LAN-1821 and CA-ORA-256, -261, -851, and -1473). Of these five sites, only one site (CA-LAN-1821) is entirely within the program area. The remaining sites are on the fringes of the program boundary and some appear to only slightly overlap with the program area. There are also seven archaeological sites that are within 150 feet of the program boundary (CA-ORA-257, -258, -259, -262, -850, -1542, and -1544). Of the 12 prehistoric sites, only two (CA-ORA-261 and-262) have been previously evaluated as eligible for listing in the California Register, and as such they would likely contribute to the significance of the landscape, however, these sites were reportedly destroyed by construction of Heron Pointe. The remaining sites have not been subject to formal evaluations, but they are considered potential contributors to the significance of the landscape. In addition, there could be as yet unidentified prehistoric archaeological sites on the surface or subsurface within the program area that could contribute to the significance of the landscape. Therefore, the proposed program could result in the demolition or material alteration to Native American or prehistoric archaeological sites within the Los Cerritos Wetlands that convey the historical significance of the tribal cultural landscape. Implementation of Mitigation Measures CUL-1 and CUL-4 through CUL-15 would lessen the impact to archaeological resources that contribute to the significance of the tribal cultural landscape:

- Mitigation Measures CUL-1, CUL-4 through CUL-6, and CUL-8 require that qualified cultural resources personnel conduct future project-specific studies to identify archaeological resources and develop appropriate treatment for resources that contribute to the significance of the tribal cultural landscape.
- Mitigation Measure CUL-7 requires consideration of avoidance and preservation in place of archaeological resources, including those that contribute to the landscape's significance, to ensure that destructive treatment measures are a last resort.
- Mitigation Measures CUL-9 through CUL-11, CUL-14, and CUL-15 require establishment of a plan and procedures for avoidance and discoveries measures during construction, training

construction personnel on the significance of the area and procedures to follow in the event of discoveries, monitoring of ground disturbance by archaeologists, and proper curation/disposition of recovered archaeological materials. These measures would ensure the protection, identification, and appropriate handling and treatment of archaeological resources that contribute to the landscape's significance.

- Mitigation Measures CUL-12 and CUL-13 require that LCWA consult with Native American representatives during the preparation of all cultural resources-related documents and that Native American groups are included in monitoring of ground disturbance. These measures would ensure that tribal values are considered in identification, evaluation, and treatment of archaeological resources that contribute to the landscape's significance.

Even with implementation of these measures, the destruction or material alteration of an archaeological resource that contributes to the landscape's significance would constitute a substantial adverse change since it would no longer be present on the landscape. Since avoidance and preservation in place of such resources cannot be guaranteed, impacts to Native American or prehistoric archaeological resources that convey the significance of the tribal cultural landscape are considered significant and unavoidable at the program level.

With regards to potential impacts to the waterways, plants, and animals, the purpose of the proposed program is to restore the natural waterways and habitat of the Los Cerritos Wetlands. These actions would have a beneficial effect on the waterways, plants, and animals. As noted in Chapter 2, *Project Description*, of this PEIR, the proposed program would restore the tidal wetland process by providing a more natural connection between the wetlands and surrounding water sources. This would increase estuarine habitat with a mix of tidal channels, mudflat, salt marsh, and brackish/freshwater marsh and ponds. The existing waterways within the wetlands are human-made and not natural, with the exception of Steamshovel Slough, and do not resemble the historical or pre-contact appearance of the Los Cerritos Wetlands. The proposed program would develop channels that resemble more natural waterways, such as the meandering channels to be excavated off of the Hellman Channel, and would breach the San Gabriel River levee. This would result in a more natural tidal influence between the saltwater/freshwater sources and the wetlands. As discussed in Section 3.3, *Biological Resources*, of this PEIR, the result would be a net increase in jurisdictional wetlands. However, there could be temporary impacts associated with the removal of existing salt marshes (see Section 3.15.2.3 – Identification of Tribal Cultural Resources for a discussion of the importance of salt to tribes). While the one of the goals of the proposed program is to restore and expand tidal salt marshes, construction could result in the temporary loss of some of the wetlands and associated natural resources to which tribes ascribe value and use for spiritual, cultural, and recreational purposes. However, there will be some salt marsh available throughout the entirety of the construction phase of the program.

Also as noted in Chapter 2, *Project Description*, the proposed program would restore and maintain native habitat and maximize wildlife corridors. As discussed in Section 3.3, *Biological Resources*, of this PEIR, the creation of suitable habitat would have a net benefit on several special-status species (e.g., monarch butterfly, estuary sea-blite, black skimmer, California least tern, and others). Historically the wetlands provided natural resources to surrounding Native American village sites. The plants, animals, fish, and shellfish once present within the wetlands were gathered, hunted, and fished to provide sustenance, tools, ceremonial objects, and other

materials for native populations. Restoration of native habitat would attract wildlife back to the area and would allow for a variety of species to again flourish within the wetlands, creating an ecosystem more closely resembling the one that existed historically and in pre-contact times. However, there could be temporary impacts associated with the removal of existing habitat. While the one of the goals of the proposed program is to restore, maintain, and maximize native habitat and wildlife corridors, construction could result in the temporary loss of some of native habitat and associated biological resources to which tribes ascribe value and use for spiritual, cultural, and recreational purposes.

The proposed program ~~also~~ includes several mitigation measures that would lessen potential construction-related impacts to plants and animals that are considered part of the tribal cultural landscape. Mitigation Measures BIO-1 through BIO-9 in Section 3.3, *Biological Resources,* of this PEIR, would require: avoidance of special-status plants or restoration of affected special-status plants; environmental awareness training for construction personnel and biological monitoring; restoration of affected breeding habitat for the Belding's savannah sparrow, nesting bird and raptor avoidance; pre-construction surveys for burrowing owl and creation of a management plan to minimize or avoid impacts to burrowing owls; pre-construction surveys for bat roosting habitat and creation of an exclusion plan to minimize or avoid impacts to breeding bats; focused surveys for special-status wildlife species and creation of an avoidance plan to minimize or avoid impacts to occupied habitat; and revegetation of sensitive natural communities. Implementation of these measures would ensure that any potential construction-related impacts to plants and animals are less than significant. However, the temporary loss of wetlands habitat and associated resources would result in an impact to tribal values ascribed to the Los Cerritos Wetlands as part of the tribal cultural landscape.

Potential impacts to the tribal cultural landscape would be further reduced by considering Native American tribal values ascribed to the Los Cerritos Wetlands throughout the course of development and construction of the proposed program. Mitigation Measure CUL-16 would require that LCWA seek input from California Native American Tribes regarding development of project-level designs, planting selections/palettes, and educational/interpretive signage and displays. This would ensure that tribal values ascribed to the Los Cerritos Wetlands as part of the tribal cultural landscape are considered as part of the design, restoration, and educational elements of the proposed program (see Section 3.15, *Tribal Cultural Resources,* of this PEIR, for a full discussion of input received from California Native American Tribes during consultation on the proposed program). Mitigation Measure CUL17 would require that LCWA prepare a tribal access plan to preserve and enhance tribal member's access to, and use of, the restoration project area for religious, spiritual, or other cultural purposes.

In summary, some of the essential physical features of the tribal cultural landscape would not be impacted (archaeological manifestations of the village sites of *Puvungna* and *Motuucheyngna*), or could be enhanced by the restoration elements of the proposed program (jurisdictional wetlands, plant and animal habitats). However, the proposed program includes ground disturbing activities that have the potential to result in a substantial adverse change to Native American or prehistoric archaeological resources within the Los Cerritos Wetlands and would also result in a temporary loss of wetlands habitat and associated resources that are of value to tribes and that tribes use for

spiritual, cultural, and recreational purposes. Since these types of resources contribute to the significance of the tribal cultural landscape, the proposed program could materially impair the landscape's ability to convey its historical significance, resulting in a substantial adverse change in the significance of the tribal cultural landscape even with the implementation of mitigation. Therefore, impacts to the tribal cultural landscape would be significant and unavoidable at the program level.

Operation

Operation of the proposed program would include ongoing inspection and maintenance of the perimeter levees and berms, flood walls and water-control structures; removal of non-native vegetation in restored habitat and stormwater management features; trash removal within the restored wetlands; and operation of the visitor centers and associated parking lots. These actions would have no impact to historic architectural resources. Any ground disturbance associated with these activities would occur within soils that have already been subject to ground disturbance and archaeological/Native American monitoring, and they are unlikely to unearth archaeological resources. Operation of the proposed program would include increased public access to the program area, and could potentially result in the vandalism of or disturbances to archaeological resources. However, the public access program would constrain visitors to pedestrian trails and bike paths, elevated perimeter pedestrian walkways, and designated viewing areas with overlooks. It would also include educational and interpretive features that would educate the public about the cultural significance of the area, and the implications of unauthorized tampering with resources. Impacts to historic architectural resources and archaeological resources from operation of the proposed program would be less than significant.

The actions described above could also impact to the tribal cultural landscape. As discussed above, no impacts to the archaeological sites associated with *Puvungna* and *Motuucheyngna* are anticipated as a result of the proposed program. Any ground disturbance associated with operational activities would occur within soils that have already been subject to ground disturbance and archaeological/Native American monitoring, and they are unlikely to unearth Native American or prehistoric archaeological resources associated with the landscape. As discussed in Section 3.3, *Biological Resources*, of this PEIR, operational impacts to plants and animals would be minimal or would be lessened by implementation of BIO-1, BIO-6, and BIO-8 though BIO-11, which require restoration of affected special-status plants; preparation of a lighting plan and requiring that nighttime lighting is shielded downward to minimize spillage onto adjacent area; preparation of a Mitigation, Maintenance and Monitoring Program to ensure successful revegetation of sensitive natural communities; and a functional assessment of the wetland areas that will be restored in the program area. Also, resulting modification to existing waterways or creation of new waterways would result in a net increase in jurisdictional wetlands, and with implementation of BIO-10, operational impacts on the wetlands would be assessed. As such, no operational impacts are anticipated to wetlands habitat and associated resources that are of value to tribes and that tribes use for spiritual, cultural, and recreational purposes. With implementation of these mitigation measures, impacts to the tribal cultural landscape from operation of the proposed program would be less than significant.

Mitigation Measures

Mitigation Measures BIO-1 through BIO-11, as provided in Section 3.3, *Biological Resources*.

Mitigation Measure CUL-1: Cultural Resources Personnel Professional Qualifications Standards. Cultural resources consulting staff shall meet, or be under the direct supervision of an individual meeting, the minimum professional qualifications standards (PQS) set forth by the Secretary of the Interior (SOI) (codified in 36 Code of Federal Regulations [CFR] Part 61; 48 FR 44738-44739).

Mitigation Measure CUL-2: Historic Resources Assessment. For each near-term, mid-term, and long-term project, LCWA shall retain an SOI-qualified architectural historian (Qualified Architectural Historian) to conduct a historic resources assessment including: a records search at the South Central Coastal Information Center; a review of pertinent archives and sources; a pedestrian field survey; recordation of all identified historic resources on California Department of Parks and Recreation 523 forms; and preparation of a technical report documenting the methods and results of the assessment. The report(s) shall be submitted to LCWA for review and approval prior to LCWA's approval of project plans or publication of subsequent CEQA documents. The Qualified Architectural Historian shall file a copy of the final report(s) with the South Central Coastal Information Center within 30 days of its completion. A Historic Resources Assessment shall not be required for any project site that has already undergone the same or similar assessment as part of the program as long as the assessment is deemed adequate by the Qualified Architectural Historian for the purposes of the project currently under consideration.

Mitigation Measure CUL-3: Historic Resources Evaluation. Prior to LCWA's approval of project plans or the publication of subsequent CEQA documents for any project site containing unevaluated historic resources, a Qualified Architectural Historian shall determine if the project has the potential to result in adverse impacts to identified historic resources. For any historic resource that may be adversely impacted, the Qualified Architectural Historian shall evaluate the resource for listing in the California Register under Criteria 1-4 in order to determine if the resource qualifies as a historical resource. If a historic resource is found eligible, the Qualified Architectural Historian shall determine if the project would cause a substantial adverse change in the significance of the resource. If a substantial adverse change would occur (i.e., the project would demolish the resource or materially alter it in an adverse manner), the Qualified Architectural Historian shall develop appropriate mitigation measures to be incorporated into subsequent CEQA documents. These measures may include, but would not be limited to, relocation, HABS/HAER/HALS documentation, development and implementation of an interpretative and commemorative program, or development and implementation of a salvage plan. All evaluations and resulting technical reports shall be completed and approved by LWCA prior to LCWA's approval of project plans or publication of subsequent CEQA documents. The Qualified Architectural Historian shall file a copy of the final report(s) with the South Central Coastal Information Center within 30 days of its acceptance by LCWA.

Mitigation Measure CUL-4: Archaeological Resources Assessment. For each near-term, mid-term, and long-term project that involves ground disturbance, LCWA shall retain an SOI-qualified archaeologist (Qualified Archaeologist) to conduct an archaeological resources assessment including: a records search at the South Central

Coastal Information Center; a Sacred Lands File search at the Native American Heritage Commission; updated geoarchaeological review incorporating previously unavailable data (such as geotechnical studies); a pedestrian field survey; recordation of all identified archaeological resources on California Department of Parks and Recreation 523 forms; and preparation of a technical report. The technical report shall: document the methods and results of the study; provide an assessment of the project's potential to encounter subsurface archaeological resources and human remains based on a review of the project plans, depth of proposed ground disturbance, and available project-specific geotechnical reports; and provide recommendations as to whether additional studies are warranted (i.e, Extended Phase I presence/absence testing or resource boundary delineation, Phase II testing and evaluation). The report(s) shall be submitted to LCWA for review and approval prior to approval of project plans or publication of subsequent CEQA documents. The Qualified Archaeologist shall file a copy of the final report(s) with the South Central Coastal Information Center within 30 days of its completion. An Archaeological Resources Assessment shall not be required for any project site that has already undergone the same or similar assessment as part of the program as long as the assessment is deemed adequate by the Qualified Archaeologist for the purposes of the project currently under consideration.

Mitigation Measure CUL-5: Extended Phase I Archaeological Investigation. Prior to LCWA's approval of project plans or the publication of subsequent CEQA documents for any project with a high potential to encounter subsurface archaeological resources as determined by the project-specific archaeological resources assessment conducted under **Mitigation Measure CUL-4: Archaeological Resources Assessment**, a Qualified Archaeologist shall conduct an Extended Phase I investigation to identify the presence/absence of subsurface archaeological resources. Prior to the initiation of field work for any Extended Phase I investigation, the Qualified Archaeologist shall prepare a work plan outlining the investigation's objectives, goals, and methodology (e.g., field and lab procedures, collection protocols, curation and reporting requirements, Native American input/monitoring, schedule, security measures). For investigations related to Native American archaeological resources, monitoring shall be required in accordance with **Mitigation Measures CUL-13: Native American Monitoring**. All work plans shall outline the protocols and procedures to be followed in the event that human remains and associated funerary objects or grave goods (i.e., artifacts associated with human remains) are encountered in accordance with **Mitigation Measure CUL-18~~7~~: Human Remains Discoveries**. Disposition of archaeological materials recovered during Extended Phase I investigations shall be in accordance with **Mitigation Measure CUL-15: Curation and Disposition of Cultural Materials**. Disposition of human remains and any associated funerary objects or grave goods shall be in accordance with **Mitigation Measure CUL-18~~7~~: Human Remains Discoveries**. Projects occurring within the same timeframe may be covered by one overarching work plan. All investigations and resulting technical reports shall be completed and approved by LCWA prior to LCWA's approval of project plans or publication of subsequent CEQA documents. The Qualified Archaeologist shall file a copy of the final report(s) with the South Central Coastal Information Center within 30 days of its acceptance by LCWA. An Extended Phase I investigation shall not be required for any project site or resource that has already undergone the same or similar investigation as part of the program as long as the investigation is deemed adequate by the Qualified Archaeologist for the purposes of the project currently under consideration.

Mitigation Measure CUL-6: Phase II Archaeological Investigation. Prior to LCWA's approval of project plans or the publication of subsequent CEQA documents for any project site containing known unevaluated archaeological resources as identified by the project-specific archaeological resources assessment conducted under **Mitigation Measure CUL-4: Archaeological Resources Assessment**, a Qualified Archaeologist shall determine if the project has the potential to result in adverse impacts to identified **archaeological** resources (this may include initial Extended Phase I testing to identify the boundaries of resources, if necessary to properly assess potential impacts, following the procedures outlined under **Mitigation Measure CUL-5: Extended Phase I Archaeological Investigation**). For any archaeological resource that may be adversely impacted, the Qualified Archaeologist shall conduct Phase II testing and shall evaluate the resource for listing in the California Register under Criteria 1-4 in order to determine if the resource qualifies as a historical resource. LCWA shall consider the significance of the resource to Native American groups prior to requiring any Phase II subsurface testing. If the resource does not qualify as a historical resource, it shall then be considered for qualification as a unique archaeological resource. Native American or prehistoric archaeological resources shall also be considered as contributors to the tribal landscape to determine if they contribute to the significance of the landscape. Prior to the initiation of field work for any Phase II investigation, the Qualified Archaeologist shall prepare a work plan outlining the investigation's objectives, goals, and methodology (e.g., research design, field and lab procedures, collection protocols, data requirements/thresholds, evaluation criteria, curation and reporting requirements, Native American input/monitoring, schedule, security measures). The Qualified Archaeologist and LCWA shall coordinate with participating Native American Tribes during preparation of Phase II work plans related to Native American archaeological resources to ensure cultural values ascribed to the resources, beyond those that are scientifically important, are considered in the evaluation, including those related to the tribal cultural landscape. For investigations related to Native American archaeological resources, Native American Tribal coordination and monitoring shall be required in accordance with **Mitigation Measures CUL-12: Native American Coordination** and **CUL-13: Native American Monitoring**. All work plans shall outline the protocols and procedures to be followed in the event that human remains and associated funerary objects or grave goods (i.e., artifacts associated with human remains) are encountered in accordance with **Mitigation Measure CUL-18~~7~~: Human Remains Discoveries**. Disposition of archaeological materials recovered during Extended Phase I or Phase II investigations shall be in accordance with **Mitigation Measure CUL-15: Curation and Disposition of Cultural Materials**. Disposition of human remains and any associated funerary objects or grave goods shall be in accordance with **Mitigation Measure CUL-18~~7~~: Human Remains Discoveries**. Projects occurring within the same timeframe may be covered by one overarching work plan. All investigations and resulting technical reports shall be completed and approved by LWCA prior to LCWA's approval of project plans or publication of subsequent CEQA documents. The Qualified Archaeologist shall file a copy of the final report(s) with the South Central Coastal Information Center within 30 days of its acceptance by LCWA.

Mitigation Measure CUL-7: Avoidance and Preservation in Place of Archaeological Resources. In the event historical resources or unique archaeological resources or resources that contribute to the significance of the tribal cultural landscape are identified, avoidance and preservation in place shall be the preferred manner of mitigating impacts to such resources. Preservation in place maintains the important relationship between artifacts and their archaeological context and also serves to avoid conflict with traditional

and religious values of groups who may ascribe meaning to the resource. Preservation in place may be accomplished by, but is not limited to, avoidance, incorporating the resource into open space, capping, or deeding the site into a permanent conservation easement. If avoidance is determined by the LCWA to be infeasible in light of factors such as the nature of the find, proposed project design, costs, and other considerations, then that resource shall be subject to **Mitigation Measure CUL-8: Phase III Archaeological Resources Data Recovery and Treatment Plan**. If avoidance and preservation in place of a resource is determined by LCWA to be feasible, then that resource shall be subject to **Mitigation Measure CUL-9: Archaeological Resources Monitoring and Mitigation Plan**.

Mitigation Measure CUL-8: Phase III Archaeological Resources Data Recovery and Treatment Plan. A Qualified Archaeologist shall prepare a Phase III Archaeological Resources Data Recovery and Treatment Plan for significant archaeological resources (i.e., resources that qualify as historical resources or unique archaeological resources or that contribute to the significance of the tribal cultural landscape) that will be adversely impacted by a project. Consistent with *CEQA Guidelines* Section 15126.4, data recovery shall not be required for a historical resource if LCWA determines that testing or studies already completed have adequately recovered the scientifically consequential information for resources eligible under California Register Criterion 4. The Qualified Archaeologist and LCWA shall consult with interested Native American Tribes for recovery/treatment of Native American archaeological resources during preparation of the plan(s) to ensure cultural values ascribed to the resources, beyond those that are scientifically important, are considered in assessing treatment, including those related to the tribal cultural landscape. Projects occurring within the same timeframe may be covered by one overarching plan. The plan(s) shall be submitted to LCWA for review and approval prior to the start of field work for data recovery efforts for resources that are eligible under California Register Criterion 4 (data potential). Data recovery field work shall be completed prior to the start of any project-related ground disturbance. Treatment for archaeological resources that are eligible under California Register Criterion 1 (events), Criterion 2 (persons), or Criterion 3 (design/workmanship) shall be completed within 3 years of completion of the project. Each plan shall include:

a. *Research Design.* The plan shall outline the applicable cultural context(s) for the region, identify research goals and questions that are applicable to each resource or class of resources, and list the data needs (types, quantities, quality) required to answer each research question. The research design shall address all four California Register Criteria (1–4) and identify the methods that will be required to inform treatment, such as subsurface investigation, documentary/archival research, and/or oral history, depending on the nature of the resource. The research design shall also include consideration of Native American or prehistoric archaeological resources as contributors to the tribal cultural landscape.

b. *Data Recovery for Resources Eligible under Criterion 4.* The plan shall outline the field and laboratory methods to be employed, and any specialized studies that will be conducted, as part of the data recovery effort for resources that are eligible under California Register Criterion 4 (data potential). If a resource is eligible under additional criteria, treatment beyond data recovery shall be implemented (see **CUL-6c**).

c. *Treatment for Resources Eligible under Criteria 1, 2, or 3.* In the event a resource is eligible under California Register Criterion 1 (events), Criterion 2 (persons), or Criterion 3 (design/workmanship), then resource-specific treatment shall be

developed to mitigate project-related impacts to the degree feasible. This could include forms of documentation, interpretation, public outreach, ethnographic and language studies, publications, and educational programs, depending on the nature of the resource, and may require the retention of additional technical specialists. Treatment measures shall be generally outlined in the plan based on existing information on the resource. Once data recovery is completed and the results are available to better inform resource-specific treatment, the treatment measures shall be formalized and implemented. Treatment shall be developed by the Qualified Archaeologist in consultation with LCWA and Native American Tribal representatives for resources that are Native American in origin, including those related to the tribal cultural landscape.

d. *Security Measures.* The plan shall include recommended security measures to protect archaeological resources from vandalism, looting, and non-intentionally damaging activities during field work.

e. *Procedures for Discovery of Human Remains and Associated Funerary Objects or Grave Goods.* The plan shall outline the protocols and procedures to be followed in the event *that* human remains and associated funerary objects or grave goods are uncovered. Protocols and procedures shall be in accordance with **Mitigation Measure CUL-18~~7~~: Human Remains Discoveries**.

f. *Reporting Requirements.* Upon completion of data recovery for resources eligible under Criterion 4, the Qualified Archaeologist shall document the findings in an Archaeological Data Recovery Report. The draft Archaeological Data Recovery Report shall be submitted to the LCWA within 360 days after completion of data recovery, and the final Archaeological Data Recovery Report shall be submitted to LCWA within 60 days after the receipt of LCWA comments. The Qualified Archaeologist shall submit the final Archaeological Data Recovery Report to the South Central Coastal Information Center within 30 days of its acceptance by LCWA.

   Upon completion of all other treatment for resources eligible under Criteria 1, 2, or 3, the Qualified Archaeologist shall document the resource-specific treatment that was implemented for each resource and verification that treatment has been completed in a technical document (report or memorandum). The document shall be provided to LCWA within 30 days after completion of treatment.

g. *Curation or Disposition of Cultural Materials.* The plan shall outline the requirements for final *disposition* of all cultural materials collected during data recovery. Disposition of all archaeological materials shall be in accordance with **Mitigation Measure CUL-15: Curation and Disposition of Cultural Materials**. Disposition of human remains and any associated funerary objects or grave goods shall be in accordance with **Mitigation Measure CUL-18~~7~~: Human Remains Discoveries**.

h. *Protocols for Native American Coordination and Monitoring.* The plan shall outline the role and responsibilities of Native American Tribal representatives in *accordance* with **Mitigation Measure CUL-12: Native American Coordination**. It shall outline communication protocols, timelines for review of archaeological resources documents, and provisions for Native American monitoring. The plan shall include provisions for full-time Native American monitoring of all data recovery field work for resources that are Native American in origin, including those related to the tribal

cultural landscape, in accordance with **Mitigation Measure CUL-13: Native American Monitoring**.

Mitigation Measure CUL-9: Archaeological Resources Monitoring and Mitigation Plan. For each near-term, mid-term, and long-term project that involves ground disturbance, a Qualified Archaeologist shall prepare an Archaeological Resources Mitigation and Monitoring Plan taking into account the final LCWA-approved project design plans, depths/locations of ground disturbance, proximity to known archaeological resources, and potential to encounter subsurface archaeological resources. Projects occurring within the same timeframe may be covered by one overarching plan. The Qualified Archaeologist and LCWA shall coordinate with participating Native American Tribes during preparation of the plan(s). Each plan shall include:

a. *Establishment of Environmentally Sensitive Areas.* The plan shall outline areas that will be designated Environmentally Sensitive Areas (including maps), if needed. Significant or unevaluated archaeological resources that are being avoided and are within 50 feet of the construction zone shall be designated as Environmentally Sensitive Areas. The resources shall be *delineated* with exclusion markers to ensure avoidance. These areas shall not be marked as archaeological resources, but shall be designated as "exclusion zones" on project plans and protective fencing in order to discourage unauthorized disturbance or collection of artifacts.

b. *Provisions for Archaeological Monitoring.* The plan shall outline requirements for archaeological monitoring and the archaeological monitor(s) role and responsibilities in accordance with **Mitigation Measure CUL-11: Archaeological Resources Monitoring**. Ground *disturbance* in locations/depths that have been previously monitored as part of the program shall not be subject to additional monitoring.

c. *Procedures for Discovery of Archaeological Resources.* Procedures to be implemented in the event of an archaeological discovery shall be fully defined in the plan and shall be in accordance with **Mitigation Measure CUL-14: Archaeological Resources Discoveries**. Procedures outlined shall include stop-work and protective measures, notification protocols, procedures for significance assessments, and appropriate treatment measures. The plan shall state avoidance or preservation in place is the preferred manner of mitigating impacts to historical resources, unique archaeological resources, and contributors to the significance of the tribal cultural landscape, but shall provide procedures to follow should avoidance be infeasible in light of factors such as the nature of the find, project design, costs, and other considerations.

   If, based on the recommendation of a Qualified Archaeologist, it is determined that a discovered archaeological resource constitutes a historical resource or unique archaeological resource or is a contributor to the significance of the tribal cultural landscape, then *avoidance* and preservation in place shall be the preferred manner of mitigating impacts to such a resource in accordance with **Mitigation Measure CUL-7: Avoidance and Preservation in Place of Archaeological Resources**. In the event that preservation in place is determined to be infeasible and data recovery through excavation is the only feasible mitigation available, an Archaeological Resources Data Recovery and Treatment Plan shall be prepared and implemented following the procedures outlined in **Mitigation Measure CUL-8: Phase III Archaeological Resources Data Recovery and Treatment Plan**. LCWA shall consult with appropriate Native American representatives in determining treatment of resources that are Native American in origin to ensure cultural values ascribed to the

resources, beyond those that are scientifically important, are considered, including those related to the tribal cultural landscape.

d. *Procedures for Discovery of Human Remains and Associated Funerary Objects or Grave Goods.* The plan shall outline the protocols and procedures to be followed in the event that *human* remains and associated funerary objects or grave goods are uncovered. Protocols and procedures shall be in accordance with **Mitigation Measure CUL-18~~7~~: Human Remains Discoveries**.

e. *Reporting Requirements.* The plan shall outline provisions for weekly and final reporting. The Qualified Archaeologist shall prepare weekly status reports detailing activities and locations observed (including maps) and summarizing any discoveries for the duration of monitoring to be submitted to LCWA via email for each week in which monitoring activities occur. The Qualified Archaeologist shall prepare a draft Archaeological Resources Monitoring Report and submit it to LCWA within 180 days after completion of the monitoring program or treatment for significant discoveries should treatment extend *beyond* the cessation of monitoring. The final Archaeological Resources Monitoring Report shall be submitted to LCWA within 60 days after receipt of LCWA comments. The Qualified Archaeologist shall also submit the final Archaeological Resources Monitoring Report to the South Central Coastal Information Center.

f. *Curation or Disposition of Cultural Materials.* The plan shall outline the requirements for final disposition of all cultural materials collected during data recovery. Disposition of all archaeological materials shall be in accordance with **Mitigation Measure CUL-15: Curation and Disposition of Cultural Materials**. Disposition of human remains and any associated funerary objects or grave goods shall be in accordance with **Mitigation Measure CUL-18~~7~~: Human Remains Discoveries**.

g. *Protocols for Native American Coordination and Monitoring.* The plan shall outline requirements for Native American coordination and monitoring, and the Native American monitor(s) role and responsibilities in accordance with **Mitigation Measures CUL-12: Native American Coordination** and **CUL-13: Native American Monitoring**.

Mitigation Measure CUL-10: Construction Worker Cultural Resources Sensitivity Training. For each near-term, mid-term, and long-term project that involves ground disturbance, LCWA shall retain a Qualified Archaeologist to implement a cultural resources sensitivity training program. The Qualified Archaeologist, or their designee, and a Native American representative shall instruct all construction personnel of the importance and significance of the area as a tribal cultural landscape, the types of archaeological resources that may be encountered, the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains, confidentiality of discoveries, and safety precautions to be taken when working with cultural resources monitors. In the event that construction crews are phased, additional trainings shall be conducted for new construction personnel. LCWA or their contractors shall ensure construction personnel are made available for and attend the training. LCWA shall retain documentation demonstrating attendance.

Mitigation Measure CUL-11: Archaeological Resources Monitoring. For each near-term, mid-term, and long-term project, full-time archaeological monitoring of ground disturbance (i.e., demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation,

trenching, or any other activity that has potential to disturb soil) shall be conducted in areas and at depths where there is a potential to encounter archaeological materials or human remains, including excavations into existing artificial fill and native soils, based on the project-specific archaeological resources assessment prepared under **Mitigation Measure CUL-4: Archaeological Resources Assessment**. Ground disturbance in locations/depths that have been previously monitored as part of the program shall not be subject to additional monitoring. The archaeological monitor(s) shall be familiar with the types of resources that could be encountered and shall work under the direct supervision of a Qualified Archaeologist. The number of archaeological monitors required to be on site during ground-disturbing activities is dependent on the construction scenario, specifically the number of pieces of equipment operating at the same time, the distance between these pieces of equipment, and the pace at which equipment is working, with the goal of monitors being able to effectively observe soils as they are exposed. Generally, work areas more than 500 feet from one another will require additional monitors. The archaeological monitor(s) shall keep daily logs detailing the types of activities and soils observed, and any discoveries. Archaeological monitor(s) shall have the authority to halt and re-direct ground disturbing activities in the event of a discovery until it has been assessed for significance and treatment implemented, if necessary, based on the recommendations of the Qualified Archaeologist in coordination with LCWA, and the Native American representatives in the event the resource is Native American in origin, and in accordance with the protocols and procedures outlined in **Mitigation Measure CUL-8: Phase III Archaeological Resources Data Recovery and Treatment Plan**. Reporting of archaeological monitoring shall be conducted in accordance with the provisions outlined in **Mitigation Measure CUL-9: Archaeological Resources Monitoring and Mitigation Plan**.

Mitigation Measure CUL-12: Native American Coordination. LCWA shall seek input from participating Native American Tribes[5] during the preparation of documents required under **Mitigation Measures CUL-5: Extended Phase I Archaeological Investigation**, **CUL-6: Phase II Archaeological Investigation**, **CUL-8: Phase III Archaeological Resources Data Recovery and Treatment Plan**, **Mitigation Measure CUL-9: Archaeological Resources Monitoring and Mitigation Plan**, and **CUL-14: Archaeological Resources Discoveries**, including but not limited to work plans, research designs, treatment plans, and associated technical reports. LCWA shall provide participating Native American Tribes with electronic copies of draft documents and afford them 30 days from receipt of a document to review and comment on the document. Native American comments will be provided in writing for consideration by LCWA. LCWA shall document comments and how the comments were/were not addressed in a tracking log.

Mitigation Measure CUL-13: Native American Monitoring. For each near-term, mid-term, and long-term project, full-time Native American monitoring of ground disturbance (i.e., demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil) shall be conducted in areas and at depths where there is a potential to encounter archaeological materials or human remains, including excavations into existing artificial fill and native soils, based on the project-specific study prepared under **Mitigation Measure CUL-4: Archaeological Resources**

[5] The term "Participating Native American Tribes" includes those California Native American Tribes who consulted with LCWA pursuant to AB 52 during the preparation of this PEIR and who continue to choose to consult with LCWA, as well as those California Native American Tribes who did not participate in consultation on the PEIR but who choose to consult with LCWA pursuant to AB 52 on future CEQA documents.

Assessment. LCWA shall retain a Native American monitor(s) from a California Native American Tribe that is culturally and geographically affiliated with the program area (according to the California Native American Heritage Commission) to conduct the monitoring. If more than one Tribe is interested in monitoring, LCWA shall contract with each Tribe that expresses interest and prepare a monitoring rotation schedule. LCWA shall rotate monitors on an equal and regular basis to ensure that each Tribal group has the same opportunity to participate in the monitoring program. If a Tribe cannot participate when their rotation comes up, they shall forfeit that rotation unless LCWA can make other arrangements to accommodate their schedule. The number of Native American monitors required to be on site during ground disturbing activities is dependent on the construction scenario, specifically the number of pieces of equipment operating at the same time, the distance between these pieces of equipment, and the pace at which equipment is working, with the goal of monitors being able to effectively observe soils as they are exposed. Generally, work areas more than 500 feet from one another require additional monitors. Native American monitors shall have the authority to halt and re-direct ground disturbing activities in the event of a discovery until it has been assessed for significance.

The Native American monitor(s) shall also monitor all ground disturbance related to subsurface investigations and data recovery efforts conducted under **Mitigation Measures CUL-5: Extended Phase I Archaeological Investigation**, **CUL-6: Phase II Archaeological Investigation**, and **CUL-8: Phase III Archaeological Resources Data Recovery and Treatment Plan** for any resources that are Native American in origin, according to the rotation schedule, including those related to the tribal cultural landscape.

Mitigation Measure CUL-14: Archaeological Resources Discoveries. In the event archaeological resources are encountered during construction of the proposed program, all activity in the vicinity of the find shall cease (within 100 feet), and the protocols and procedures for discoveries outlined in **Mitigation Measure CUL-9: Archaeological Resources Monitoring and Mitigation Plan** shall be implemented. The discovery shall be evaluated for potential significance by the Qualified Archaeologist. If the Qualified Archaeologist determines that the resource may be significant (i.e., meets the definition for historical resource in *CEQA Guidelines* subdivision 15064.5(a) or for unique archaeological resource in PRC subdivision 21083.2(g) or is a contributor to the tribal cultural landscape), the Qualified Archaeologist shall develop an Archaeological Resources Data Recovery and Treatment Plan for the resource following the procedures outlined in **Mitigation Measure CUL-8: Phase III Archaeological Resources Data Recovery and Treatment Plan**. When assessing significance and developing treatment for resources that are Native American in origin, including those related to the tribal cultural landscape, the Qualified Archaeologist and LCWA shall consult with the appropriate Native American representatives. The Qualified Archaeologist shall also determine if work may proceed in other parts of the project site while data recovery and treatment is being carried out. LCWA shall consult with the State Lands Commission Staff Attorney regarding any cultural resources discoveries on state lands.

Mitigation Measure CUL-15: Curation and Disposition of Cultural Materials. LCWA shall curate all Native American archaeological materials, with the exception of funerary objects or grave goods (i.e., artifacts associated with Native American human remains). LCWA shall consult with Native American representatives regarding the final disposition of Native American archaeological materials and on the selection of the curation facility, with preference given to tribal museums. LCWA shall first consider repositories that ~~at a~~

~~repository~~ are accredited by the American Association of Museums and that meet~~s~~ the standards outlined in 36 CFR 79.9. If ~~no~~ a suitable accredited repository is not identified ~~accepts the collection~~, then LCWA ~~may~~ shall consider~~curate it at a~~ non-accredited repositories~~y~~ as long as ~~it~~ they meet~~s~~ the minimum standards set forth by 36 CFR 79.9. If ~~neither an accredited nor~~ a suitable non-accredited repository is not identified,~~accepts the collection~~, then LCWA shall ~~offer the collection to a public, non-profit institution with a research interest in the materials, or~~ donate ~~it~~ the collection to a local California Native American Tribe(s) (Gabrielino or Juañeno) for educational purposes. Disposition of Native American human remains and associated funerary objects or grave goods shall be determined by the landowner in consultation with LCWA and the Most Likely Descendant in accordance with **Mitigation Measure CUL-18~~7~~: Human Remains Discoveries**.

LCWA shall curate all historic-period archaeological materials that are not Native American in origin at a repository accredited by the American Association of Museums that meets the standards outlined in 36 CFR 79.9. If no accredited repository accepts the collection, then LCWA may curate it at a non-accredited repository as long as it meets the minimum standards set forth by 36 CFR 79.9. If neither an accredited nor a non-accredited repository accepts the collection, then LCWA shall offer the collection to a public, non-profit institution with a research interest in the materials, or to a local school or historical society in the area for educational purposes. If no institution, school, or historical society accepts the collection, LCWA may retain it for on site display as part of its interpretation and educational elements.

The final disposition of cultural resources recovered on state lands under the jurisdiction of the California State Lands Commission must be approved by the Commission.

Prior to start of each project, LCWA shall obtain a curation agreement and shall be responsible for payment of fees associated with curation for the duration of the program.

Mitigation Measure CUL-16: Future Native American Input. LCWA shall consult with participating California Native American Tribes,[6] to the extent that they wish to participate, during future design of project-level components, plant and native plant selections or palettes, and development of content for educational and interpretative elements, such as signage and Visitors Center displays.

Mitigation Measure CUL17: Tribal Access Plan. Prior to the start of construction, LCWA shall develop a written access plan to preserve and enhance tribal members' access to, and use of, the restoration project area for religious, spiritual, or other cultural purposes. This plan will allow access to the extent LCWA has the authority to facilitate such access, and be consistent with existing laws, regulations, and agreements governing property within the program area. The access plan may place restrictions on access into certain areas, such as oil operations and other exclusive easements the LCWA does not have access rights to. This access plan shall be developed in coordination with participating California Native American Tribes, to the extent that they wish to participate.

[6] The term "Participating Native American Tribes" includes those California Native American Tribes who consulted with LCWA pursuant to AB 52 during the preparation of this PEIR and who continue to choose to consult with LCWA, as well as those California Native American Tribes who did not participate in consultation on the PEIR but who choose to consult with LCWA pursuant to AB 52 on future CEQA documents

Significance after Mitigation

Significant and Unavoidable

Impact CUL-2: The proposed program would result in a significant impact if the proposed program would cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5.

Construction

As described under Impact CUL-1, there are ~~14~~ 15 known archaeological resources within or in the immediate vicinity of the program area. Also, given that the entire program area was not systematically surveyed as part of this assessment, there could be additional as-yet-unidentified archaeological resources within the program area. Additionally, the program area is considered to have a high potential to encounter buried prehistoric and historic-period archaeological resources. Intact prehistoric resources could be encountered below depth of fill, although historic-period archaeological resources, particularly those associated with the oil industry, could be encountered within fill layers. Actions that have the potential to adversely impact archaeological resources include soil remediation, excavation, grading, or other ground-disturbing activities within or in the immediate vicinity of known archaeological resources or that unearth subsurface archaeological resources.

Mitigation Measures CUL-1, and CUL-4 through CUL-15 would reduce impacts to archaeological resources by requiring qualified cultural resources personnel conduct future project-specific studies; development of appropriate treatment for significant resources; and archaeological and Native American monitoring of ground disturbance. However, even with implementation of these mitigation measures, impacts to archaeological resources would be significant and unavoidable at the program level.

Operation

Operation of the proposed program would include ongoing inspection and maintenance of the perimeter levees and berms, flood walls and water-control structures; removal of non-native vegetation in restored habitat and stormwater management features; trash removal within the restored wetlands; and operation of the visitor centers and associated parking lots. Any ground disturbance associated with these activities would occur within soils that have already been subject to ground disturbance and archaeological/Native American monitoring, and they are unlikely to unearth archaeological resources. Operation of the proposed program would include increased public access to the program area, and could potentially result in the vandalism or disturbances to archaeological resources. However, the public access program would constrain visitors to pedestrian trails and bike paths, elevated perimeter pedestrian walkways, and designated viewing areas with overlooks. It would also include educational and interpretative features that would educate the public about the biological and cultural significance of the area, and the implications of unauthorized tampering with wetlands and its resources. Impacts to archaeological resources from operation of the proposed program would be less than significant.

Mitigation Measure

Mitigation Measures CUL-1 and CUL-4 through CUL-15.

Significance after Mitigation

Significant and Unavoidable

Impact CUL-3: The proposed program would result in a significant impact if the proposed program would disturb any human remains, including those interred outside of formal cemeteries.

Construction

The proposed program is an area where numerous Native American burials have been previously recovered, including from an archaeological site that appears to overlap the fringes of the program area. Given the prehistoric and ethnohistoric occupation of the area, it is possible that Native American human remains, including those interred outside of formal cemeteries, could be located within the program area. No formal or historic-era cemeteries are known to be located within the program area. Actions that have the potential to disturb human remains include program-related soil remediation, excavation, grading, or other ground-disturbing activities.

Mitigation Measure CUL-1~~8~~7 would reduce impacts to human remains by requiring compliance with California Health and Safety Code Section 7050.5 and California PRC Section 5097.98, and ensuring that human remains and any associated funerary objects or grave goods are treated in a manner consistent with state law. With implementation of this mitigation measures impacts to human remains would be less than significant.

Operation

Operation of the proposed program would include ongoing inspection and maintenance of the perimeter levees and berms, flood walls and water-control structures; removal of non-native vegetation in restored habitat and stormwater management features; trash removal within the restored wetlands; and operation of the visitor centers and associated parking lots. Any ground disturbance associated with these activities would occur within soils that have already been subject to ground disturbance, and they are unlikely to disturb human remains. Impacts to human remains from operation of the proposed program would be less than significant.

Mitigation Measures

> **Mitigation Measure CUL-1~~8~~7. Human Remains Discoveries:** If human remains are encountered, then LCWA or its contractor shall halt work in the vicinity (within 100 feet) of the discovery and contact the appropriate County Coroner in accordance with Public Resources Code Section 5097.98 and Health and Safety Code Section 7050.5, which requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. If the County Coroner determines the remains are Native American, then the Coroner will notify the California Native American Heritage Commission (NAHC) within 24 hours in accordance with Health and Safety Code subdivision 7050.5(c), and

Public Resources Code Section 5097.98. The California Native American Heritage Commission shall then identify the person(s) thought to be the Most Likely Descendant (MLD). The MLD may, with the permission of the land owner, or his or her authorized representative, inspect the site of the discovery of the Native American remains and may recommend to the owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The MLD shall complete their inspection and make their recommendation within 48 hours of being granted access by the landowner to inspect the discovery. The recommendation may include the scientific removal and nondestructive analysis of human remains and items associated with Native American burials. LCWA and the landowner shall discuss and confer with the MLD on all reasonable options regarding the MLD's preferences for treatment.

Until LCWA and the landowner have conferred with the MLD, the contractor shall ensure that the immediate vicinity where the discovery occurred is not disturbed by further activity and is adequately protected according to generally accepted cultural or archaeological standards or practices, and that further activities take into account the possibility of multiple burials.

If the NAHC is unable to identify an MLD, or the MLD identified fails to make a recommendation, or the landowner rejects the recommendation of the MLD and the mediation provided for in Subdivision (k) of Section 5097.94, if invoked, fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall inter the human remains and items associated with Native American human remains with appropriate dignity on the facility property in a location not subject to further and future subsurface disturbance.

Significance after Mitigation

Less than Significant with Mitigation

3.4.6 Cumulative Impacts

This analysis of cumulative impacts takes into consideration impacts on cultural resources from implementation of the proposed program. The geographic area of analysis for cultural resources typically covers the region within which similar types of cultural resources occur. The geographic scope of analysis for historic architectural resources (buildings, structures, objects) is the cities of Seal Beach and Long Beach. The types of development that historically occurred with the cities includes development related to agriculture; oil production; seaside resorts and tourism; ports and shipping; and saloons and gambling dens. This geographic scope of analysis for historic architectural resources is appropriate because the types of resources within this area is expected to be similar to those that occur within the program area, such as buildings and structures related to the oil industry.

The geographic scope of analysis for the tribal cultural landscape, archaeological resources, and human remains encompasses the broadly defined coastal zone of Orange and Los Angeles Counties, from roughly Santa Monica in the north to Newport Beach in the south. Prehistoric groups occupying this area focused to a large degree on littoral and immediately inland areas,

particularly those associated with the estuaries and marshes at the mouths of the coastal drainages. A focus on coastal resources in these estuaries, coupled with use of inland resources, created archaeological patterns somewhat distinct from those of the more inland areas of southern California. This geographic scope of analysis is appropriate for archaeological resources and human remains because the types of resources within this area are expected to be similar to those that occur within the program area.

3.4.6.1 Construction

Multiple projects, mostly development within urban settings, are proposed throughout the geographic scope of analysis. Cumulative impacts to cultural resources could occur if any of these projects, in conjunction with the proposed program, would have impacts on resources that, when considered together, would be significant.

Historic Architectural Resources

Potential impacts to historic architectural resources within the program area are considered significant and unavoidable. There are unevaluated historic architectural resources that may be demolished or materially altered in an adverse manner as a result of the proposed program. While implementation of Mitigation Measures CUL-1 through CUL-3, which require that qualified cultural resources personnel conduct future project-specific studies and the development of appropriate treatment for significant resources, would lessen the impact, there are no feasible mitigation measures that would reduce the impact to a level of less than significant at the program level. The proposed program's residual impact to historic architectural resources that may qualify as historical resources is significant and unavoidable. The cumulative projects proposed throughout the geographic scope of this analysis have the potential to impact historic architectural resources as some of the projects would demolish or alter historic architectural resources. When taken together, the incremental contribution of the construction of the proposed program when combined with other projects in the geographic scope is cumulatively considerable. There is no feasible mitigation for cumulative impacts to historic architectural resources other than not undertaking the proposed program.

Archaeological Resources

Potential impacts to archaeological resources within the program area are considered significant and unavoidable. There are unevaluated archaeological resources that may be demolished or materially altered in an adverse manner as a result of the proposed program. While implementation of Mitigation Measures CUL-1 and CUL-4 through CUL-15, which require that qualified cultural resources personnel conduct future project-specific studies, the development of appropriate treatment for significant resources, and archaeological and Native American monitoring of ground disturbance, would lessen the impact, there are no feasible mitigation measures that would reduce the impact to a level of less than significant at the program level. The proposed program's residual impact to archaeological resources that may qualify as historical resources or unique archaeological resources is significant and unavoidable. The cumulative projects proposed throughout the geographic scope of this analysis have the potential to impact archaeological resources as some of the projects would include ground disturbance. When taken

together, the incremental contribution of construction of the proposed program when combined with other projects in the geographic scope is cumulatively considerable. There is no feasible mitigation for cumulative impacts to archaeological resources other than not undertaking the proposed program.

Tribal Cultural Landscape

Potential impacts from the proposed program on the tribal cultural landscape are considered significant and unavoidable. ~~While s~~Some of the essential physical characteristics of the landscape (*Puvungna* and *Motuucheyngna*) would not be impacted and others (waterways, plants, and animals) and others would receive a beneficial effect or a less than significant impact with mitigation. However, some of the essential physical characteristics of the landscape (Native American or prehistoric archaeological sites within the Los Cerritos Wetlands) could be impacted by the proposed program. There may also be temporary loss of wetlands habitat and associated resources, which would result in an impact to tribal values ascribed to the Los Cerritos Wetlands as part of the tribal cultural landscape. ~~and~~ As such, there is no feasible mitigation to lessen this impact to a level of less than significant.

As discussed in Section 3.4.5, *Program Impacts and Mitigation Measures*, above, the archaeological manifestations of the two village sites that contribute to the landscape's historical significance, *Puvungna* and *Motuucheyngna*, would not be impacted by the proposed program. *Puvungna* is located about 0.75 miles to the north of the program area, in the area of California State University – Long Beach and its vicinity. *Motuucheyngna* is on a portion of the former Hellman Ranch property that has since been developed as a residential subdivision. No impacts to the archaeological sites associated with these two villages are anticipated as a result of the proposed program.

Also as discussed in Section 3.4.5, *Program Impacts and Mitigation Measures*, above, the proposed program would either result in a beneficial effect to waterways, plants, and animals or require mitigation to lessen construction-related impacts. The proposed program would result in a net increase or benefit to jurisdictional wetlands and several special-status species. Temporary impacts resulting from construction would be mitigated to less-than-significant level by implementation of Mitigation Measures BIO-1 through BIO-9, outlined in Section 3.3, *Biological Resources*, of this PEIR, These measures require: avoidance of special-status plants or restoration of affected special-status plants; environmental awareness training for construction personnel and biological monitoring; restoration of affected breeding habitat for the Belding's savannah sparrow, nesting bird and raptor avoidance; pre-construction surveys for burrowing owl and creation of a management plan to minimize or avoid impacts to burrowing owls; pre-construction surveys for bat roosting habitat and creation of an exclusion plan to minimize or avoid impacts to breeding bats; focused surveys for special-status wildlife species and creation of an avoidance plan to minimize or avoid impacts to occupied habitat; and revegetation of sensitive natural communities.

Potential impacts to the tribal cultural landscape would be further reduced by considering Native American tribal values ascribed to the Los Cerritos Wetlands throughout the course of development and construction of the proposed program. Mitigation Measure CUL-16 would

require that LCWA seek input from California Native American Tribes regarding development of project-level designs, planting selections/palettes, and educational/interpretive ~~signage~~elements. This would ensure that tribal values ascribed to the Los Cerritos Wetlands as part of the tribal cultural landscape are considered as part of the design, restoration, and educational elements of the program. Mitigation Measure CUL17 would require that LCWA prepare a tribal access plan to preserve and enhance tribal member's access to, and use of, the restoration project area for religious, spiritual, or other cultural purposes.

However, as noted in Section 3.4.5, *Program Impacts and Mitigation Measures*, there are known Native American or prehistoric archaeological resources within the program area that could contribute to the significance of the landscape and that may be impacted by the proposed program. Additionally, there is a potential for as yet unidentified prehistoric archaeological sites on the surface or subsurface within the program area that could contribute to the significance of the landscape and that may also be impacted by the proposed program. Implementation of Mitigation Measures CUL-1 and CUL-4 through CUL-15 would lessen the impact to archaeological resources that contribute to the significance of the tribal cultural landscape. However, even with implementation of these measures, the destruction or material alteration of a resource that contributes to the landscape would constitute a significant impact since it would no longer be present on the landscape. Since avoidance and preservation in place of such resources cannot be guaranteed, impacts to Native American or prehistoric archaeological resources that convey the significance of the tribal cultural landscape are considered significant and unavoidable at the program level. Therefore, the proposed program's residual impact on the tribal cultural landscape, which has been discretionarily determined by LCWA to be a historical resource for the purposes of this PEIR, is significant and unavoidable.

The cumulative projects proposed throughout the geographic scope of this analysis also have the potential to result in a substantial adverse change in the significance of the tribal cultural landscape as some of these projects are also within or in the vicinity of the tribal cultural landscape. Past, present, and foreseeable projects have resulted in or could result in the demolition or material alteration to some aspects of the tribal cultural landscape that convey its significance. Past projects in the program's vicinity, such as the construction of California State University – Long Beach, U.S. Veterans Administration Hospital, Rancho Los Alamitos/Bixby Hill, and Heron Pointe, resulted in the demolition or material alteration of archaeological sites associated with the villages of *Puvungna* and *Motuucheyngna*. Additionally, other past projects have encroached upon the wetlands leading to habitat degradation and loss, resulting in the material alteration of waterways, plant habitat, and animal habitat. Future projects could also materially alter the tribal cultural landscape through the introduction of development that is incompatible with the landscape's setting or through ground disturbance within archaeological sites that contribute to the significance of the landscape. When taken together, past, present, and foreseeable projects result in a significant cumulative impact to the tribal cultural landscape.

The purpose of the proposed program is to restore the wetlands and the proposed program would result in an overall benefit to several of the essential physical characteristics of the landscape, such as the waterways, plants, and animals. Other projects have in the past resulted in greater impacts to the landscape than the proposed program, including impacts to archaeological sites

associated with the villages of *Puvungna* and *Motuucheyngna*, as well as other Native American or prehistoric archaeological resources that may have contributed to the significance of the landscape, and impacts to waterways (including wetlands), plant habitat, and animal habitat. The incremental effects of the proposed program are not considered significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. Therefore, the incremental contribution of the proposed program on impacts to the tribal cultural landscape as a tribal cultural resource would not be cumulatively considerable.

Human Remains

In the event that human remains are encountered during implementation of the proposed program, Mitigation Measure CUL-1~~8~~7 would ensure that the remains are treated in accordance with relevant state laws and the proposed program's residual impact on human remains would be less than significant. It is assumed that any other projects in the geographic scope of analysis have or would also follow state law. Therefore, cumulative impacts on human remains during construction of the proposed program would not be cumulatively considerable.

Mitigation Measure

Mitigation Measures BIO-1 through BIO-9, as provided in Section 3.3, *Biological Resources*, and CUL-1 through CUL-1~~8~~7.

Significance after Mitigation

Significant and Unavoidable

3.4.6.2 Operation

No impacts to historic architectural resources, archaeological resources, or human remains are anticipated during project operations. Operational impacts to the tribal cultural landscape would be mitigated to a less-than-significant level by implementation of BIO-1, BIO-6, and BIO-8 though BIO-11, which require restoration of affected special-status plants; preparation of a lighting plan and requiring that nighttime lighting is shielded downward to minimize spillage onto adjacent area; preparation of a Mitigation, Maintenance and Monitoring Program to ensure successful revegetation of sensitive natural communities; and a functional assessment of the wetland areas that will be restored in the program area. Therefore, cumulative impacts during operations would not be cumulatively considerable.

Mitigation Measure

Mitigation Measures BIO-1, BIO-6, and BIO-8 through BIO-11, as provided in Section 3.3, *Biological Resources*.

Significance after Mitigation

Less than Significant with Mitigation

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SECTION 3.5
Geology, Soils, and Paleontological Resources

3.5.1 Introduction

This section evaluates the potential for the proposed program to result in adverse impacts related to geologic, seismic, and soils hazards. The analysis is based on review of available geologic and geotechnical reports and maps of the program area and vicinity, including site-specific investigations conducted within some of the areas, relevant regulations, and a discussion of the methodology and thresholds used to determine whether the proposed program would result in significant impacts. Additionally, *Los Cerritos Wetlands Restoration Program: Paleontological Resources Assessment* was prepared in support of this PEIR and addresses the potential for the proposed program to result in significant impacts to paleontological resources (ESA, 2019). This section analyzes the potential for both program-level and cumulative environmental impacts. All information sources used are included as citations within the text; sources are listed in Section 3.5.7, *References*.

3.5.2 Environmental Setting

Figure 2-1, *Regional Location*, and Figure 2-2, *Project Site and Local Vicinity*, in Chapter 2, *Project Description*, show the program area, which is comprised of four program areas (North, Central, Isthmus, and South), made up of 17 individual sites. Relative to geologic, soils, and paleontological resources information, the North and Central Areas have been extensively investigated in support of the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse No. 2016041083).

3.5.2.1 Topography and Drainage

The regional area that includes the program area was once a tidal salt marsh; consequentially, the topography of the program area is relatively flat (KCG 2016a). Regionally, the topography surrounding the program area gradually slopes to the southwest, although local drainage on individual sites can vary. A more detailed discussion of drainage is provided in Section 3.8, *Hydrology and Water Quality*. The San Gabriel River flows southwest in between the Isthmus and South Areas; the Los Cerritos Channel flows southwest along the north side of the North Area. Steamshovel Slough is a remnant channel that flows west into the Los Cerritos Channel. The Haynes Cooling Channel parallels the San Gabriel River in the South Area. Elevations range from about 20 feet above mean sea level (MSL) along the northern border of the Central Area and about 25 feet in the eastern portion of the Southern Area to about 8 feet below MSL in the northern portion of the Southern Area.

3.5.2.2 Regional and Local Geology

Regional Geology

The program area is located in the Peninsular geomorphic province[1] that includes the Los Angeles Basin characterized by a series of mountain ranges separated by long valleys, formed from faults branching from the San Andreas Fault. Past research suggests that over the past 20,000 years, the Rio Hondo, San Gabriel, and Santa Ana Rivers have moved back and forth across the coastal flood plains in Los Angeles and Orange County, depositing geologically recent alluvial materials (KCG 2016a). The coastal portion of the floodplain is bound by a line of elongated folded low hills and faults. This portion of the basin is dominated by the northwest-trending Newport-Inglewood Structural Zone, which diagonally crosses the program area as the Newport-Inglewood Fault Zone shown in **Figure 3.5-1**, *Regional Faults*, and **Figure 3.5-2**, *Newport-Inglewood Fault Zone*. The topography of the program area is generally flat with elevations of less than 100 feet; however, geologic uplifts have occurred, which have interrupted the plain in different areas and resulted in prominent folds and hills. These distinguishable uplifts are oriented in a northwest-southeast direction, along the Newport-Inglewood Fault Zone (City of Long Beach 1973).

Local Geology

Fill

Artificial fill is present in all of the program areas and consists of modern surficial deposits of fill resulting from human construction, landfills, reclamation, or oil and gas production activities, which includes engineered and non-engineered fill.[2] Details of artificial fill materials, where known, are discussed below.

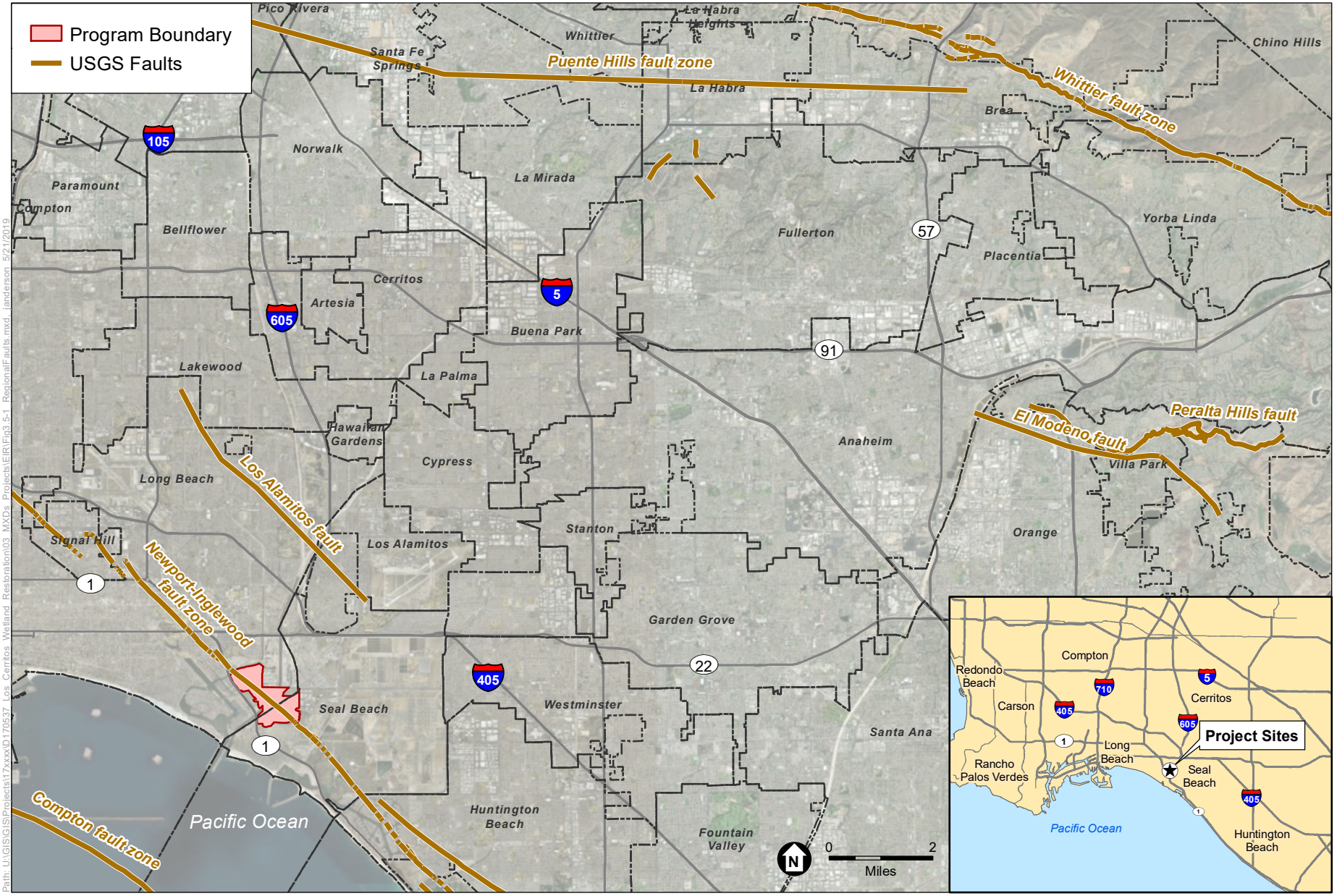
According to Saucedo et al. (2016), artificial fill is present over most of the entire program area, likely placed during development of the oil field, construction of the nearby marina, and channelization of the San Gabriel River. The artificial fill consists of sediments that have been removed from one location and transported to another by humans. Artificial fill may contain modern debris such as asphalt, wood, bricks, concrete, metal, glass, plastic, and even plant material.

Oil Production Wells and Produced Water Injection Wells

The Seal Beach Oil Field has been in active oil and natural gas production since the 1920s. Active, idle, and plugged oil and natural gas production wells and produced water injection wells are located throughout most of the program area, as shown on **Figure 3.5-3**, *Oil Production and Injection Wells*. As a part of the oil extraction process, saline water is also extracted. This produced water is returned back into the oil production zones using injection wells to prevent subsidence. The oil and produced water injection wells have well pads at the well heads and older oil wells have adjacent sumps as discussed below.

[1] A geomorphic province is an area that possesses similar bedrock, structure, history, and age. California has 11 geomorphic provinces (CGS 2002).

[2] Non-engineered fill is undocumented or poorly documented fill consisting of uncertain materials placed with uncertain consolidation procedures.

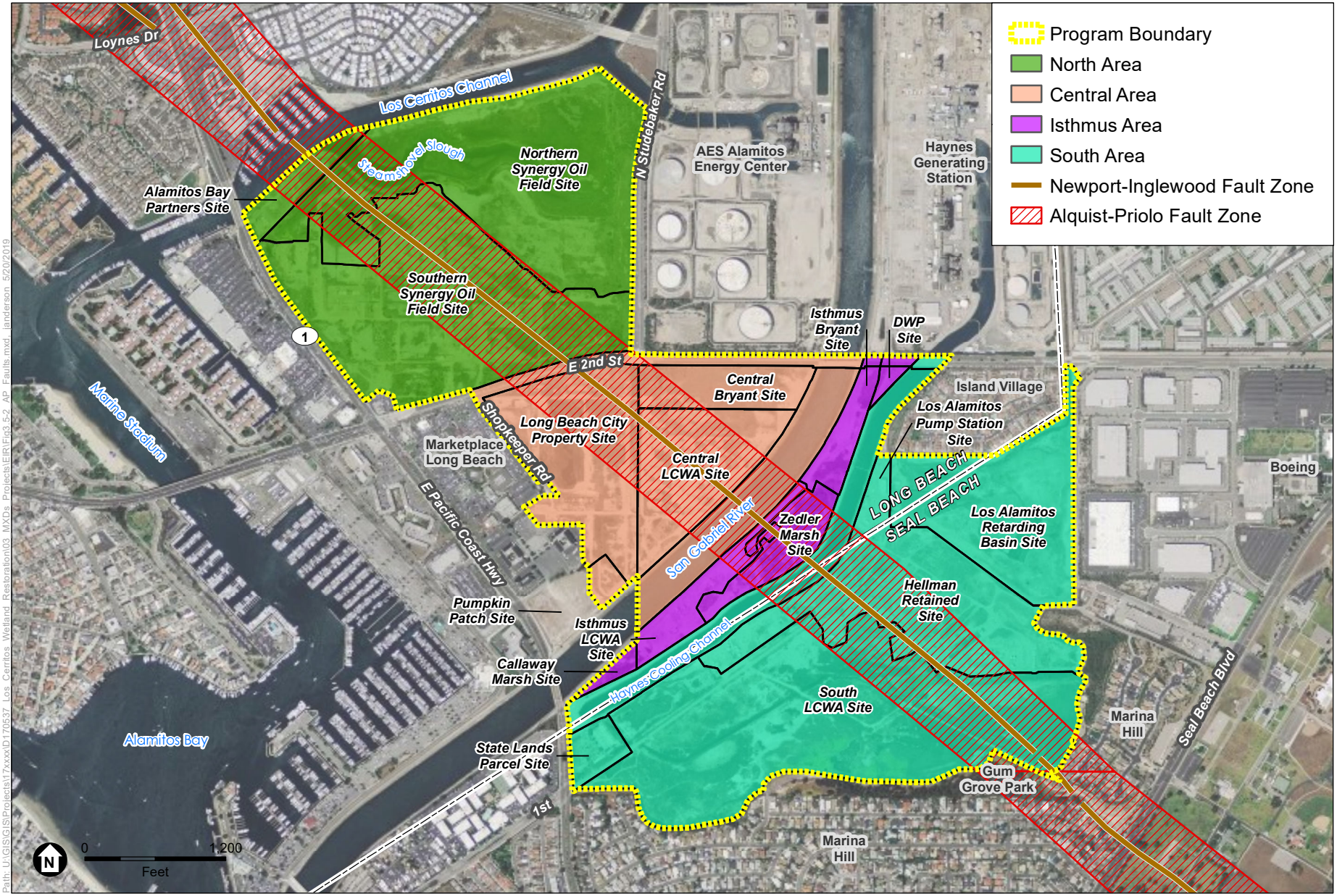


SOURCE: ESRI; USGS 2009

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 3.5-1
Regional Faults

ESA

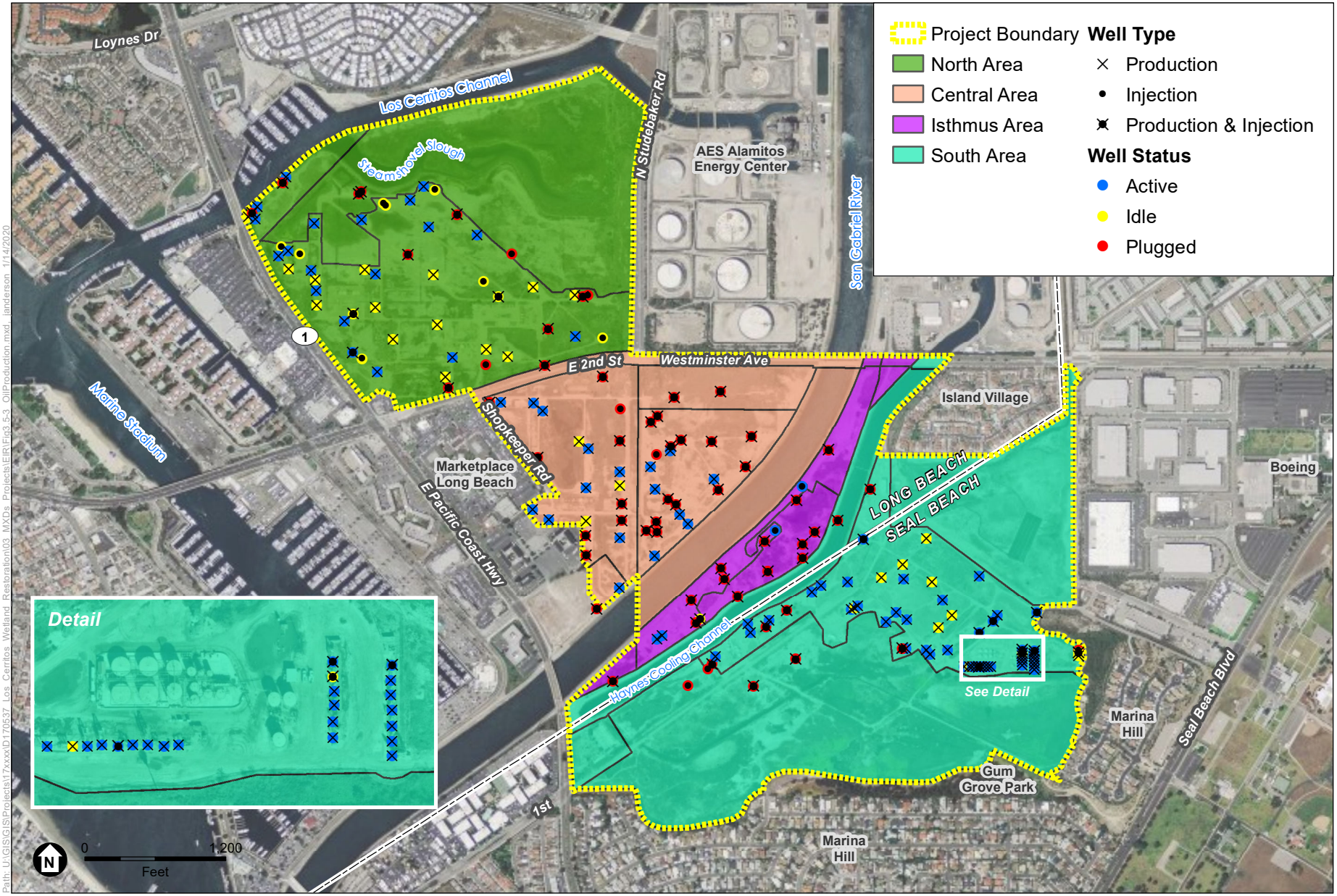


SOURCE: Mapbox, LCWA, California Department of Conservation 2001

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Figure 3.5-2
Newport-Inglewood Fault Zone

ESA



SOURCE: Mapbox; LCWA; California Department of Conservation, 2019.

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Figure 3.5-3

Oil Production and Injection Wells

ESA

Oil Well Sumps

The locations and status of known oil well sumps, along with known landfills, within the program area are shown on **Figure 3.5-4**, *Landfill Areas and Oil Production Sumps*. Note that most older wells had adjacent sumps; most of the oil wells shown on Figure 3.5-3 are assumed to have adjacent sumps, even if not documented. Early oil production used unlined settlement ponds, known as sumps, dug into the earth (Geosyntec, 2017). Oil extracted from wells was diverted into the sumps, and heavy material was allowed to settle out before the economic light portion was recovered for processing. The heavy petroleum sludge built up on the bottom of sumps and to some extent slowed the migration of organic compounds into the soil, but halos of contamination are commonly found around former sumps, even where visible petroleum material was removed.

Landfills

Several locations within the program area are known to have been used as landfills that received a variety of waste materials, often poorly documented (Geosyntec, 2017). The sections below describe the known landfill areas.

Closed Landfill on Synergy Oil Field Site in Northern Area

During the 1960s, a northeast portion of the Synergy Oil Field site in the North Area was used as a municipal landfill identified as the Studebaker/Loynes Disposal Site or City Dump and Salvage #4 (Rincon 2015a, 2015b). This landfill is no longer operational, and has a closed status as of mid-April 1980. This landfill was located on a narrow strip in the northeastern portion of the Synergy Oil Field site as shown in Figure 3.5-3 and extended off-site to the north. The landfill waste included approximately 160,000 cubic yards of waste materials consisting of household and commercial refuse, inert solid materials, and street sweepings, placed in a previously existing depression area, compacted, and covered with clean soil in conformance with slope and final cover requirements. The maximum depth to refuse is estimated to be up to 25 feet.

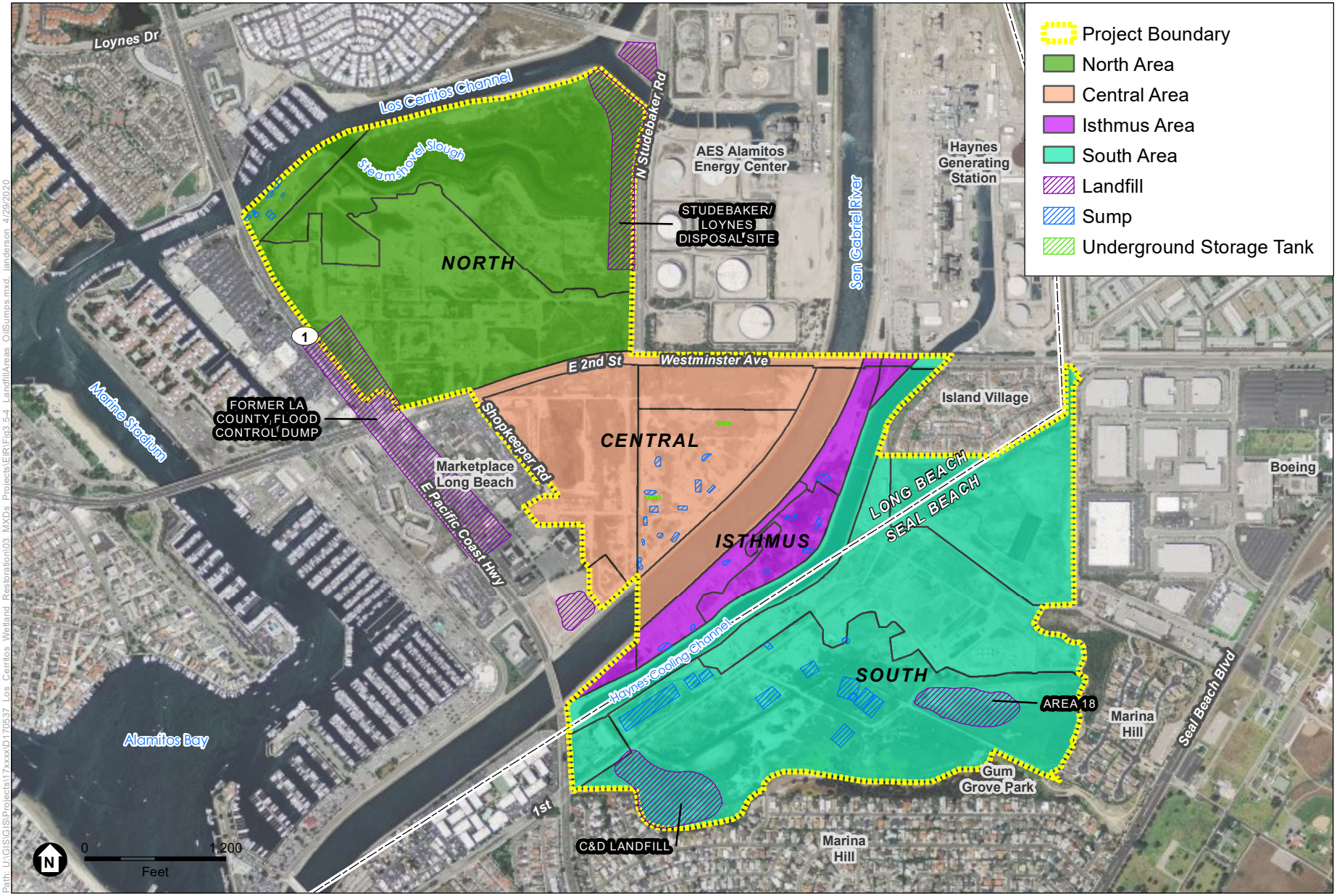
In addition, the former LA County Flood Control Dump may have extended onto the southwestern corner of the Synergy Oil Field site, as shown in Figure 3.5-4. The records are unclear as to its precise location, extent, or depth. This landfill was reportedly used to dispose of vegetation growing along the banks of the San Gabriel River.

City Property Site in Central Area

The Phase I assessment indicated the City Property site is covered with fill materials and modern surficial deposits (Rincon 2015b); however, specific details about the nature and depth of the fill materials or native soils are undocumented. None of the nearby documented landfills are known to extend onto the City Property site.

C&D Landfill in Southern Area

The C&D landfill is located in the southwest corner of the South LCWA site (see Figure 3.5-4), as delineated by with borings and trenching (Geosyntec, 2017; Anchor, 2006). The waste consists of construction materials and other debris. In addition, some crude oil was noted along the southwestern portion of this landfill area.



SOURCE: Mapbox; LCWA; Withee Malcolm Architects, LLP; Rincon, 2015; Geosyntec, 2017; Kinnetic, 2012
NOTE: The oil wells shown on Figure 3.5-3 also typically have adjacent sumps.

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Figure 3.5-4

Landfill Areas and Oil Production Sumps

ESA

Area 18 in Southern Area

Area 18 is located in the eastern portion of the South LCWA site (see Figure 3.5-4) (Geosyntec, 2017). Stockpiled and buried materials consisted of asphalt-like materials consisting of "tank bottom sludge" – heavy petroleum material removed from the bottom of tanks or sumps, which was been mixed with sand or other aggregate and used for improvised road paving.

Native Materials

Young Alluvial Fan Deposits

The shallowest native materials in the program area are Young Alluvial Fan Deposits of Holocene to Late Pleistocene age (less than 126,000 years ago), consisting of poorly consolidated clay, sand, gravel, and cobbles (Saucedo et al. 2016). These sediments were eroded from higher elevations, carried by flooding streams and debris flows, and deposited at lower elevations. These deposits are mapped to the northeast of the program area and along the length of the San Gabriel River and its low-lying floodplain. As such, the Young Alluvial Fan Deposits underlie artificial fill where present within the program area.

In the North Area, the alluvial deposits consist of Holocene (present to 11,000 years ago) alluvial silty sand, sandy silt, sand, and some clayey silt to depths of over 1,000 feet (Rincon 2015a, 2015b). On the Central Area, the alluvial soils consist of Holocene unconsolidated discontinuous layers of sand and silt sand with lesser amounts of silt and clay (EEI, 1989). Native soils in other portions of the program area are likely similar.

Old Paralic Deposits

The San Gabriel River cuts through late to middle Pleistocene (11,700–781,000 years ago) Old Paralic Deposits mapped on the slightly elevated areas to the northwest and southeast of the program area that underlie alluvial deposits (Saucedo et al. 2016). The Old Paralic Deposits consist of reddish-brown siltstone, sandstone, and conglomerate deposited in beach, estuary, and terrestrial environments. They rest on wave-cut platforms that have been preserved by regional uplift. Paralic means interfingered marine and continental sediments.

Deeper Units

Beneath the above-summarized units are various units of sandstone, shale, and siltstone of varying thicknesses. Some of the deeper sandstone units are the oil-producing units for the Seal Beach Oil Field. The proposed program would not encounter these deeper units.

3.5.2.3 Seismicity and Faults

This section characterizes the region's existing faults, describes historical earthquakes, estimates the likelihood of future earthquakes, and describes probable groundshaking effects.

Earthquake Terminology and Concepts

Earthquake Mechanisms and Fault Activity

Faults are planar features within the earth's crust that have formed to release strain caused by the dynamic movements of the earth's major tectonic plates. An earthquake on a fault is produced when these strains overcome the inherent strength of the earth's crust, and the rock ruptures. The

rupture causes seismic waves that propagate through the earth's crust, producing the groundshaking effect known as an earthquake. The rupture also causes variable amounts of slip along the fault, which may or may not be visible at the earth's surface.

Geologists commonly use the age of offset rocks as evidence of fault activity—the younger the displaced rocks, the more recently earthquakes have occurred. To evaluate the likelihood that a fault would produce an earthquake, geologists examine the magnitude and frequency of recorded earthquakes and evidence of past displacement along a fault. The California Geological Survey (CGS) defines an active fault as one that has had surface displacement within Holocene time (within the last 11,000 years; the U.S. Geological Survey (USGS) uses within the last 15,000 years). A Quaternary fault is defined as a fault that has shown evidence of surface displacement during the Quaternary period (the last 1.6 million years), unless direct geologic evidence demonstrates inactivity for all of the Holocene or longer. This definition does not mean that a fault lacking evidence of surface displacement is necessarily inactive. The term "sufficiently active" is also used to describe a fault if there is some evidence that Holocene displacement has occurred on one or more of its segments or branches (CGS 2007).

Earthquake Magnitude

When an earthquake occurs along a fault, its size can be determined by measuring the energy released during the event. A network of seismographs records the amplitude and frequency of the seismic waves that an earthquake generates. The Richter magnitude (ML) of an earthquake represents the highest amplitude measured by the seismograph at a distance of 100 kilometers from the epicenter. Richter magnitudes vary logarithmically with each whole-number step, representing a tenfold increase in the amplitude of the recorded seismic waves and 32 times the amount of energy released. While Richter magnitude was historically the primary measure of earthquake magnitude, seismologists now use Moment Magnitude (Mw) as the preferred way to express the size of an earthquake. The Mw scale is related to the physical characteristics of a fault, including the rigidity of the rock, the size of fault rupture, and the style of movement or displacement across the fault. Although the formulae of the scales are different, they both contain a similar continuum of magnitude values, except that Mw can reliably measure larger earthquakes and do so from greater distances.

Peak Ground Acceleration

A common measure of ground motion at any particular site during an earthquake is the peak ground acceleration (PGA). The PGA for a given component of motion is the largest value of horizontal acceleration obtained from a seismograph. PGA is expressed as the percentage of the acceleration due to gravity (g), which is approximately 980 centimeters per second squared. In terms of automobile acceleration, one "g" of acceleration is equivalent to the motion of a car traveling 328 feet from rest in 4.5 seconds. For comparison purposes, the maximum PGA value recorded during the 1994 Northridge earthquake in the vicinity of the epicenter exceeded 1 g in several areas. Unlike measures of magnitude, which provide a single measure of earthquake energy, PGA varies from place to place and is dependent on the distance from the epicenter and the character of the underlying geology (e.g., hard bedrock, soft sediments, or artificial fills).

Modified Mercalli Intensity Scale

The Modified Mercalli Intensity Scale assigns an intensity value based on the observed effects of groundshaking produced by an earthquake. Unlike measures of earthquake magnitude and PGA, the Modified Mercalli Intensity Scale is qualitative in nature in that it is based on actual observed effects rather than measured values. Similar to PGA, Modified Mercalli values for an earthquake at any one place can vary depending on the earthquake's magnitude, the distance from its epicenter, the focus of its energy, and the type of geologic material. The Modified Mercalli values for intensity range from I (earthquake not felt) to XII (damage nearly total), and intensities ranging from IV to X can cause moderate to significant structural damage. Because the Modified Mercalli scale is a measure of groundshaking effects, intensity values can be correlated to a range of average PGA values, as shown in **Table 3.5-1**, *Modified Mercalli Intensity Scale*.

TABLE 3.5-1
MODIFIED MERCALLI INTENSITY SCALE

Intensity Value	Intensity Description	Average Peak Ground Acceleration[a]
I	Not felt	< 0.0017 g
II	Felt by people sitting or on upper floors of buildings	0.0017 to 0.014 g
III	Felt by almost all indoors. Hanging objects swing. Vibration like passing of light trucks. May not be recognized as an earthquake.	0.0017 to 0.014 g
IV	Vibration felt like passing of heavy trucks. Stopped cars rock. Hanging objects swing. Windows, dishes, doors rattle. Glasses clink. In the upper range of IV, wooden walls and frames creak.	0.014 to 0.039 g
V (Light)	Felt outdoors. Sleepers wakened. Liquids disturbed, some spilled. Small unstable objects displaced or upset. Doors swing. Pictures move. Pendulum clocks stop.	0.035 to 0.092 g
VI (Moderate)	Felt by all. People walk unsteadily. Many frightened. Windows crack. Dishes, glassware, knickknacks, and books fall off shelves. Pictures off walls. Furniture moved or overturned. Weak plaster, adobe buildings, and some poorly built masonry buildings cracked. Trees and bushes shake visibly.	0.092 to 0.18 g
VII (Strong)	Difficult to stand or walk. Noticed by drivers of cars. Furniture broken. Damage to poorly built masonry buildings. Weak chimneys broken at roof line. Fall of plaster, loose bricks, stones, tiles, cornices, unbraced parapets and porches. Some cracks in better masonry buildings. Waves on ponds.	0.18 to 0.34 g
VIII (Very Strong)	Steering of cars affected. Extensive damage to unreinforced masonry buildings, including partial collapse. Fall of some masonry walls. Twisting, falling of chimneys and monuments. Wood-frame houses moved on foundations if not bolted; loose partition walls thrown out. Tree branches broken.	0.34 to 0.65 g
IX (Violent)	General panic. Damage to masonry buildings ranges from collapse to serious damage unless modern design. Wood-frame structures rack, and, if not bolted, shifted off foundations. Underground pipes broken.	0.65 to 1.24 g
X (Very Violent)	Poorly built structures destroyed with their foundations. Even some well-built wooden structures and bridges heavily damaged and needing replacement. Water thrown on banks of canals, rivers, lakes, etc.	> 1.24 g
XI (Very Violent)	Few, if any, masonry structures remain standing. Bridges destroyed. Rails bent greatly. Underground pipelines completely out of service.	> 1.24 g
XII (Very Violent)	Damage nearly total. Practically all works of construction are damaged greatly or destroyed. Large rock masses displaced. Waves seen on ground surface. Lines of sight and level are distorted. Objects are thrown into the air.	> 1.24 g

NOTES:

[a] Value is expressed as a fraction of the acceleration due to gravity (g). Gravity (g) is 9.8 meters per second squared. 1.0 g of acceleration is a rate of increase in speed equivalent to a car traveling 328 feet from rest in 4.5 seconds.

SOURCES: ABAG, 2016; CGS, 2003.

Faults and Historical Earthquake Activity

The program area is located in a seismically active region of California. The Los Angeles Basin contains both active and potentially active. Throughout the program area, there is the potential for damage resulting from movement along any one of a number of the active faults. The Working Group on California Earthquake Probabilities (WGCEP), comprised of the USGS, the CGS, and the Southern California Earthquake Center, evaluated the probability of one or more earthquakes of Mw 6.7 or higher occurring in the State of California over the next 30 years (WGCEP 2015). WGCEP estimated that the Los Angeles region areas as a whole has a 60 percent chance of experiencing an earthquake of Mw 6.7 or higher over the next 30 years; among the various active faults in the region, the southern San Andreas Fault is the most likely to cause such an event.

Several active and potentially active faults have been mapped within or close to the program area. The approximate locations of the major faults in the region and their geographic relationship to the program area region are shown in Figure 3.5-1. The closer view of the Newport-Inglewood Fault Zone, which diagonally crosses the program area, as shown in Figure 3.5-2.

Local Fault

In addition to being shown in Figure 3.5-1, the local fault's location in relation to the program area is shown in detail in Figure 3.5-2.

Newport-Inglewood Fault Zone

The northwest-trending Newport-Inglewood Fault dominates the geologic structure of the coast line from Newport Beach to north of the Long Beach area. As a result of the fault movement in the area, a number of elongated hills are present in the area including the Dominguez Hills and Signal Hill. The 1933 Mw 6.4 Long Beach earthquake occurred along the Newport-Inglewood fault offshore from Huntington Beach (KCG 2016a). The program area is bisected by the Newport-Inglewood Fault (KCG 2016b; Honegger 2016). The fault has a 0.71 to 0.95 percent probability of generating an earthquake with a magnitude equal to or greater than 6.7 over the next 30 years (WGCEP 2015).

Regional Faults

San Andreas Fault Zone

The San Andreas Fault Zone is a major structural feature in the region and forms a boundary between the North American and Pacific tectonic plates (Bryant and Lundberg 2002). The San Andreas Fault is a major northwest-trending, right-lateral,[3] strike-slip[4] fault. The fault extends for about 600 miles from the Gulf of California in the south to Cape Mendocino in the north. The San Andreas is not a single fault trace but rather a system of active faults that diverges from the main fault south of the City of San Jose, California. The San Andreas Fault has produced numerous large earthquakes, including the 1906 San Francisco earthquake. That event had an estimated ML 8.3 or Mw 7.8 (WGCEP 2008a, 2008b) and was associated with up to 21 feet of displacement and widespread ground failure (Lawson 1908). The San Andreas Fault

[3] To an observer straddling a right-lateral fault, the right-hand block or plate would move towards the observer.

[4] A strike-slip fault creates vertical (or nearly vertical) fractures (i.e., the blocks primarily move horizontally).

Zone has a 19 percent probability of generating an earthquake in the Southern California region with a magnitude equal to or greater than 6.7 Mw over the next 30 years (WGCEP 2015). The San Andreas Fault is located approximately 50 miles northwest of the program area.

Whittier Fault Zone

The Whittier Fault is approximately 25 miles in length; its nearest communities are Yorba Linda, Hacienda Heights and Whittier (Caltech 2016a). The Whittier Fault has a 1.29 percent probability of generating an earthquake with a magnitude equal to or greater than 6.7 Mw over the next 30 years (WGCEP 2015). The Whittier Fault is approximately 15 miles from the program area.

Compton Fault Zone

The Compton Fault is a large, concealed blind thrust fault that extends northwest-southeast for approximately 25 miles beneath the western edge of the Los Angeles metropolitan region. Unlike most faults, which rupture to the surface in large earthquakes, near-surface deformation above blind thrust faults is accommodated by folding, rather than faulting. The Compton Fault is active and has generated at least six large-magnitude earthquakes (Mw 7.0 to 7.4) during the past 14,000 years (Leon et al. 2009). The Compton Fault has a 0.60 to 0.67 percent probability of generating an earthquake with a magnitude equal to or greater than 6.7 over the next 30 years (WGCEP 2015). The Compton Fault is located approximately 2.5 miles southwest of the program area.

Puente Hills Fault Zone

The Puente Hills Fault is a blind thrust fault extending more than 25 miles in the northern Los Angeles Basin from downtown Los Angeles east to Brea in northern Orange County. The fault consists of three distinct geometric segments: Los Angeles, Santa Fe Springs, and Coyote Hills. The Puente Hills Fault generated the 1987 Mw 6.0 Whittier Narrows earthquake southeast of Los Angeles (Shaw et al. 2002). Subsections 1 and 0 of the Puente Hills Fault have a 0.95 to 0.96 percent probability of generating an earthquake with a magnitude equal to or greater than 6.7 over the next 30 years (WGCEP 2015). The Puente Hills fault is located approximately 12 miles north of the program area.

Palos Verdes Fault Zone

The Palos Verdes Fault is approximately 50 miles in length and has two main branches: the Cabrillo Fault and the Redondo Canyon Fault. The Palos Verdes Fault passes through the cities of San Pedro, Palos Verdes Estates, Torrance and Redondo Beach (Caltech 2016b), and is located approximately 9 miles southwest of the program area. The Palos Verdes Fault has a 3.03 percent probability of generating an earthquake with a magnitude equal to or greater than 6.7 over the next 30 years (WGCEP 2015).

Los Alamitos Fault

The Los Alamitos Fault, more recently called the Compton-Los Alamitos Fault is located about 3 miles north of the program area. Recent research on the Compton-Los Alamitos Fault concluded that some movement occurred during the 1933 Long Beach earthquake, meaning that this fault is considered active (Yeats and Verdugo 2010). Earthquake probabilities have not yet been estimated.

3.5.2.4 Geologic Hazards

Based on the geologic data reviewed during preparation of this PEIR, the potential geologic hazards at the program area include erosion and expansive soil. These geologic hazards are discussed below. Liquefaction, landslides, and lateral spreading, while possible without seismic shaking, are more commonly triggered by a seismic event, as discussed further below in seismic hazards.

Erosion

Erosion is the wearing away of soil and rock by processes such as mechanical or chemical weathering, mass wasting, and the action of water and wind. Excessive soil erosion can eventually damage infrastructure such as pipelines, wellheads, building foundations, and roadways. In general, granular soils with relatively low cohesion and soils located on steep topography have a higher potential for erosion. As previously discussed, the program area is relatively flat, resulting in a relatively low potential for soil erosion. In addition, erosion potential is typically further reduced or eliminated once the soil is graded and covered with hardscape or vegetation, or other slope protection measures, including habitat restoration.

Expansive Soils

Expansive soils are subject to volume changes from changes in moisture content: swelling with increases in moisture; shrinkage with decreases in moisture. The shrinking and swelling can damage foundations and other infrastructure. The geotechnical investigation of the alluvial materials on the Pumpkin Patch site, located adjacent and southwest of the Long Beach City Property site, concluded that the materials have a low to moderate expansion potential (KCG 2016a). It is assumed this condition may also apply to areas within the program area.

Subsidence and Collapse

When oil and/or groundwater is extracted from the subsurface, subsidence of the overlying land surface can occur. Collapse is also typically associated with shallow groundwater withdrawal. Subsidence is usually associated with severe, long-term withdrawal in excess of recharge that eventually leads to overdraft of the aquifer. As oil and/or groundwater is pumped out, water and/or oil is removed from the soil pore spaces leading to a reduction in soil strength. The subsurface conditions more conducive to subsidence include clay or organic-rich soils. Sand- and gravel-rich soils are less prone to subsidence because the larger grains comprise a skeleton less dependent on water pressure for support. The subsidence can result in damage to infrastructure such as buildings or pipelines, or can result in a decrease in the volume of available aquifer storage. This is the reason the produced water pumped from the subsurface along with oil production is purposely injected back into the same depth interval to prevent subsidence.

In the regional area that includes the program area, historical subsidence was previously associated with oil production and the groundwater pumped out along with the oil. Generally, subsidence in the Long Beach area was concentrated in the Long Beach Harbor area (Wilmington oil field, located south and west of the program area) and lessened with distance away from the Wilmington area. It has been estimated that north and east of the main Long Beach Harbor area,

this subsidence averaged a few tenths of a foot over a period of about 20 years and was generally uniform across wide areas (KCG 2016b). As previously noted, the injection of produced water back into oil production zones has arrested regional subsidence.

However, there is the potential for subsidence on former landfill areas. There are landfilled areas on the Synergy Oil Field and C&D Landfill. The degree of compaction at the former landfills is unknown. Because of the unknown level of compaction of the fill at the former landfills and shallow groundwater table, potential site-specific subsidence risks are considered to be moderate to high (KCG 2016a).

3.5.2.5 Seismic Hazards

Seismic hazards are generally classified into two categories: primary seismic hazards (surface fault rupture and groundshaking) and secondary seismic hazards (liquefaction and other types of seismically induced ground failure, along with seismically induced landslides).

Surface Fault Rupture

Seismically induced ground rupture is defined as the physical displacement of surface deposits in response to an earthquake's seismic waves. The magnitude, sense, and nature of fault rupture can vary for different faults or even along different strands of the same fault. Although future earthquakes could occur anywhere along the length of an active fault, only regional strike-slip earthquakes of magnitude 6.0 or greater are likely to be associated with significant surface fault rupture and offset (CDMG and USGS 1996). It is also important to note that unmapped subsurface fault traces could experience unexpected and unpredictable earthquake activity and fault rupture. The highest potential for surface faulting is along existing fault traces that have had Holocene displacement. As previously discussed, the active Newport-Inglewood Fault is mapped through the program area, as shown in Figure 3.5-2.

Seismic Groundshaking

As discussed above, it is estimated that a major earthquake has a 60 percent chance of affecting the Los Angeles Region in the next 30 years and would produce strong groundshaking throughout the region. Earthquakes on active or potentially active faults, depending on magnitude and distance from the program area, could produce a range of groundshaking intensities at the program area. Historically, earthquakes have caused strong groundshaking and damage in the Los Angeles Basin. For example, the Mw 6.4 Long Beach earthquake in March 1933 produced very damaging groundshaking from Long Beach to the industrial section south of Los Angeles (Hauksson and Gross 1991) and is believed to have occurred on the Newport-Inglewood Fault offshore from Huntington Beach (KCG 2016a); however, disregarding local variations in ground conditions, the intensity of shaking at different locations within the area can generally be expected to decrease with distance from an earthquake source.

The primary tool that seismologists use to describe groundshaking hazard is a probabilistic seismic hazard assessment (PSHA). The PSHA for the State of California takes into consideration the range of possible earthquake sources (including such worst-case scenarios as described above) and estimates their characteristic magnitudes to generate a probability map for groundshaking.

The PSHA maps depict PGA values that have a 10 percent probability of being exceeded in 50 years (i.e., a 1 in 475 chance of occurring each year). Use of this probability level allows engineers to design structures to withstand ground motions that have a 90 percent chance of not occurring in the next 50-year interval, thus making buildings safer than if they were designed only for the ground motions that are expected within the next 50 years.

The geotechnical studies for the Synergy Oil Field and Pumpkin Patch sites provided the USGS estimates for the PGAs ranging from 0.603g to 0.604g (KCG 2016a, 2016b). The PGA for the Isthmus and South Areas is expected to be in the same range. According to Table 3.5-1, this would correlate to a Modified Mercalli ground shaking intensity of level VIII, very strong shaking.

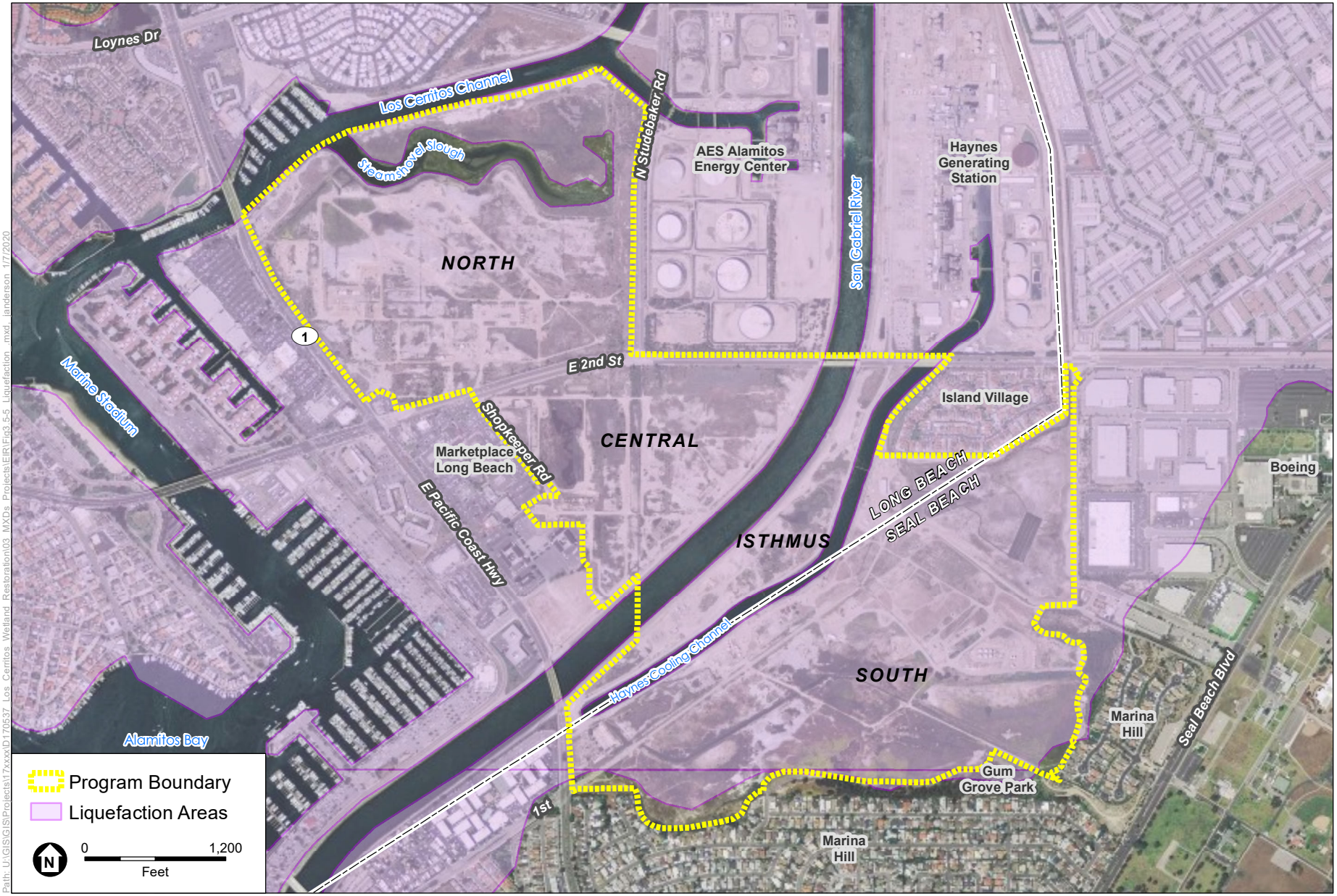
Liquefaction and Lateral Spreading

Liquefaction is the rapid loss of shear strength experienced in saturated, predominantly granular soils below the groundwater level during strong earthquake groundshaking and occurs due to an increase in pore water pressure. Liquefaction-induced lateral spreading is defined as the finite, lateral displacement of gently sloping ground as a result of pore-pressure buildup or liquefaction in a shallow underlying deposit during an earthquake (VT 2013). The occurrence of this phenomenon is dependent on many complex factors, including the intensity and duration of groundshaking, particle-size distribution, and density of the soil.

The potential damaging effects of liquefaction include differential settlement, loss of ground support for foundations, ground cracking, heaving and cracking of structure slabs due to sand boiling, and buckling of deep foundations due to ground settlement. Dynamic settlement (i.e., pronounced consolidation and settlement from seismic shaking) may also occur in loose, dry sands above the water table, resulting in settlement of and possible damage to overlying structures. In general, a relatively high potential for liquefaction exists in loose, sandy soils that are within 50 feet of the ground surface and are saturated (below the groundwater table). Lateral spreading can move blocks of soil, placing strain on levees and roads that can lead to ground failure.

Figure 3.5-5, *Liquefaction Potential in Program Area*, displays the relative liquefaction hazard potential in the vicinity of the proposed program; the entire area encompassing the entire program area is entirely within a liquefaction susceptible zone (CGS, 1998). For the locations where levees and roads would be constructed, during a 7.0-magnitude earthquake with a PGA of 0.601 g, an estimate of up to 1.3 to 2.7 inches of seismic settlement due to liquefaction and lateral spreading could occur at the Pumpkin Patch site (KCG 2016a). This earthquake scenario represents the (worst-case) design-level earthquake and ground acceleration to be used for liquefaction analysis, as per ASCE/SEI 7-16, (see Section 3.5.3, *Regulatory Framework, California Building Code*).

Lateral spreading is characterized by horizontal displacement of surficial soil layers as a consequence of liquefaction of deeper granular soil layers. Lateral spreading usually occurs on sites with sloping ground surfaces located near bodies of water such as lakes, rivers and oceans. Due to the gently sloping ground throughout the program area, lateral spreading is unlikely to occur during a design maximum earthquake event.



SOURCE: Mapbox, LCWA, City of Long Beach, City of Seal Beach; CGS

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 3.5-5

Liquefaction Potential in Program Area

ESA

Earthquake-Induced Settlement

Settlement of the ground surface can be accelerated and accentuated by earthquakes. During an earthquake, settlement can occur as a result of the relatively rapid rearrangement, compaction, and settling of subsurface materials, particularly loose, uncompacted, and variable sandy sediments. Settlement can occur both uniformly and differentially (i.e., where adjoining areas settle at different rates). Areas are susceptible to differential settlement if underlain by compressible sediments, such as poorly engineered artificial fill or the waste material in the former landfill at the Synergy Oil Field, Pumpkin Patch, or C&D sites (KCG 2016a).

Landslides and Ground Cracking

Earthquake motions can induce substantial stresses on slopes and can cause earthquake-induced landslides or ground cracking if the slope fails. Earthquake-induced landslides can occur in areas with steep slopes that are susceptible to strong ground motion during an earthquake. Landslides can also be non-seismically induced; non-seismically induced landslide can be caused by the force of gravity on steep unstable slopes, by construction activities that disturb soil conditions and create unstable slopes, and by water leaks or breaks in pipelines or pumps.

Based on a review of aerial photographs and available geotechnical reports and topographic conditions, no landslides are present in the program area. The City of Long Beach concluded that slope instability as a major problem within the City, since its slopes are generally neither high nor steep (City of Long Beach 1975). Given the relatively flat nature of the program area, the potential for landslides would be considered low.

3.5.2.6 Paleontological Resources

Literature Search

The literature search was completed through the Natural History Museum of Los Angeles County (LACM) on May 28, 2019 (McLeod 2019). The database search returned no known localities within the program area; however, a number of vertebrate fossil localities are known in southern Los Angeles from sedimentary deposits similar to those present at depth in the program area (McLeod 2019). The closest locality (LACM 3757) is approximately 1.2 miles northwest of the program area, where numerous fossil specimens were collected from older Pleistocene-aged alluvium at an unknown depth. This locality produced specimens of eagle ray (*Myliobatis*), skate (*Rhinobatoidea*), white shark (*Carcharodon*), blue shark (*Prionace*), requiem shark (*Carcharhinidae*), surfperch (*Damalichthys* and *Rhacochilus*), croaker (*Genyonemus*), pond turtle (*Emys*), diving duck (*Chendytes*), loon (*Gavia*), dog (*Canis*), sea otter (*Enhydra*), horse (*Equus*), camel (*Hemiauchenia*), and pocket gopher (*Thomomys*) (McLeod 2019). To the west of LACM 3757, another locality, LACM 6746, produced a fossil mammoth (*Mammuthus*), at a shallow but unstated depth (McLeod 2019). Approximately 2.3 miles west of the program area, LACM 2031 produced specimens of fossil bison (*Bison antiquus*) (McLeod 2109). Further to the northwest, 3.18 miles northwest of the program area, LACM 7393 produced specimens of camel (Camelidae) at a depth of 8.5 feet below ground surface (McLeod 2109).

Field Survey

On December 15 and 16, 2016, a pedestrian survey was conducted for accessible portions of the Synergy and City property sites[5] Rieboldt 2016). All accessible parts of the undeveloped areas that had at least some ground visibility were surveyed in systematic parallel transects spaced 10 to 12 meters (33 to 40 feet) apart. Special attention was paid to any graded areas and to rodent burrows that offered a better view of the underlying sediment. The purpose of this survey was to confirm the accuracy of the geologic mapping and to identify whether any previous ground-disturbing activities had brought any paleontological resources to the surface. In this way, the survey could identify areas within the local area that could potentially contain paleontological resources. No paleontological resources were observed during the field survey. Where exposed, the surveyor noted that the sediments within the program area are consistent with the Artificial Fill mapped by Saucedo et al. (2016).

Paleontological Sensitivity Analysis

The review of the scientific literature and geologic mapping, as well as the database search from LACM, were used to assign paleontological potentials to the geologic units present at the surface and at depth in the program area, following the Society of Vertebrate Paleontology (SVP) Guidelines (2010). The geologic units are listed below in order of paleontological sensitivity (no potential to high potential):

- **Artificial Fill** – present at the surface across the program area; no paleontological potential. Artificial fill was deposited by human activity and will not preserve significant fossils; however, fill likely overlies native sediments present at the surface around the program area such as older alluvium or old shallow marine deposits that have high paleontological potential.
- **Estuarine deposits (Qpe)** – potentially present in the subsurface underlying artificial fill in the program area; low paleontological potential. Estuarine deposits are too young to preserve fossils; however, estuarine deposits likely overlie older sediments such as older alluvium or old shallow marine deposits that have high paleontological potential.
- **Young alluvium, unit 2 (Qya_2)** – present at the surface to the north of the program area, may underlie artificial fill or estuarine deposits in the program area; low-to-high paleontological potential, increasing with depth. A wide variety of Ice Age fossils have been found in older alluvial sediments across southern California, as reviewed above, including multiple specimens known from the vicinity of the program area (McLeod 2019). The exact depth at which the transition from low to high potential occurs is unknown in the program area, but depths of 5-10 feet below ground surface are common in the region (McLeod 2019).
- **Old shallow marine deposits (Qom)** – present at the surface in the southern-most program area; high paleontological potential. Pleistocene-aged marine deposits are well known to preserve a wide variety of marine invertebrate and vertebrate fossils, as well as occasional terrestrial fossils. Likely to be present underlying artificial fill at an undetermined depth throughout the program area.

[5] The remaining sites have not been surveyed for paleontological resources.

Summary

The program area consists of artificial fill, estuarine deposits, young alluvium, and old shallow marine deposits. Artificial fill and estuarine deposits have no or low paleontological sensitivity, respectively. However, they overlie young alluvium and old shallow marine deposits at an undetermined depth, which have low-to-high or high paleontological sensitivity, respectively. Therefore, the program area is considered to have low-to-high paleontological potential, increasing with depth. While the exact depth of the artificial fill overlying the majority of the program area is unknown and may vary across the program area, 5 feet below ground surface is used as a conservative estimate of the transition from low to high potential since there have been fossil discoveries in the region from a similar depth.

3.5.3 Regulatory Framework

The proposed program shall be required to comply with the following laws, statutes, regulations, codes, and policies, which are defined as standard conditions for the proposed program.

3.5.3.1 Federal

Earthquake Hazards Reduction Act

Established by the U.S. Congress when it passed the Earthquake Hazards Reduction Act of 1977, the purpose of the National Earthquake Hazards Reduction Program (NEHRP) is to "reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards and reduction program." The principle behind NEHRP is that earthquake-related losses can be reduced through improved design and construction methods and practices, land use controls and redevelopment, prediction techniques and early-warning systems, coordinated emergency preparedness plans, and public education and involvement programs. There are four federal agencies that can contribute to earthquake mitigation efforts; they have been designated as NEHRP agencies and are as follows: the Federal Emergency Management Agency (FEMA), the National Institute of Standards and Technology (NIST), the National Science Foundation (NSF), and the USGS.

Hazardous Liquid Pipeline Safety Act

The Hazardous Liquid Pipeline Safety Act of 1979 authorized the U.S. Department of Transportation (USDOT) to regulate pipeline transportation of hazardous liquids, including crude oil, petroleum products, anhydrous ammonia and carbon dioxide. The Pipeline and Hazardous Materials Safety Administration (PHMSA), created in 2004 by USDOT, has the following responsibilities:

- Analyze pipeline safety and accident data;
- Evaluate which safety standards need improvement and where new rulemakings are needed;
- Set and enforce regulations and standards for the design, construction, operation, maintenance, or abandonment of pipelines by pipeline companies;
- Educate operators, states, and communities on how to keep pipelines safe;

- Facilitate research and development into better pipeline technologies;
- Train state and federal pipeline inspectors; and
- Administer grants to states and localities for pipeline inspections, damage prevention, and emergency response.

The requirements of the Hazardous Liquid Pipeline Safety Act are implemented by Department of Conservation's California Geologic Energy Management Division (CalGEM) [formerly known as the Division of Oil, Gas, and Geothermal Resources (DOGGR)], as discussed further below and include the design and operation of oil pipelines in seismically active areas. The federal- and State-level regulations cover route selection, regulatory processes, design, site preparation, pipe stringing, trenching, bending, welding, coating, lowering and backfilling, testing, and site restoration.

3.5.3.2 State

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to protect structures for human occupancy from the hazard of surface faulting. In accordance with the act, the State Geologist has established regulatory zones—called earthquake fault zones—around the surface traces of active faults, and has published maps showing these zones. Buildings for human occupancy cannot be constructed across surface traces of faults that are determined to be active. Because many active faults are complex and consist of more than one branch that may experience ground surface rupture, earthquake fault zones extend approximately 200 to 500 feet on either side of the mapped fault trace. This act applies to this proposed program because the active Newport-Inglewood Fault passes through the program area.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act was passed in 1990 following the Loma Prieta earthquake to reduce threats to public health and safety and to minimize property damage caused by earthquakes. This act requires the State Geologist to delineate various seismic hazard zones, and cities, counties, and other local permitting agencies to regulate certain development projects within these zones. For projects that would locate structures for human occupancy within designated Zones of Required Investigation, the Seismic Hazards Mapping Act requires project applicants to perform a site-specific geotechnical investigation to identify the potential site-specific seismic hazards and corrective measures, as appropriate, prior to receiving building permits. The *CGS Guidelines for Evaluating and Mitigating Seismic Hazards* (Special Publication 117A) provides guidance for evaluating and mitigating seismic hazards (CGS 2008). The CGS is in the process of producing official maps based on USGS topographic quadrangles. To date, the CGS has completed delineations for the USGS quadrangles in which project components are proposed and the program area is within a seismic hazard zone. Therefore, the proposed program is subject to the act.

California Building Code

The California Building Code (CBC), which is codified in Title 24 of the California Code of Regulations, Part 2, was promulgated to safeguard the public health, safety, and general welfare

by establishing minimum standards related to structural strength, means of egress to facilities (entering and exiting), and general stability of buildings. The purpose of the CBC is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all buildings and structures within its jurisdiction. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under State law, all building standards must be centralized in Title 24 or they are not enforceable. The provisions of the CBC apply to the construction, alteration, movement, replacement, location, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California.

The 2016 edition of the CBC is based on the 2015 International Building Code (IBC) published by the International Code Council, which replaced the Uniform Building Code (UBC). The code is updated triennially, and the 2016 edition of the CBC was published by the California Building Standards Commission on July 1, 2016, and took effect starting January 1, 2017. The 2016 CBC contains California amendments based on the American Society of Civil Engineers (ASCE) Minimum Design Standard ASCE/SEI 7-16, Minimum Design Loads for Buildings and Other Structures, provides requirements for general structural design and includes means for determining earthquake loads[6] as well as other loads (such as wind loads) for inclusion into building codes. Seismic design provisions of the building code generally prescribe minimum lateral forces applied statically to the structure, combined with the gravity forces of the dead and live loads of the structure, which the structure then must be designed to withstand. The prescribed lateral forces are generally smaller than the actual peak forces that would be associated with a major earthquake. Consequently, structures should be able to (1) resist minor earthquakes without damage; (2) resist moderate earthquakes without structural damage but with some nonstructural damage; and (3) resist major earthquakes without collapse, but with some structural as well as nonstructural damage. Conformance to the current building code recommendations does not constitute any kind of guarantee that significant structural damage would not occur in the event of a maximum magnitude earthquake; however, it is reasonable to expect that a structure designed in accordance with the seismic requirements of the CBC should not collapse in a major earthquake.

The earthquake design requirements take into account the occupancy category of the structure, site class, soil classifications, and various seismic coefficients, all of which are used to determine a seismic design category (SDC) for a project. The SDC is a classification system that combines the occupancy categories with the level of expected ground motions at the site; SDC ranges from A (very small seismic vulnerability) to E/F (very high seismic vulnerability and near a major fault). Seismic design specifications are determined according to the SDC in accordance with CBC Chapter 16. CBC Chapter 18 covers the requirements of geotechnical investigations (Section 1803), excavation, grading, and fills (Section 1804), load-bearing of soils (Section 1806), as well as foundations (Section 1808), shallow foundations (Section 1809), and deep foundations (Section 1810). For Seismic Design Categories D, E, and F, Chapter 18 requires analysis of slope instability, liquefaction, and surface rupture attributable to faulting or lateral spreading, plus an evaluation of lateral pressures on basement and retaining walls, liquefaction and soil strength loss,

[6] A load is the overall force to which a structure is subjected in supporting a weight or mass, or in resisting externally applied forces. Excess load or overloading may cause structural failure.

and lateral movement or reduction in foundation soil-bearing capacity. It also addresses measures to be considered in structural design, which may include ground stabilization, selecting appropriate foundation type and depths, selecting appropriate structural systems to accommodate anticipated displacements, or any combination of these measures. The potential for liquefaction and soil strength loss must be evaluated for site-specific peak ground acceleration magnitudes and source characteristics consistent with the design earthquake ground motions.

Requirements for geotechnical investigations are included in Appendix J, CBC Section J104, Engineered Grading Requirements. As outlined in Section J104, applications for a grading permit are required to be accompanied by plans, specifications, and supporting data consisting of a soils engineering report and engineering geology report. Additional requirements for subdivisions requiring tentative and final maps and for other specified types of structures are in California Health and Safety Code Sections 17953 to 17955 and in 2013 CBC Section 1802. Testing of samples from subsurface investigations is required, such as from borings or test pits. Studies must be done as needed to evaluate slope stability, soil strength, position and adequacy of load-bearing soils, the effect of moisture variation on load-bearing capacity, compressibility, liquefaction, differential settlement, and expansiveness.

The design of the visitor center is required to comply with CBC requirements, which would make the proposed program consistent with the CBC.

NPDES Construction General Permit

Construction associated with the proposed program would disturb more than one acre of land surface affecting the quality of stormwater discharges into waters of the U.S. The proposed program would, therefore, be subject to the *NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities* (Order 2009-0009-DWQ, NPDES No. CAS000002; as amended by Orders 2010-0014-DWQ and 2012-006-DWQ). The Construction General Permit regulates discharges of pollutants in stormwater associated with construction activity to waters of the U.S. from construction sites that disturb one acre or more of land surface, or that are part of a common plan of development or sale that disturbs more than one acre of land surface. The permit regulates stormwater discharges associated with construction or demolition activities, such as clearing and excavation; construction of buildings; and linear underground projects, including installation of water pipelines and other utility lines.

The Construction General Permit requires that construction sites be assigned a Risk Level of 1 (low), 2 (medium), or 3 (high), based both on the sediment transport risk at the site and the receiving waters risk during periods of soil exposure (e.g., grading and site stabilization). The sediment risk level reflects the relative amount of sediment that could potentially be discharged to receiving water bodies and is based on the nature of the construction activities and the location of the site relative to receiving water bodies. The receiving waters risk level reflects the risk to the receiving waters from the sediment discharge. Depending on the risk level, the construction projects could be subject to the following requirements:

- Effluent standards;
- Good site management “housekeeping;”

- Non-stormwater management;
- Erosion and sediment controls;
- Run-on and runoff controls;
- Inspection, maintenance, and repair; or
- Monitoring and reporting requirements.

The Construction General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that includes specific best management practices (BMPs) designed to prevent sediment and pollutants from contacting stormwater from moving off-site into receiving waters. The BMPs fall into several categories, including erosion control, sediment control, waste management and good housekeeping, and are intended to protect surface water quality by preventing the off-site migration of eroded soil and construction-related pollutants from the construction area. Routine inspection of all BMPs is required under the provisions of the Construction General Permit. In addition, the SWPPP is required to contain a visual monitoring program, a chemical monitoring program for non-visible pollutants, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment.

The SWPPP must be prepared before the construction begins. The SWPPP must contain a site map(s) that delineates the construction work area, existing and proposed buildings, parcel boundaries, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the program area. The SWPPP must list BMPs and the placement of those BMPs that the applicant would use to protect stormwater runoff. Additionally, the SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Examples of typical construction BMPs include scheduling or limiting certain activities to dry periods, installing sediment barriers such as silt fence and fiber rolls, and maintaining equipment and vehicles used for construction. Non-stormwater management measures include installing specific discharge controls during certain activities, such as paving operations, vehicle and equipment washing and fueling. The Construction General Permit also sets post-construction standards (i.e., implementation of BMPs to reduce pollutants in stormwater discharges from the site following construction).

In the North, Central, and Isthmus Areas, the Construction General Permit is implemented and enforced by the Los Angeles Regional Water Quality Control Board (RWQCB), which administers the stormwater permitting program. The South Area is under the jurisdiction of the Santa Ana RWQCB. Dischargers are required to electronically submit a notice of intent (NOI) and permit registration documents (PRDs) in order to obtain coverage under this Construction General Permit. Dischargers are responsible for notifying the RWQCBs of violations or incidents of non-compliance, as well as for submitting annual reports identifying deficiencies of the BMPs and how the deficiencies were corrected. The risk assessment and SWPPP must be prepared by a State Qualified SWPPP Developer and implementation of the SWPPP must be overseen by a State Qualified SWPPP Practitioner. A Legally Responsible Person, who is legally authorized to sign and certify PRDs, is responsible for obtaining coverage under the permit.

California Geologic Energy Management Division

All California oil and gas wells (development and prospect wells), enhanced-recovery wells, water-disposal wells, service wells (i.e., structure, observation, temperature observation wells), core-holes, and gas-storage wells, onshore and offshore (within 3 nautical miles of the coastline), located on state and private lands, are permitted, drilled, operated, maintained, plugged, and abandoned under requirements and procedures administered by the CalGEM.

Regulations pertaining to oil and natural gas production are summarized in the CalGEM Publication No. PRC10, California Statutes and Regulations for Conservation of Oil, Gas, & Geothermal Resources, dated January 2017. Regulations for the installation and abandonment of oil and natural gas wells are in 14 CCR 1712 through 1724.10. Environmental protection regulations for oil and natural gas well installations, operations, and abandonments are in 14 CCR 1750 through 1789.

California Pipeline Safety Act of 1981

The California Pipeline Safety Act of 1981, codified in California Government Code Sections 50001–51298.5, applies to pipelines that carry hazardous liquids (e.g., crude oil) and authorizes the State Fire Marshal to implement the federal Hazardous Liquid Pipeline Safety Act, as summarized above. This Act imposes additional specific safety requirements on intrastate pipelines carrying hazardous liquids, including a time schedule for conformance to federal regulations, hydrostatic testing requirements, pipeline maps, contingency plans, and pipeline incident reporting.

California Coastal Act

The California Coastal Act provide some guidance for addressing impacts to geology, soils, and paleontological resources, including Section 30253, which require minimization of adverse impacts, Section 30233, which pertains to the diking, filling, or dredging, and Section 30244, which pertains to archaeological and paleontological resources.

3.5.3.3 Local

Orange County Drainage Area Management Plan (DAMP) and Orange County MS4 Permit

The Orange County Drainage Area Management Plan (DAMP), is the principal policy, programmatic guidance, and planning document for the Orange County Stormwater Program (the Program), a municipal regulatory compliance initiative focused on the management and protection of Orange County's streams, rivers, creeks and coastal waters. The participants in this program include the County, the Orange County Flood Control District, and the cities of Orange County, including Seal Beach. The stormwater program was initiated in 1990 as a cooperative local government response to requirements stemming from the Clean Water Act regulations and the NPDES permitting program. In response to those regulations, the County of Orange, the Orange County Flood Control District and the incorporated cities of Orange County (collectively referred to as Permittees) have obtained, renewed and complied with NPDES Stormwater Permits from the Santa Ana and San Diego Regional Water Quality Control Boards. For the Seal Beach area, the current permit is R8-2009-0030 NPDES No. CAS618030, as amended by Order No. R8-2010-0062.

The NPDES Permit includes (1) a requirement to effectively prohibit non-storm water discharges into municipal storm sewers; and (2) controls to reduce the discharge of pollutants from municipal storm drains to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the state determines appropriate for the control of such pollutants.

The DAMP includes the Model Construction Program, which requires the following:

- Apply for local grading or building permit
- Submit Notice of Intent (NOI) for General Permit Coverage
- Comply with grading or building permit and local ordinances
- Prepare and implement SWPPP
- Submit Notice of Termination (NOT)

The DAMP summarizes Best Management Practices (BMPs), as summarized below:

- Sediments from areas disturbed by construction shall be retained on-site using an effective combination of erosion and sediment controls to the maximum extent practicable, and stockpiles of soil shall be properly contained to minimize sediment transport from the site to streets, drainage facilities or adjacent properties via runoff, vehicle tracking, or wind.
- Appropriate BMPs for construction-related materials, wastes, spills or residues shall be implemented and retained on-site to minimize transport from the site to streets, drainage facilities, or adjoining property by wind or runoff.

Construction BMPs

Construction contractors must select, install and maintain appropriate BMPs on all construction projects. BMPs must be installed in accordance with an industry recommended standard, or in accordance with the Construction General Permit (previously described under State Regulations).

Dry Season Requirements (May 1 through September 30)

The DAMP also provides seasonal requirements, as summarized below.

A. Wind erosion BMPs (dust control) shall be implemented.

B. Sediment control BMPs shall be installed and maintained at all operational storm drain inlets.

C. BMPs to control off-site sediment tracking shall be implemented and maintained.

D. Appropriate waste management and materials pollution control BMPs shall be implemented to prevent the contamination of stormwater by wastes and construction materials.

E. Appropriate non-stormwater BMPs shall be implemented to prevent the contamination of stormwater from construction activities.

F. There shall be a “weather triggered” action plan and the ability to deploy standby sediment control BMPs as needed to completely protect the exposed portions of the site within 48 hours of a predicted storm event (a predicted storm event is defined as a forecasted, 50% chance of rain).

G. Sufficient materials needed to install standby sediment control BMPs (at the site perimeter, site slopes and operational inlets within the site) necessary to prevent sediment discharges from exposed portions of the site shall be stored on-site. Areas that have already been protected from erosion using physical stabilization or established vegetation stabilization BMPs as described in item H below are not considered to be "exposed" for purposes of this requirement.

H. Deployment of permanent erosion control BMPs (physical or vegetation) should commence as soon as practical on slopes that are completed for any portion of the site. Standby BMP materials should not be relied upon to prevent erosion of slopes that have been completed.

Wet Season Requirements (October 1 through April 30)

In addition to the Dry Season Requirements:

A. Where appropriate sediment control BMPs shall be implemented at the site perimeter, at all operational storm drain inlets and at all non-active slopes, to provide sufficient protection for storms likely to occur during the rainy season.

B. Adequate physical or vegetation erosion control BMPs (temporary or permanent) shall be installed and established for all completed slopes prior to the start of the rainy season. These BMPs must be maintained throughout the rainy season. If a selected BMP fails, it must be repaired and improved, or replaced with an acceptable alternate as soon as it is safe to do so. The failure of a BMP may indicate that the BMP, as installed, was not adequate for the circumstances in which it was used. Repairs or replacements must result in a more robust BMP, or additional BMPs should be installed to provide adequate protection.

C. The amount of exposed soil allowed at one time shall not exceed that which can be adequately protected by deploying standby erosion control and sediment control BMPs prior to a predicted rainstorm.

D. A disturbed area that is not completed but that is not being actively graded (non-active area) shall be fully protected from erosion with temporary or permanent BMPs (erosion and sediment control). The ability to deploy standby BMP materials is not sufficient for these areas. Erosion and sediment control BMPs must actually be deployed. This includes all building pads, unfinished roads and slopes.

E. Sufficient materials needed to install standby erosion and sediment control BMPs necessary to completely protect the exposed portions of the site from erosion and to prevent sediment discharges shall be stored on-site. Areas that have already been protected from erosion using permanent physical stabilization or established vegetation stabilization BMPs are not considered to be "exposed" for purposes of this requirement.

Seal Beach Grading and Stormwater Pollution Prevention Implementation Manual

The Seal Beach Grading and Stormwater Pollution Prevention Implementation Manual) is a compilation of rules, procedures, and interpretations necessary to carry out the provisions of the City of Seal Beach Grading Ordinance. The requirements relevant to the program are summarized as follows:

- **Grading Permit Application**: The applicant shall submit a complete grading permit/plan check application package including all the items and contents listed on the City application form unless otherwise specified by the Director: Incomplete applications will not be accepted.

- Prior to issuance of a grading permit, written clearance may be required from other City departments and divisions and may be required from other agencies. Depending on-site conditions and location, written clearance or permits may be required from, but not limited to, the following agencies:
  - California Regional Water Quality Control Board/NPDES
  - California Department of Fish and Game
  - California Division of Industrial Safety
  - Orange County Fire Marshal (fuel modification)
  - Orange County Human Services Agency (Vector Control)
  - California Coastal Commission
- **Preliminary Grading Permit**: The plans shall include a vicinity map of the site; property limits; accurate contours; drainage details to a minimum of fifteen feet (15') beyond property limits; details (plan and section) of all surface and subsurface drainage devices; location of any existing buildings, structures, or trees; and a SWPPP which depicts short-and long-term structural and non-structural Best Management Practices (BMP) in compliance with NPDES Construction General Permit.
- **Precise Grading Permit**: The plans shall include the following in addition to the above items listed for Preliminary Grading Permits: footprint or allowable building area of all proposed structures including appurtenances; setback distances between structures and top and toe of slopes; detailed finish grade and finish floor elevations; flowlines for typical lot drainage; details for building footing and side yard swale relationship; all proposed concrete flatwork and/or driveways.
- **Preliminary Soil Report**: Soil engineering reports shall be required for all projects for which a grading permit is required. The preliminary soil engineering report shall include information and data regarding the nature, distribution, and the physical and chemical properties of existing soils; conclusions as to adequacy of the site for the proposed grading; recommendations for general and corrective grading procedures; foundation and pavement design criteria and shall provide other recommendations, as necessary, commensurate with the project grading and development;
- **Preliminary Engineering Geology Report**: Engineering geology reports shall be required for all developments on hillside sites where geologic conditions are considered to have a substantial effect on existing and/or future site stability. This requirement may be extended to other sites suspected of being adversely affected by faulting. The preliminary engineering geology report shall include a comprehensive description of the site topography and geology; an opinion as to the adequacy of the proposed development from an engineering geologic standpoint; an opinion as to the extent that instability on adjacent properties may adversely affect the property; a description of the field investigation and findings; conclusions regarding the effect of geologic conditions on the proposed development; and specific recommendations for plan modification, corrective grading, and/or special techniques and systems to facilitate a safe and stable development, and shall provide other recommendations as necessary, commensurate with the project grading and development. The preliminary engineering geology report may be combined with the soil engineering report.

Seal Beach Municipal Code

Chapter 5.55 Oil and Gas Production

5.55.075 Permit Requirement. It shall be unlawful and a nuisance for any person hereafter to conduct any drilling operations for a well hole or hereafter to drill and produce any oil and gas well or well hole in the surface or subsurface of the city from any drill site without first having applied for and obtained from the city council an oil/gas production permit. (Ord. 1515).

5.55.090 Operation Standards. Drilling shall be conducted in accordance with the following operation standards:

I. The operation of any oil and gas well and production therefrom drilled pursuant to an oil/gas production permit shall be in accordance with the rules and regulations of the Division of Oil and Gas of the state, or any successor agency or body thereto.

5.55.095 Additional Standards.

E. Private roads for ingress and egress to and from the drill site shall be surfaced with gravel and maintained in good condition at all times during drilling and production operations. No signs shall be erected on the drill site except those required by law or permitted by this code.

F. Within 90 days after the completion of drilling operations or abandonment of further drilling, the derrick and all drilling equipment, including temporary tanks, shall be removed from the drill site. Well abandonment shall be in accordance with the requirements of the Division of Oil and Gas of the state. Upon such well abandonment, the permittee shall restore the property as nearly as possible to its original condition and shall remove all concrete foundations, oil-soaked soil, and debris; all holes or depressions shall be filled to the natural surface.

J. All drilling and production equipment installed or operated upon any controlled drill site shall be so constructed, operated, and maintained that no noise, vibration, odor, or other harmful or annoying substances of effects therefrom which can be eliminated or diminished by the use of modern and approved types of equipment silencers or greater care shall ever be permitted to result from operations on any controlled drill site to the injury or annoyance of persons in the vicinity of such controlled drill site. Proven technological and mechanical improvements in methods of drilling and production and in the type of equipment used therefor shall be adopted from time to time, as the same become available if the use of such equipment, improvements, and methods will reduce noise, vibration, odors, or the harmful effects of annoying substances. The use of equipment in any controlled drill site, which equipment causes noise or vibration, shall at all times be subject to the approval of the city council, and the city council may amend any permit and require the permittee to abate any noise or vibration which constitutes a nuisance and is detrimental to persons or property in the vicinity where such equipment is being operated.

5.55.105 Subsidence.

A. The city engineer shall, from time to time make such tests and observations as deemed appropriate to determine if any adverse effect upon the surface of the city is occasioned or is in danger of being occasioned by reason of the removal of oil, gas, or other hydrocarbon substances from the subsurface of the city pursuant to a well, no part of which is located within the city, but which drains a subterranean oil or gas pool, part of which is in the city. Upon determining the existence of such adverse effect or danger, the city engineer may order the immediate suspension of further

production from such well or wells as may be located entirely or partly within the city, and, in the event of such an order, production on such well shall be suspended by the permittee or other operator immediately upon receiving notice of such order. The permittee or other person lawfully producing oil or gas, or oil and gas, or any other hydrocarbon substances from any such well may appeal to the city council. The city council may, upon good cause being shown by the permittee or such other person, vacate or modify the order of the city engineer, or if no part of the well is in the city, the city council may direct the city attorney to immediately commence such actions or proceedings as may be necessary for the abatement, removal, and enjoining of further drilling operations which adversely affect property within the city in the manner provided by law and to take such other action and to apply to any court having jurisdiction to grant such relief as will restrain or enjoin any person from drilling or producing any such well.

B. Notwithstanding any other provision of this chapter, the city council may require an applicant for a final exploratory area or oil/gas production permit to submit a plan for water injection or other plan for secondary recovery and to eliminate any possibility of subsidence or other possible damage to property within the city. (Ord. 1515)

Chapter 9.20 Storm Water Management Program

9.20.015 Controls for Water Quality Management.

A. New Development and Significant Redevelopment.

1. All new development and significant redevelopment within the city shall be undertaken in accordance with:

   a. The DAMP, including without limitation the development project guidance.

   b. Any conditions and requirements established by the responsible city department, which are reasonably related to the reduction or elimination of pollutants in storm water runoff from the project site.

2. Prior to the issuance by the city of a grading permit, building permit or nonresidential plumbing permit for any new development or significant redevelopment, the responsible city department shall review the project plans and impose terms, conditions and requirements on the project in accordance with this chapter.

Chapter 9.50 Grading

9.50.015 Grading Permit Requirement. No person shall perform any of the following activities without first obtaining from the city engineer, and maintaining in full force and effect, a grading permit:

A. Grading or land disturbing or land filling on existing grade that is preparatory to grading.

B. Clearing, brushing and grubbing.

C. Construction of pavement surfacing in excess of 2,499 square feet on existing grade for the purpose of a road or parking lot. This provision does not include resurfacing or maintenance of existing paved surfaces.

D. Alteration of an existing watercourse, channel or revetment by means of excavation, fill placement or installation of rock protection or structural improvements. (Ord. 1515)

Chapter 9.60 Building Code

Section 101 General

101.4.1 Building Code. The provisions of the California Building Code as adopted and amended by City of Seal Beach shall apply to all buildings and structures other than those meeting the scoping limitations contained in the California Residential Code.

101.4.7 Fire Code. The mandatory provisions of the California Fire Code as adopted and amended by City of Seal Beach shall apply to all new and existing buildings, structures and premises.

9.60.020.010 Building Code Adopted by Reference and Amended.

9.60.020.010.10 California Building Code Adopted by Reference.

Chapters 1 through 35 and Appendices F, I, and J of 2016 California Building Code, Title 24 Part 2 of California Code of Regulations, as published by the California Building Standards Commission, are hereby adopted by reference pursuant to the provisions of Sections 50022.1 through 50022.10 of the Government Code of the State of California as though fully set forth herein, and made a part of the Seal Beach Municipal Code with the same force and effect as though set out herein in full, including all of the regulations, revisions, conditions and terms contained therein except that those certain sections thereof which are necessary to meet local conditions as hereinafter set forth in Section 9.60.020.010.20 of this Code are hereby repealed, added or amended to read as set forth therein.

Seal Beach General Plan

Topic 2: Hazardous Materials

Policy 2S. Minimize changes in hydrology and pollutant loading, re-quire incorporation of control, including structural and non-structural BMPs to mitigate the projected increases in pollutant loads and flows, ensure that post-development runoff rates and velocities from a site have no significant adverse impact on downstream erosion and stream habitat, minimize the quantity of storm water directed to impermeable surfaces and the MS4s, and maximize the percentage of permeable surfaces to allow more percolation of storm water into the ground.

Policy 2T. Preserve wetlands, riparian corridors, and buffer zones and establish reasonable limits on the clearing of vegetation from the project site.

Policy 2U. Encourage the use of water quality wetlands, biofiltration swales, watershed-scale retrofits, etc. where such measures are likely to be effective and technically and economically feasible.

Policy 2V. Provide for appropriate permanent measures to reduce storm water pollutant loads in storm water from the development site.

Topic 3: Geologic Hazards

Policy 3A. Require a soils and geology report to be prepared and filed for all development projects as specified in the City's Municipal Code.

Policy 3C. Require supervision by a state licensed soils engineer for grading operations which require a grading permit.

Policy 3D. Maintain and enforce protection measures which address control of runoff and erosion by vegetation management, control of access, and site planning for new development and major remodels, including directing runoff to the street and compliance with setbacks.

Policy 3J. Maintain the present City practice of adopting the latest edition of the Uniform Building Code (as amended and published by the International Conference of Building Officials at approximate three-year intervals) because it in-corporates the latest accepted standards for seismic design that reflect advances in technology and understanding of hazards.

Policy 3N. Determine the liquefaction potential of a site prior to development and require that specific measures be taken, as necessary, to reduce damage in an earthquake.

Policy 3O. Promote the collection of relevant studies on fault location and history of fault displacement and liquefaction for future refinement of the geological information within and around the City.

Southeast Area Development and Improvement Plan and Draft Southeast Area Specific Plan

Approved in 1977, the Southeast Area Development and Improvement Plan (SEADIP) was the first planned development district in the City. The SEADIP document was intended to guide land use and development in an area that was experiencing a period of rapid growth. The 1977 SEADIP included the following planning goals and objectives relevant to geology, seismicity, and soils:

Environmental Consideration, page 15: Seismic safety will be ensured by meeting the requirements of the Seismic Safety Element and the Alquist-Priolo Act, which will ultimately govern the actual development capability of the affected lands.

The SEADIP includes updates, revisions, and additions of the ordinance history through 2006. The additions through 2006 include narrative discussion of "The Wetlands" and "The Buffers," which would include the restoration area. Relative to geology, seismicity, and soil, the narrative is largely permit, process, phasing, and financially oriented.

In July 2016, the City circulated a draft of the Southeast Area Specific Plan (SEASP) 2060, which is a planning document for the program area, including re-designating land uses for the program area (City of Long Beach 2016). It is anticipated that the SEASP 2060 will be completed and issued in its final form within the lifetime of the proposed program. The portions relevant to geology, seismicity, and soils are provided below.

Chapter 5, Development Standards, Section 5.10, Wetland Buffers

Be designed, where necessary, to help minimize the effects of erosion, sedimentation, and pollution arising from urban, industrial and agricultural activities; however, to the extent possible, erosion, sedimentation, and pollution control problems should be dealt with at the source, not in the wetland or buffer area.

Chapter 8, Infrastructure, Section 8.1.2, Storm Drains

Any new projects in the SEASP 2060 area will have to comply with the MS4 Permit for the City and include stormwater LID BMPs. Such features will ensure any increases in runoff from proposed land use changes will be sustainably managed and that the 85th percentile, 24-hour storm event will be treated through a variety of LID features. The 85th percentile storm event is measured by rainfall depth; for example, if the 85th percentile storm event equals 0.5 inch, then 85 percent of all rainfall events will be equal to 0.5 inch or less of precipitation.

The use of LID features will be consistent with the prescribed hierarchy of treatment provided in the permit: infiltration, evapotranspiration, harvest/reuse, and biotreatment. For areas of the site where LID features are not feasible or that do not meet the feasibility criteria, treatment control BMPs with biotreatment enhancement design features must be used.

Typical water quality BMPs for new development in mixed-use areas include stormwater planters (raised or at grade), cisterns and reuse distribution systems (primarily for landscaping), proprietary detention/biotreatment flow-through systems, and subterranean infiltration systems. Since increased density is anticipated in mixed-use areas, the majority of the proposed features should be located within the landscaping along the perimeter of the project, adjacent to the buildings, or in some cases, within the buildings themselves.

Long Beach Storm Water Management Program

The LARWQCB issued the City its own NPDES permit (NPDES Permit No. 99-060; CAS004003/CI 8052). As part of its Report of Waste Discharge submitted for its NPDES permit, the City included among other programs, a stormwater management program. In accordance with the objectives of the federal Clean Water Act and the State Porter-Cologne Water Quality Control Act, the Long Beach Storm Water Management Program contains elements, practices, and activities to reduce or eliminate pollutants in stormwater to the maximum extent practicable (City of Long Beach 2001). In accordance with this program, Long Beach Municipal Code (LBMC) Chapter 18.95 includes requirements relating to development planning and construction, including source control BMPs. Additional requirements include treatment control BMPs and requirements regarding erosion control, peak runoff, and BMP maintenance for projects located adjacent to or directly discharging to environmentally sensitive areas. Post-construction structural or treatment control BMPs designed to mitigate (infiltrate or treat) the volume of runoff produced from a 0.75-inch storm event prior to its discharge to a stormwater conveyance system are also required for these specific projects. In addition, in accordance LBMC Chapter 8.96, construction projects are required to prepare a SWPPP that will incorporate construction site BMPs.

Given the potential for the proposed project to contribute pollutant loads to stormwater flows during construction and operation of proposed uses, the project is subject to the requirements of the NPDES permits and municipal code requirements.

Long Beach MS4 Permit

The City of Long Beach is covered under the Long Beach MS4 Permit: Waste Discharge Requirements for Municipal Separate Storm Sewer System Discharges from the City; Order No. R4-2014-0024.

According to the MS4 Permit, new development projects are as follows:

- Industrial parks
- Parking lots 5,000 square feet (sf) or more of impervious surface area or with 25 or more parking spaces;
- All development projects equal to 1 acre or greater of disturbed area and adding more than 10,000 sf of impervious surface area;

According to the MS4 Permit, redevelopment projects are as follows:

- Land-disturbing activity that results in the creation or addition or replacement of 5,000 sf or more of impervious surface area on an already developed site for development categories/project thresholds.
- Where redevelopment results in an alteration to more than 50 percent of impervious surfaces of a previously existing development, and the existing development was not subject to post-construction stormwater quality control requirements, the entire project must be mitigated.
- Where redevelopment results in an alteration of less than 50 percent of impervious surfaces of a previously existing development, and the existing development was not subject to post-construction stormwater quality control requirements, only the alteration must be mitigated, and not the entire development.

The MS4 Permit lists conditions for various specific discharge categories, including landscape irrigation using potable water, landscape using reclaimed or recycled water, and street/sidewalk wash water. Conditions are also required for exempt MS4 discharges. Table 9 of the MS4 Permit lists source control BMPs pertaining to pollutant-generating activities to be implemented at commercial and industrial facilities.

The MS4 permit requires the City to develop and implement the Long Beach Storm Water Management Program and the Long Beach Low Impact Development (LID) Manual described below.

Long Beach Low Impact Development Manual

The City adopted Low Impact Development (LID) regulations for the purpose of:

- Encouraging the beneficial use of rainwater and urban runoff;
- Reducing stormwater/urban runoff while improving water quality;
- Reducing off-site runoff and providing increased groundwater recharge;
- Reducing erosion and hydrologic impacts downstream; and
- Enhancing the recreational and aesthetic values in our communities.

This LID objective of controlling and maintaining flow rate is addressed through land development and stormwater management techniques that imitate the natural hydrology (or movement of water) found on the site. Using site design and BMPs that allow for storage and retention, infiltration, filtering and flowrate adjustments achieve this objective.

These regulations apply to all development and redevelopment in the City, with some exceptions. The following LID regulations specifically apply to slopes and channels to prevent erosion:

1. Slopes must be protected from erosion by safely conveying runoff from the tops of slopes.
2. Slopes must be vegetated with first consideration given to native or drought-tolerant species.
3. Utilize natural drainage systems to the maximum extent practicable, but minimize runoff discharge to the maximum extent practicable.
4. Stabilize permanent channel crossings.
5. Install energy dissipaters, such as rock riprap, at the outlets of storm drains, culverts, conduits, or channels that discharge into unlined channels.

By identifying the locations and sources of off-site drainage, the volume of water running onto the site may be estimated and factored into the siting and sizing of on-site BMPs. Vegetated swales or storm drains may be used to intercept, divert, and convey off-site drainage through or around a site to prevent flooding or erosion that might otherwise occur (City of Long Beach 2013). The above-described Long Beach Storm Water Management Program requires that each project prepare and implement a project-specific LID Plan.

Long Beach Municipal Code

Chapter 8.96. Stormwater and Runoff Pollution Control. This chapter reinforces the requirements of the Federal Clean Water Act and the State Porter Cologne Act (including Construction General Permit requirements) within the City.

Chapter 12: Oil Production Regulations.

Section 18.04.010. Building permits are required for any attempt to erect, construct, enlarge, alter, repair, remodel, move, remove, improve, convert or demolish any building or part of a building or structure, or change the character or occupancy or use of any building or structure, or part of a building or structure. Building permits must be obtained from the City Building Official.

Chapter 18.04: Permits. This chapter describes various permit requirements within the City.

Section 18.04.010. Building permits are required for any attempt to erect, construct, enlarge, alter, repair, remodel, move, remove, improve, convert or demolish any building or part of a building or structure, or change the character or occupancy or use of any building or structure, or part of a building or structure. Building permits must be obtained from the City Building Official.

Grading permits are required for grading and import or export any earth materials to or from any grading site. Grading permits must be obtained from the City Building Official. Any grading project involving more than 100 cubic yards of excavation and involving an excavation in excess of five feet in vertical depth at its deepest point measured from the original ground surface shall be done by a State of California licensed contractor who is

licensed to perform the work described herein. A separate permit shall be required for each grading site. One permit may include the entire grading operation at that site, however.

No permit shall be issued for projects located within a special (fault) studies zone established under Chapter 7.5, Division 2, of the California Public Resources Code unless it can be demonstrated through accepted geologic seismic studies that the proposed structure will be located in a safe manner and not over or astraddle the trace of an active fault. Acceptable geologic seismic studies shall meet the criteria as set forth in rules and regulations established by the Building Official to ensure that such studies are based on sufficient geologic data to determine the location or nonexistence of the active fault trace on a site. Prior to approval of a project, a geologic report defining and delineating any hazard of surface fault rupture shall be required. If the City finds that no undue hazard of this kind exists, the geologic report on such hazard may be waived, with approval of the State Geologist.

Chapter 18.40: Building Code. This chapter describes the reinforcement of the CBC within the City with the exception of some sections of the Code.

Chapter 18.68: Earthquake Hazard Regulations. This chapter defines a systematic procedure for identifying and assessing earthquake generated hazards associated with certain existing structures within the City and to develop a flexible, yet uniform and practical procedure for correcting or reducing those hazards to tolerable hazard levels. This chapter includes minimum standards for structural seismic resistance established to reduce the risk of life loss or injury.

City of Long Beach General Plan

Seismic Safety Element—1988

Advance Planning Recommendations—Land Use

- Priority should be given to low risk type projects such as low rise buildings and open space in areas of known seismic hazards.
- Density is a seismic safety consideration in that higher occupancy results in greater risk exposure to more people should an earthquake occur. Therefore, from a seismic safety perspective, lower densities are often preferred.
- Hazardous activities, such as petroleum operations, should be buffered to the extent possible from other types of land uses. The isolation of activities would serve to lessen exposure of such operations to the general public.

Immediate Action Recommendations—Structure and Design

- The siting and design recommendations, as specified in Table 6 of the General Plan, should be seriously considered for implementation. Special siting and design studies must be completed for specified structural types in specified Seismic Response Zones.
- No structures for human occupancy defined as "project" within the Alquist-Priolo Special Studies Zones Act and essential facilities and hazardous facilities involving sufficient quantities of toxic or explosive materials presenting a danger to the public safety if released and located with the delineated Caution Zones shall be approved without geologic and earthquake hazard reports. These reports should be completed in accordance with the "guidelines to Geologic/Seismic Reports," as provided by the State Division of Mines and

Geology, and/or in accordance with the policies and criteria of the State Mining and Geology Board with reference to the Alquist-Priolo Geologic Hazards Zones Act.

- No structure for human occupancy shall be permitted to be placed across the trace of an active fault, i.e., the Newport-Inglewood Fault.

Public Safety Element

Advance Planning Recommendations

- New development should be responsive to seismic considerations (see Seismic Safety Element).

Conservation Element

Soil Management Goals

- To minimize those activities which will have a critical or detrimental effect on geologically unstable areas and soils subject to erosion.
- To continue to monitor areas subject to siltation and deposition of soils which could have a detrimental effect upon water quality and the marine biosphere.

3.5.3.4 Paleontological Resources

City of Seal Beach General Plan

The Cultural Resources Element of the City of Seal Beach General Plan describes methods for protecting historical, archaeological, and paleontological resources. The element also includes local policies to guide implementation of cultural resource preservation beyond the protection afforded by applicable federal, state, and local laws. Future development within the City of Seal Beach is subject to these policies and laws to preserve known and unknown sites and properties of a cultural and historic nature. The following goals and policies are applicable to paleontological resources:

Goal 1: Preserve and protect historical, archaeological, and paleontological resources.

Policy 1: Balance the benefits of development with the project's potential impacts to existing cultural resources.

The Cultural Resources Element requires assessment of development proposals for potential impacts to significant paleontological resources pursuant to CEQA Guidelines Section 15064.5. If a project involves earthwork, a study must be conducted by a professional paleontologist to determine if paleontological assets are present and if the project will significantly impact the resources. If significant impacts are identified, the project must either be modified to avoid impacting the materials or require measures to mitigate the impacts.

City of Long Beach

The City of Long Beach General Plan does not include goals and polices related to paleontological resources.

Society for Vertebrate Paleontology Guidelines

The SVP Guidelines (SVP, 2010) outline professional protocols and practices for conducting paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, and specimen preparation, identification, analysis, and curation. Most practicing professional vertebrate paleontologists adhere closely to the SVP's assessment, mitigation, and monitoring requirements as specifically provided in its standard guidelines. Most state regulatory agencies with paleontological resource-specific Laws, Ordinances, Regulations, and Standards (LORS) accept and use the professional standards set forth by the SVP.

As defined by the SVP (2010:11), significant nonrenewable paleontological resources are:

> *Fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years).*

A geologic unit known to contain significant fossils is considered to be "sensitive" to adverse impacts if there is a high probability that earth-moving or ground-disturbing activities in that rock unit will either directly or indirectly disturb or destroy fossil remains. Paleontological sites indicate that the containing sedimentary rock unit or formation is fossiliferous. The limits of the entire rock formation, both areal and stratigraphic, therefore define the scope of the paleontological potential in each case (SVP, 2010).

Fossils are contained within surficial sediments or bedrock, and are therefore not observable or detectable unless exposed by erosion or human activity. In summary, paleontologists cannot know either the quality or quantity of fossils prior to natural erosion or human-caused exposure. As a result, even in the absence of surface fossils, it is necessary to assess the sensitivity of rock units based on their known potential to produce significant fossils elsewhere within the same geologic unit (both within and outside of the study area), a similar geologic unit, or based on whether the unit in question was deposited in a type of environment that is known to be favorable for fossil preservation. Monitoring by experienced paleontologists greatly increases the probability that fossils will be discovered during ground-disturbing activities and that, if these remains are significant, successful mitigation and salvage efforts may be undertaken in order to prevent adverse impacts to these resources.

Paleontological Resources Significance Criteria

Numerous paleontological studies have developed criteria for the assessment of significance for fossil discoveries (e.g., Eisentraut and Cooper, 2002; Murphey and Daitch, 2007; Scott and Springer, 2003, etc.). In general, these studies assess fossils as significant if one or more of the following criteria apply:

1. The fossils provide information on the evolutionary relationships and developmental trends among organisms, living or extinct;

1. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein;
2. The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas;
3. The fossils demonstrate unusual or spectacular circumstances in the history of life; or
4. The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.

In summary, significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or diagnostically important (Eisentraut and Cooper, 2002; Murphey and Daitch, 2007; Scott and Springer, 2003). Significant fossils can include remains of large to very small aquatic and terrestrial vertebrates or remains of plants and animals previously not represented in certain portions of the stratigraphy. Assemblages of fossils that might aid stratigraphic correlation, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, and paleoclimatology are also critically important (Scott and Springer, 2003; Scott et al., 2004).

3.5.4 Significance Thresholds and Methodology

This section describes the impact analysis relating to geology, soils, and paleontological resources for the proposed program. It describes the methods and applicable thresholds used to determine the impacts of the proposed program.

3.5.4.1 Significance Thresholds

For the purposes of this Program Environmental Impact Report (PEIR) and consistency with Appendix G of the CEQA Guidelines, the proposed program would have a significant impact on geology and soils if it would:

a) Directly or indirectly cause 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;
   ii) Strong seismic ground shaking;
   iii) Seismic-related ground failure, including liquefaction;
   iv) Landslides;
b) Result in substantial soil erosion or the loss of topsoil;
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property;[7]

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water; or

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

As detailed in the NOP/IS (refer to Appendix A of this PEIR), the proposed program would result in no impacts to thresholds "a-iv", "c" and "e." Although not required, evaluation of the proposed program's impact to thresholds "a-iv", "c" and "e" were conducted in this section.

3.5.4.2 Methodology

This impact section assesses potential impacts related to geology, soils, and paleontological resources based on the potential for the proposed program to adversely change those conditions or expose facilities or people or the environment to adverse impacts, using existing site conditions as a baseline for comparison. Information for this assessment of impacts relative to geology, soils, and paleontological resources is based on a review of literature research (geologic, seismic, soils, and paleontological resources reports and maps), information from seismic and paleontological databases, and the General Plans for the cities of Seal Beach and Long Beach. This information was used to identify potential impacts to workers, the public, or the environment.

For purposes of this analysis, construction activities would include the excavation, grading, and movement of fill and soil to restore habitat; removal or raising of some existing oil production facilities (wells, piping, and associated infrastructure); and construction of a visitor center, trails, and access roads. These construction activities would occur at various times spread out over time across the entire program area. Operations activities would include the operational phases of the restored habitat, visitors center, and trails. In addition, the operations activities include the post-treatment monitoring activities conducted to verify that habitat restoration objectives have been achieved.

The plugging and relocation of oil wells and associated infrastructure on the Northern and Southern Synergy Oil Field sites, Long Beach City Property site, and the Pumpkin Patch site were evaluated in the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse Number 2016041083), and are not repeated or analyzed within this PEIR. In addition, the plugging and relocation of oil wells and associated infrastructure, if any, on the Hellman Retained site, Isthmus LCWA Site, or the Alamitos Bay Partners site are not proposed at this time, but are anticipated to occur in the long-term when production falls to below economic levels. As proposed in the Termination of Oil and Gas Lease and Grant of Easement agreement between Signal Hill Petroleum, Inc., and the LCWA, Signal Hill Petroleum, Inc. would relocate or modify aboveground pipelines and utilities on the Central LCWA site and remediate soils that have been impacted by oil operations to accommodate the restoration. Thus, restoration in the near-term would include pipeline relocation, but not well relocation. Additionally, outside of this agreement, existing Signal Hill Petroleum, Inc. wells would be protected in place by proposing to

[7] The CBC, based on the IBC and the now-defunct UBC, no longer includes a Table 18-1-B. Instead, CBC Section 1803.5.3 describes the criteria for analyzing expansive soils.

raise the wells. When the owner/operators of those oil operations within the program area elect to change or close those operations, the changes would be analyzed under separate CEQA documents. The change or closure procedures and impacts analysis would be similar to those described and analyzed within this PEIR.

The proposed program would be regulated by the various laws, regulations, and policies summarized in the Regulatory Framework. Compliance by the proposed program with applicable federal, state, and local laws and regulations is assumed in this analysis, and local and state agencies would be expected to continue to enforce applicable requirements to the extent that they do so now. Note that compliance with many of the regulations is a condition of permit approval.

A significant impact would occur if, after considering the program features described in Chapter 2, *Project Description*, of this PEIR, and the required compliance with regulatory requirements, a significant impact would still occur. For those impacts considered to be significant, mitigation measures are proposed to reduce the identified impacts.

As stated in Chapter 1, *Introduction*, on March 8, 2019, the Los Cerritos Wetlands Authority sent a Notice of Preparation to responsible, trustee, and federal agencies, as well as to organizations, and individuals potentially interested in the proposed program to identify the relevant environmental issues that should be addressed in the PEIR. No issues related to geology and soils were identified.

3.5.5 Program Impacts and Mitigation Measures

Impact GEO-1a: The proposed program would result in a significant impact if the proposed program would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault.

As discussed above in Section 3.5.2, *Environmental Setting*, the Newport-Inglewood Fault Zone is designated by the state as an Alquist-Priolo Earthquake Fault Zone (i.e., on a state-recognized active fault trace) that crosses the program area, as shown in Figure 3.5-2. In the event of an earthquake along the Newport-Inglewood Fault Zone, fault rupture could occur on the program area.

Construction

Construction activities would be temporary, and thus, are not anticipated to exacerbate the exposure of people or structures to substantial adverse effects involving fault rupture. Therefore, relative to fault rupture, impacts during construction would be less than significant.

Operation

Portions of the program area, including levees, berms and flood walls, trails, and restored ecosystem area would be located within the Newport-Inglewood Fault Zone and could be exposed to fault rupture. These proposed program components do not include aboveground

structures that could be damaged by fault rupture during operation; the proposed visitor center on the State Lands Parcel site and not within the fault zone (see Figure 3.5-2). Damage to levees, berms and flood walls, trails, and the restored ecosystem area would consist only of earth movement, which would not expose people to risks because people would not be inside collapsing buildings or under bridges. The levees, berms and flood walls, and trails could be relatively easily restored and repaired, if damaged. Further, restored areas would not contain large amounts of people during operation. The trails would only be open to the public for specific daytime hours and in limited areas, thereby limiting the use and presence of persons on-site. Finally, some pipelines for the Signal Hill Petroleum operations in the Central Area would be relocated from their present locations. As summarized above in Section 3.5.3, *Regulatory Framework, The California Pipeline Safety Act of 1981*, codified in California Government Code Sections 50001–51298.5, all oil pipelines are required to be designed to accommodate some movement in the event of an earthquake. In addition, all oil pipelines have safety shutoff systems that close pipeline sections in the event of a loss of pressure due to a leak or break, thus minimizing spillage. Note that Signal Hill Petroleum has also committed to updating their Spill Prevention and Response Plan. Therefore, based on compliance with existing regulations, the proposed uses, limited hours of use, and anticipated number of people visiting the site, exposure of people to fault rupture impacts on the program area during operation would be unlikely, and impacts would be less than significant.

The operation of the oil fields includes the extraction of oil and associated produced water. However, the proposed program would not exacerbate the potential for earthquakes because the proposed program does not include changes to the existing injection and extraction of oil and produced water. Impacts would be less than significant.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

Impact GEO-1b: The proposed program would result in a significant impact if the proposed program would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.

The region will likely experience a large regional earthquake within the operational life of the proposed program. There is a potential for strong to very strong intensity ground shaking at the program area that would be associated with such an earthquake. The intensity of such an event would depend on the causative fault and the distance to the epicenter, the magnitude, the duration of shaking, and the nature of the geologic materials on which the proposed program components would be constructed. Intense ground shaking and high ground accelerations would affect the entire program area. The primary and secondary effects of ground shaking could damage levees, berms and flood walls, trails, the visitor center, and modified infrastructure and utilities; and place people and/or the environment at risk.

Construction

Construction activities would be temporary, and thus, are not anticipated to exacerbate the exposure of people or structures to substantial adverse effects involving seismic shaking. Therefore, relative to seismic shaking, impacts during construction would be less than significant.

Operation

Portions of the program area, including levees, berms and flood walls, trails, and restored ecosystem area would be located within or close to the Newport-Inglewood Fault Zone and could be exposed to seismic shaking. With the exception of the visitor center, the program components do not include aboveground structures that could be damaged by seismic shaking during operation. Damage to levees, berms and flood walls, trails, and the restored ecosystem area would consist only of earth movement, which would not expose people to risks because people would not be inside collapsing buildings or under bridges. The levees, berms and flood walls, trails could be easily restored and repaired. Further, restored areas would not contain large amounts of people during operation. The trail would only be open to the public for specific daytime hours and in limited areas, thereby limiting the use and presence of persons on-site. Therefore, based on the proposed uses, limited hours of use and anticipated number of people visiting the site, exposure of people to seismic shaking impacts on the program area during operation would be unlikely, and impacts would be less than significant.

With regard to the visitor center on the State Lands Parcel site in the South Area, the structure would be required to comply with the CBC since the structure would be occupied by people. The structural elements of the visitor center would be required to undergo appropriate project level design-level geotechnical evaluations prior to final design and construction. Implementing the regulatory requirements of the CBC and local ordinances, and ensuring that all buildings and structures are constructed in compliance with the law is the responsibility of the project engineers and building officials. As described in Section 3.5.3, *Regulatory Framework*, the CBC describes required standards for the construction, alteration, movement, replacement, location, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California. The standards include earthquake design requirements that determine the seismic design category and then describe the structural design requirements. The geotechnical engineer, as a registered professional with the State of California, is required to comply with the CBC and local codes while applying standard engineering practice and the appropriate standard of care for the particular region in California, which, in the case of the visitor center, would be the City of Seal Beach. The California Professional Engineers Act (Building and Professions Code Sections 6700–6799), and the Codes of Professional Conduct, as administered by the California Board of Professional Engineers and Land Surveyors, provides the basis for regulating and enforcing engineering practice in California. The local building officials are typically with the local jurisdiction (i.e., the City of Seal Beach) and are responsible for inspections and ensuring CBC and local code compliance prior to approval of the building permit. As discussed above, the geotechnical investigations would include recommendations to address geotechnical issues, including seismic shaking. With compliance with the regulatory requirements and the implementation of geotechnical design recommendations as required by the CBC, impacts relative to seismic shaking would be less than significant.

As discussed in Section 2.7, *Program Characteristics*, of Chapter 2, *Project Description*, of this PEIR, oil wells and associated pipelines would be plugged or phased out over time. As described in Section 3.5.3, *Regulatory Framework*, the construction, operation, and removal or plugging of oil and natural gas wells, storage facilities, and pipelines would be under the permitting, design specifications, and inspection jurisdiction of CalGEM, as summarized in the CalGEM Publication No. PRC10, *California Statutes and Regulations for Conservation of Oil, Gas, & Geothermal Resources*. Similar to the CBC, the registered professionals designing, constructing, operating, and plugging wells, pipelines, and associated infrastructure are required to comply with CalGEM regulations. The removal of wells and associated infrastructure would reduce the exposure of wells and infrastructure to seismic shaking. With compliance with the regulatory requirements and the removal of wells and infrastructure, impacts relative to seismic shaking would be less than significant.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

Impact GEO-1c: The proposed program would result in a significant impact if the proposed program would directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction, lateral spreading, and landslides.

As previously discussed, the region will likely experience a large regional earthquake within the operational life of the proposed program. There is a potential for strong to very strong intensity ground shaking at the program area that would be associated with such an earthquake. Seismic shaking can result in seismic-induced ground failures, such as liquefaction, lateral spreading, and landslides. The intensity of such an event would depend on the causative fault and the distance to the epicenter, the magnitude, the duration of shaking, and the nature of the geologic materials on which the proposed program components would be constructed. Intense ground shaking and high ground accelerations would affect the entire program area. The primary and secondary effects of ground shaking could damage levees, berms and flood walls, trails, the visitor center, and modified infrastructure and utilities; and place people and/or the environment at risk.

As discussed above in Section 3.5.2, *Environmental Setting*, the program area has a relatively flat topography. Based on a review of aerial photographs and available geotechnical reports and topographic conditions, no landslides are present on or at a location that could impact the program area. The proposed program facilities would not alter the topography so substantially as to introduce the potential for landslides to occur on-site. Therefore, construction and operational impacts pertaining to landslides would be less than significant and landslides are not discussed further.

Construction

Construction activities would be temporary, and thus, are not anticipated to exacerbate the exposure of people or structures to substantial adverse effects involving seismic-induced ground failures, such as liquefaction and lateral spreading. Therefore, relative to liquefaction and lateral spreading, impacts during construction would be less than significant.

Operation

Portions of the program area, including levees, berms and flood walls, trails, and restored ecosystem area would be located within or close to the Newport-Inglewood Fault Zone and could be exposed to seismic shaking that may result in seismic-induced ground failures, such as liquefaction and lateral spreading. With the exception of the visitor center, the proposed program components do not include aboveground structures that could be damaged by liquefaction and lateral spreading during operation. Damage to levees, berms and flood walls, trails, and the restored ecosystem area would consist only of earth movement, which would not expose people to risks because people would not be inside collapsing buildings or under bridges. The levees, berms and flood walls, trails could be easily restored and repaired. Further, restored areas would not contain large amounts of people during operation. The trail would only be open to the public for specific daytime hours and in limited areas, thereby limiting the use and presence of persons on-site. Therefore, based on the proposed uses, limited hours of use, and anticipated number of people visiting the site, exposure of people to liquefaction and lateral spreading impacts on the program area during operation would be unlikely, and impacts would be less than significant.

With regard to the visitor center on the State Lands Parcel site in the South Area, the structure would be required to comply with the CBC since the structure would be occupied by people. As discussed in Section 3.5.3, *Regulatory Framework*, and in Impact GEO-1b, the structural elements of the visitor center would be required to undergo appropriate design-level geotechnical evaluations prior to final design, permitting, and construction. Implementing the regulatory requirements of the CBC and local ordinances, and ensuring that all buildings and structures are constructed in compliance with the law is the responsibility of the project engineers and building officials and the geotechnical engineer, as a registered professional with the State of California, is required to comply with the CBC and local codes while applying standard engineering practice and the appropriate standard of care. As discussed above, the geotechnical investigations would include recommendations to address geotechnical issues, including liquefaction and lateral spreading. With compliance with the regulatory requirements and the implementation of geotechnical design recommendations as required by the CBC, impacts relative to liquefaction and lateral spreading would be less than significant.

As discussed in Section 2.7, *Program Characteristics*, in Chapter 2, *Project Description*, of this PEIR, and above in Impact GEO-1b, oil wells and associated pipelines would be plugged or phased out over time throughout the program area. As described in Section 3.5.3, *Regulatory Framework*, the construction, operation, and removal or plugging of oil and natural gas wells, storage facilities, and pipelines would be under the permitting, design specifications, and inspection jurisdiction of CalGEM, as summarized in the CalGEM Publication No. PRC10, *California Statutes and Regulations for Conservation of Oil, Gas, & Geothermal Resources*.

Similar to the CBC, the registered professionals designing, constructing, operating, and plugging wells, pipelines, and associated infrastructure are required to comply with CalGEM regulations. The removal of wells and associated infrastructure would reduce the exposure of wells and infrastructure to liquefaction and lateral spreading. With compliance with the regulatory requirements and the removal of wells and infrastructure, impacts relative to liquefaction and lateral spreading would be less than significant.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

Impact GEO-2: The proposed program would result in a significant impact if the proposed program would result in substantial soil erosion or the loss of topsoil.

Program construction would involve localized ground disturbance activities (e.g., grading, excavation, construction of berms, flood walls, and the visitor center, and the raising, removal or plugging of wells and pipelines). The ground disturbing activities could result in erosion or the loss of topsoil.

As discussed in Chapter 2, *Project Description*, of this PEIR, the program goals and objectives are the restoration of wetland habitat. Consequently, unless certain soils are contaminated from the previous oil operations such that removal and disposal is required, all topsoil would be kept on-site and reused to restore the wetlands habitat. Therefore, there would be no loss of topsoil, resulting in no impact, and the loss of topsoil is not discussed further.

Construction

Because the overall footprint of construction activities would exceed 1 acre, the proposed program would be required to comply with the *NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities* (Order 2009-0009-DWQ, NPDES No. CAS000002; as amended by Orders 2010-0014-DWQ and 2012-006-DWQ) (Construction General Permit), the *Seal Beach Grading and Stormwater Pollution Prevention Implementation Manual*, and the *Long Beach Storm Water Management Program Manual*, all of which are described above in Section 3.5.3, *Regulatory Framework*. These state and local requirements were developed to ensure that stormwater is managed and erosion is controlled on construction sites. The Construction General Permit requires preparation and implementation of a SWPPP, which requires applications of BMPs to control run-on and runoff from construction work sites. The BMPs would include, but would not be limited to, physical barriers to prevent erosion and sedimentation, construction of sedimentation basins, limitations on work periods during storm events, use of infiltration swales, protection of stockpiled materials, and a variety of other measures that would substantially reduce or prevent erosion from occurring during construction. The Seal Beach and Long Beach storm water programs, similar to the SWPPP,

require implementation of temporary construction and permanent post-construction erosion control measures for construction sites of all sizes. The applicable erosion control ordinances restrict grading activities during winter months and require preparation of an erosion control plan prior to issuance of building permits. With compliance with the regulations discussed above, impacts associated with soil erosion during construction would be less than significant for all proposed program components.

Although much of the program area is within disturbed areas, the construction activities would be purposely designed to retain and restore what topsoil there is and reuse that soil to restore the ecosystem. As discussed in Chapter 2, *Project Description*, of this PEIR, soil would be rearranged for habitat restoration. No topsoil would be exported off-site unless the topsoil has been contaminated with petroleum hydrocarbons above action levels requiring off-site disposal (see Section 3.7, *Hazards and Hazardous Materials*, of this PEIR, for discussion of contaminated materials). Therefore, there would be no impacts related to the loss of topsoil.

Operation

The proposed program would restore the wetland habitat and tidal connection, which would increase the amount of water moving within the program area with the tides, and could in turn cause erosion. In a healthy and properly functioning marsh system, tidal channels deposit or scour in response to the size of the tidal prism that the channels convey. When the tidal prism (the volume of water moving during a tidal cycle) increases, tidal channels scour to accommodate the additional flow. Since the proposed program would increase the tidal prism by allowing the tides to flood the marshplain to the south of the slough, the slough is expected to experience some erosion; however, hydraulic modeling showed that the increased velocities in the slough due to the proposed program would not be high enough to cause wide-spread erosion, nor would they require erosion and/or bank protection. After some initial channel adjustment, erosion during typical tides is expected to be minimal. In a stable estuary, mature marshes remain in a dynamic equilibrium between erosional and depositional processes. The marsh vegetation and its root structures help hold sediments in place, so the marsh would be expected to capture sediment running onto the site, reducing erosion. Finally, as summarized in Section 2.7.1, *Overview of Comment Program Features, Flood Risk and Stormwater Management*, the existing Los Angeles County Drainage Area project structures and facilities are maintained in such a manner and operated at such times and for such periods as necessary to obtain the maximum flood protection benefits (33 C.F.R. §208.10). The implementation of the proposed program would require revisions to the U.S. Army Corps of Engineers' OMRR&R Manual to reflect changes made to the existing Los Angeles County Drainage Area project structures and facilities within the program area. Section 3.8, *Hydrology and Water Quality*, provides a detailed analyses of water movement within the program area, which concludes that impacts from erosion during operations would be less than significant.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

Impact GEO-3: The proposed program would result in a significant impact if the proposed program would be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the proposed program, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

As discussed above in Section 3.5.3, *Environmental Setting*, and Impact GEO-1c, the program area is relatively flat and the wetlands habitat restoration efforts would not result in slope susceptible to landslides. Impacts from landslides during construction and operations would be less than significant.

Although liquefaction and lateral spreading can occur without a seismic event, these ground failures are primarily caused by seismic shaking. As discussed above in Impact GEO-1c, impacts from liquefaction and lateral spreading during construction and operations would be less than significant.

As discussed in Section 3.5.2, *Environmental Setting*, subsidence and collapse can be caused by the withdrawal of oil and/or groundwater. The produced water from oil extraction is injected back into production zones to prevent subsidence. The proposed program does not include changes to the existing oil methodology. In addition, as oil production is phased out, oil extraction would be reduced and eventually end, eliminating the need to inject the produced water back into the production zones. The proposed program does not include the extraction of shallow groundwater and collapse would not occur. Relative to impacts from subsidence and collapse during construction and operations, there would be no impact.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

No Impact

Impact GEO-4: The proposed program would result in a significant impact if the proposed program would be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.

The CBC, based on the IBC and the now-defunct UBC, no longer includes a Table 18-1-B. Instead, CBC Section 1803.5.3 describes the criteria for analyzing expansive soils. As discussed in Section 3.5.2, *Environmental Setting*, the geotechnical investigation at the Pumpkin Patch site concluded that the fill and soil materials have a low to moderate expansion potential (KCG 2016a). It is assumed this condition may also apply to other areas within the program area.

Expansion and contraction of expansive soils in response to changes in moisture content can cause differential and cyclical movements that can result in damage and/or distress to structures and equipment.

Construction

There would be no construction-related impacts relative to expansive soils. Until construction has been completed, there would be no structures that expansive soils could damage, and there would be no impact.

Operation

Portions of the program area, including levees, berms and flood walls, trails, and restored ecosystem area would be located on fill and/or soil that could be expansive. With the exception of the visitor center, the proposed program components do not include aboveground structures that could be damaged by expansive soils during operation. Damage to levees, berms and flood walls, trails, and the restored ecosystem area would consist only of earth movement, which would not expose people to risks because people would not be inside collapsing buildings or under bridges. The levees, berms and flood walls, trails could be easily restored and repaired. Further, restored areas would not contain large amounts of people during operation. The trail would only be open to the public for specific daytime hours and in limited areas, thereby limiting the use and presence of persons on-site. Finally, the areas around the existing Signal Hill Petroleum well heads that would be raised would use imported engineered fill that would not be subject to expansion. Therefore, based on the proposed uses, limited hours of use, and anticipated number of people visiting the site, exposure of people to expansive soil impacts on the program area during operation would be unlikely, and impacts would be less than significant.

With regard to the visitor center on the State Lands Parcel site in the South Area, the structure would be required to comply with the CBC since the structure would be occupied by people. As discussed in Section 3.5.3, *Regulatory Framework*, and in Impact GEO-1b, the structural elements of the visitor center would be required to undergo appropriate design-level geotechnical evaluations prior to final design, permitting, and construction. Implementing the regulatory requirements of the CBC and local ordinances, and ensuring that all buildings and structures are constructed in compliance with the law is the responsibility of the project engineers and building officials and the geotechnical engineer, as a registered professional with the State of California, is required to comply with the CBC and local codes while applying standard engineering practice and the appropriate standard of care. As discussed above, the geotechnical investigations would include recommendations to address geotechnical issues, including expansive soils. With compliance with the regulatory requirements and the implementation of geotechnical design recommendations as required by the CBC, impacts relative to expansive soils would be less than significant.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

Impact GEO-5: The proposed program would result in a significant impact if the proposed program would have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

The proposed program does not include the construction or operation of septic tanks or alternative waste water disposal systems, resulting in no impact.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

No Impact

Impact GEO-6: The proposed program would result in a significant impact if the proposed program would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Construction

Geologic mapping indicates that the surface of the program area is composed almost entirely of artificial fill, with small areas of old shallow marine deposits (Qom) present within the southern-most program area. The artificial fill has been placed over native sediments that likely consist of alluvial, estuarine, and marine deposits ranging in age from relatively recent times to the middle Pleistocene (up to 780,000 years old).

As discussed above in the Paleontological Resources subsection of Section 3.5.2, *Environmental Setting*, artificial fill and estuarine deposits have no or low paleontological sensitivity, respectively. However, they overlie young alluvium and old shallow marine deposits at an undetermined depth, which have low-to-high or high paleontological sensitivity, respectively. Therefore, the program area is considered to have low-to-high paleontological potential, increasing with depth. While the exact depth of the artificial fill overlying the majority of the program area is unknown and may vary across the program area, 5 feet bgs is used as a conservative estimate of the transition from low to high potential since there have been fossil discoveries in the region from a similar depth.

Ground disturbing activities related to development of the proposed program have the potential to encounter significant paleontological resources. Disturbance of such resources could constitute a significant impact on the environment. Mitigation Measures GEO-1 through GEO-7 would reduce impacts to paleontological resources by requiring retention of qualified professionals; a project-level review to assess the potential for each project to encounter paleontological resources; training

for construction personnel on how to identify paleontological resources and the procedures to follow should they be encountered; paleontological resources monitoring in sensitive sediments; and treatment, curation, and reporting of significant discoveries. With implementation these measures, impacts to paleontological resources would be less than significant.

Operation

Operation of the proposed program would include ongoing inspection and maintenance of the perimeter levees and berms, flood walls and water-control structures; removal of non-native vegetation in restored habitat and stormwater management features; trash removal within the restored wetlands; and operation of the visitor centers and associated parking lots. Any ground disturbance associated with these activities would occur within soils that have already been subject to ground disturbance, and they are unlikely to disturb paleontological. Impacts to paleontological resources from operation of the proposed program would be less than significant.

Mitigation Measure

Mitigation Measure GEO-1: Retention of a Qualified Professional Paleontologist. Prior to the start of construction of any near-term, mid-term, or long-term project, LCWA shall retain a Qualified Professional Paleontologist as defined by the Society of Vertebrate Paleontology to carry out all mitigation related to paleontological resources including: project-level review (**GEO-2**); paleontological resources sensitivity training (**GEO-3**); oversight of paleontological resources monitoring (**GEO-4**); and recovery, treatment, analysis, curation, and reporting (**GEO-5**, **GEO-6**, and **GEO-7**).

Mitigation Measure GEO-2: Project-Level Paleontological Resources Review and Monitoring Recommendations. Prior to LCWA approval of any near-term, mid-term, and long-term project, the Qualified Professional Paleontologist shall review the *Los Cerritos Wetlands Program Paleontological Resources Assessment* (ESA, 2019), grading plans, and any available geotechnical reports/data to determine the potential for ground disturbance to occur within older alluvium and old shallow marine deposits. If available data is sufficient to accurately determine the depth of older alluvium and old shallow marine deposits within a project site, monitoring shall be required beginning at or just above that depth. If available data is insufficient to determine the depth of older alluvium and old shallow marine deposits, monitoring shall be required beginning at 5 feet below surface (consistent with the accepted depth at which high sensitivity sediments could occur based on regional evidence). The results of the reviews shall be documented in technical memoranda to be submitted to LCWA prior to the start of ground disturbance, along with recommendations specifying the locations, depths, duration, and timing of any required monitoring. The technical memoranda shall include map figures that outline where monitoring is required and at what depths, and shall stipulate whether screen washing is necessary to recover small specimens. Any required screen washing shall follow SVP Guidelines.

Mitigation Measure GEO-3: Paleontological Resources Sensitivity Training. Prior to the start of ground disturbance for any near-term, mid-term, or long-term project, the Qualified Professional Paleontologist shall conduct paleontological resources sensitivity training. The training shall focus on the recognition of the types of paleontological resources that could be encountered within the program area, the procedures to be followed if they are found, confidentiality of discoveries, and safety precautions to be taken when working with paleontological monitors. LCWA shall ensure

that construction personnel are made available for and attend the training, and retain documentation demonstrating attendance. The training should be repeated as necessary for incoming construction personnel.

Mitigation Measure GEO-4: Paleontological Resources Monitoring. A qualified paleontological monitor, as defined by the Society of Vertebrate Paleontology, shall monitor all ground-disturbing activities occurring in the older alluvium and old shallow marine deposits for each near term, mid-term, or long-term project. Monitoring shall be implemented consistent with the locations, depths, duration, and timing recommendations specified in the technical memorandum for the project. Monitors shall work under the direction of the Qualified Professional Paleontologist. The number of monitors required to be on-site during ground-disturbing activities shall be determined by the Qualified Professional Paleontologist and shall be based on the construction scenario – specifically the number of pieces of equipment operating at the same time, the distance between these pieces of equipment, and the pace at which equipment is working – with the goal of monitors being able to effectively observe sediments as they are exposed. Monitors shall have the authority to temporarily halt or divert work away from exposed fossils in order to recover the fossil specimens, and to request assistance from construction equipment operators to recover samples for screen washing as necessary. Monitors shall prepare daily logs detailing the types of activities and soils observed, and any discoveries. The Qualified Professional Paleontologist, in consultation with LCWA, shall have the ability to modify (i.e., increase, reduce, or discontinue) monitoring requirements based on observations of soil types and frequency of discoveries. Requests for modifications shall be submitted in writing to LCWA for approval prior to implementation.

Mitigation Measure GEO-5: Paleontological Discoveries. If any potential fossils are discovered by paleontological resources monitors or construction personnel, all work shall cease at that location (within 100 feet) until the Qualified Professional Paleontologist has assessed the discovery and made recommendations as to the appropriate treatment. The paleontological resources monitor (if one is present) or construction personnel (if a monitor is not present) shall flag the fossiliferous area for avoidance until the Qualified Professional Paleontologist can evaluate the discovery and develop plans for avoidance or removal/salvage of the specimen(s), if deemed significant. Significant discoveries shall be salvaged following SVP Guidelines. LCWA shall consult with the State Lands Commission Staff Attorney regarding any paleontological resources discoveries on state lands.

Mitigation Measure GEO-6: Preparation, Identification, Cataloging, and Curation Requirements. All significant fossil discoveries shall be prepared to the point of identification to the lowest taxonomic level possible, cataloged, and curated into a certified repository with retrievable storage (such as a museum or university). All GPS data, field notes, photographs, locality forms, stratigraphic sections, and other data associated with the recovery of the specimens shall be deposited with the institution receiving the specimens. The Qualified Professional Paleontologist shall be responsible for obtaining a signed curation agreement from a certified repository in southern California prior to the start of the program. Given the length of the program, multiple agreements may be necessary due to changing capacities of repositories. The final disposition of paleontological resources recovered on state lands under the jurisdiction of the California State Lands Commission must be approved by the Commission.

Mitigation Measure GEO-7: Reporting Requirements. The Qualified Professional Paleontologist shall prepare weekly status reports detailing activities and locations observed (with maps) and summarizing any discoveries to be submitted to LCWA via email for each week in which monitoring activities occur. Monthly progress reports summarizing monitoring efforts shall be prepared and submitted to LCWA for the duration of monitored ground disturbance. Reports detailing the results of monitoring for any near-term, mid-term, or long-term project and treatment of significant discoveries shall be submitted to LCWA within 120 days of completion of treatment, or within 30 days of completion of monitoring if no significant discoveries occurred. If significant fossils are recovered, the Qualified Professional Paleontologist shall file the final report with the Natural History Museum of Los Angeles County and the certified repository.

Significance after Mitigation

Less than Significant with Mitigation

3.5.6 Cumulative Impacts

This section presents an analysis of the cumulative effects of the proposed program in combination with other past, present, and reasonably foreseeable future projects that could cause cumulatively considerable impacts.

As previously discussed, the proposed program would have no impact with respect to fault rupture, landslides, subsidence or collapse, loss of topsoil, septic tanks, or alternative wastewater disposal systems. Accordingly, the proposed program could not contribute to cumulative impacts related to these topics and are not discussed further.

The geographic area affected by the proposed program and its potential to contribute to cumulative impacts varies based on the environmental resource under consideration. The geographic scope of analysis for cumulative geologic impacts encompasses and is limited to the program area and its immediately adjacent area. This is because impacts relative to geologic hazards are generally site-specific. For example, the effect of erosion would tend to be limited to the localized area of a project and could only be cumulative if erosion occurred as the result of two or more adjacent projects that spatially overlapped.

The timeframe during which proposed program could contribute to cumulative geologic hazards includes the construction and operations phases. For the proposed program, the operations phase is permanent. However, similar to the geographic limitations discussed above, it should be noted that impacts relative to geologic hazards are generally time-specific. Geologic hazards could only be cumulative if two or more geologic hazards occurred at the same time, as well as overlapping at the same location.

3.5.6.1 Construction

Significant cumulative impacts related to geology and soils could occur if the incremental impacts of the proposed program combined with the incremental impacts of one or more of the cumulative projects identified in Table 3-1, *List of Cumulative Projects*, to substantially increase

risk to people or the environment would be exposed to hazardous materials. Note that while three cumulative projects are within proximity of the proposed program (Cumulative Projects 22 and 23 listed on Table 3-1), only Project 24, Los Cerritos Wetlands Oil Consolidation and Restoration Project, listed on Table 3-1 would geographically overlap the proposed program. Cumulative Project No. 24 is a marsh restoration project with the same proposed activities as the Los Cerritos Wetlands Restoration Plan: operate existing oil wells until no longer productive, remove unproductive wells, and restore marshland areas.

As described in Impact GEO-2, construction activities have the potential to cause soil erosion. If the cumulative projects were constructed at the same time, the erosion effects could be cumulatively significant if appropriate measures were not taken; however, the state Construction General Permit and the Long Beach Storm Water Management Program would require each cumulative project to prepare and implement a SWPPP. The SWPPPs would describe BMPs to control runoff and prevent erosion for each project. Through compliance with the Construction General Permit, the potential for erosion impacts would be reduced to less-than-significant levels. The Construction General Permit has been developed to address cumulative conditions arising from construction throughout the state, and is intended to maintain cumulative effects of projects subject to this requirement below levels that would be considered significant. For example, two adjacent construction sites would each be required to implement BMPs to reduce and control the release of sediment and/or other pollutants in any runoff leaving their respective sites, including from erosion. The runoff water from both sites would be required to achieve the same action levels, measured as a maximum amount of sediment or pollutant allowed per unit volume of runoff water. Thus, even if the runoff waters were to combine after leaving the sites, the sediments and/or pollutants in the combined runoff would still be at concentrations below action levels and would not be cumulatively considerable (less than significant). Similarly, the impacts of the proposed program combined with other cumulative projects within the region would not cause a significant cumulative impact related to soil erosion and the proposed action's contribution to cumulative impacts on soil erosion would not be cumulatively considerable (less than significant).

Until the construction of structures has been completed, there would be no impacts from seismic events (e.g., seismic shaking, seismic-induced ground failures such as liquefaction or lateral spreading) or non-seismically induced ground failures (e.g., expansive soil) due largely to the relatively short period that construction would take place and the likelihood of a seismic event occurring at that time. Therefore, the cumulative impacts during construction would not be cumulatively considerable (less than significant).

As described in Impact GEO-6, construction activities have the potential to impact paleontological resources. Cumulative impacts to paleontological resources could occur if one or more of the cumulative projects identified in Table 3-1 in conjunction with the proposed program, would have impacts on paleontological resources that, when considered together, would be significant.

Potential impacts to paleontological resources would be mitigated through the implementation of Mitigation Measures GEO-1 through GEO-7, which would reduce the impact by requiring

retention of qualified professionals; a project-level review to assess the potential for each project to encounter paleontological resources; training for construction personnel on how to identify paleontological resources and the procedures to follow should they be encountered; paleontological resources monitoring in sensitive sediments; and treatment, curation, and reporting of significant discoveries. These measures would reduce the impact to a level of less than significant. The activities for Project 24 would also be required to implement similar measures to address the potential for paleontological resources, if any. As such, the proposed program's contribution to impacts on paleontological resources is less than cumulatively considerable.

Mitigation Measure

Mitigation Measures GEO-1 through GEO-7.

Significance after Mitigation

Less than Significant with Mitigation

3.5.6.2 Operation

Impacts from seismic events (e.g., seismic shaking, seismically induced ground failures such as liquefaction or lateral spreading) or non-seismically induced ground failures (e.g., expansive soil) tend to be confined to each given site due to varying conditions and distance to epicenter. In addition, each cumulative project would also be required to comply with the requirements of the CBC and local building codes, which would require geotechnical investigations to identify potential geotechnical issues and provide recommendations to reduce or eliminate the risks. Each cumulative project would be required to conduct geotechnical investigations and develop recommendations to address geotechnical hazards. With compliance with applicable regulations, the cumulative impacts would be reduced and would not be cumulatively considerable (less than significant).

Upon completion of the proposed program and any nearby cumulative projects, each project would be required to comply with local MS4 Permits, which contain requirements to control surface water runoff and erosion. Similar to the discussion above in Impact GEO-2 of how SWPPPs would control runoff and prevent erosion for cumulative construction impacts, because each cumulative project would be required to comply with the same regulations and to the same action levels, the impacts would not be cumulatively considerable (less than significant with mitigation).

No impacts to paleontological resources are anticipated during project operations. Therefore, cumulative impacts during operations would not be cumulatively considerable.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

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SECTION 3.6
Greenhouse Gas Emissions and Energy

3.6.1 Introduction

This section evaluates the potential GHG and energy impacts associated with construction activities, mobile sources, and other aspects of the proposed program's construction and operations. The objectives of this analysis are to:

- Evaluate the construction and operational GHG emissions associated with program level restoration process and the potential for GHG impacts based on applicable standards and thresholds;
- Identify GHG benefits from improving habitat areas and restoring wetlands;
- Provide, if needed, GHG mitigation measures as required to meet applicable GHG standards and thresholds; and
- Identify potential energy impacts with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy.

This section relies on the analysis conducted in the Greenhouse Gas Emissions Technical Report, provided in Appendix F, and is consistent with Section 15126.2(b) of the 2019 CEQA Guidelines to evaluate a project's energy use. Detailed energy calculations can be found in Appendix G. All information sources used are included as citations within the text; sources are listed in Section 3.6.7, *References*.

3.6.2 Environmental Setting

3.6.2.1 Global Climate Change and Greenhouse Gases

Global climate change refers to changes in average climatic conditions on Earth as a whole, including changes in temperature, wind patterns, precipitation and storms. Historical records indicate that global climate changes have occurred in the past due to natural phenomena; however, current data increasingly indicate that the current global conditions differ from past climate changes in rate and magnitude. Global climate change attributable to anthropogenic (human) GHG emissions is currently one of the most important and widely debated scientific, economic and political issues in the United States and the world. The extent to which increased concentrations of GHGs have caused or will cause climate change and the appropriate actions to limit and/or respond to climate change are the subject of significant and rapidly evolving regulatory efforts at the federal and state levels of government.

GHGs are compounds in the Earth's atmosphere which play a critical role in determining temperature near the Earth's surface. More specifically, these gases allow high-frequency shortwave solar radiation to enter the Earth's atmosphere, but retain some of the low frequency infrared energy which is radiated back from the Earth towards space, resulting in a warming of the atmosphere. Not all GHGs possess the same ability to induce climate change; as a result, GHG contributions are commonly quantified in the units of equivalent mass of carbon dioxide (CO_2e). Mass emissions are calculated by converting pollutant specific emissions to CO_2e emissions by applying the proper global warming potential (GWP) value.[1] These GWP ratios are provided by the Intergovernmental Panel on Climate Change (IPCC) in its Fourth Assessment Report (AR4) (IPCC, 2017). By applying the GWP ratios, program-related CO_2e emissions can be tabulated in metric tons per year. Typically, the GWP ratio corresponding to the warming potential of CO_2 over a 100-year period is used as a baseline. The CO_2e values are calculated for construction years as well as existing and program build-out conditions in order to generate a net change in GHG emissions for construction and operation. Compounds that are regulated by the State of California as GHGs are discussed below.

- **Carbon Dioxide (CO_2):** CO_2 is the most abundant anthropogenic GHG in the atmosphere and is primarily generated from fossil fuel combustion from stationary and mobile sources. CO_2 is the reference gas (GWP of 1) for determining the GWPs of other GHGs.
- **Methane (CH_4):** CH_4 is emitted from biogenic sources (i.e., resulting from the activity of living organisms), incomplete combustion in forest fires, anaerobic decomposition of organic matter in landfills, manure management, and leaks in natural gas pipelines. The GWP of CH_4 is 21 in the IPCC SAR and 25 in the IPCC AR4.
- **Nitrous Oxide (N_2O):** N_2O produced by human-related sources including agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic acid production, and nitric acid production. The GWP of N_2O is 310 in the IPCC SAR and 298 in the IPCC AR4.
- **Hydrofluorocarbons (HFCs):** HFCs are fluorinated compounds consisting of hydrogen, carbon, and fluorine. They are typically used as refrigerants in both stationary refrigeration and mobile air conditioning systems. The GWPs of HFCs range from 140 for HFC-152a to 11,700 for HFC-23 in the IPCC SAR and 124 for HFC-152a to 14,800 for HFC-23 in the IPCC AR4.
- **Perfluorocarbons (PFCs):** PFCs are fluorinated compounds consisting of carbon and fluorine. They are primarily created as a byproduct of aluminum production and semiconductor manufacturing. The GWPs of PFCs range from 6,500 to 9,200 in the IPCC SAR and 7,390 to 17,700 in the IPCC AR4.
- **Sulfur Hexafluoride (SF_6):** SF_6 is a fluorinated compound consisting of sulfur and fluoride. It is a colorless, odorless, nontoxic, nonflammable gas. It is most commonly used as an electrical insulator in high voltage equipment that transmits and distributes electricity. SF_6 has a GWP of 23,900 in the IPCC SAR and 22,800 in the IPCC AR4.

[1] GWPs and associated CO_2e values were developed by the Intergovernmental Panel on Climate Change (IPCC), and published in its Second Assessment Report (SAR) in 1996. Historically, GHG emission inventories have been calculated using the GWPs from the IPCC's SAR. The IPCC updated the GWP values based on the latest science in its Fourth Assessment Report (AR4). The California Air Resources Board (CARB) reports GHG emission inventories for California using the GWP values from the IPCC AR4. Therefore, the analysis below reflected the GWP values from IPCC AR4. Although the IPCC has released AR5 with updated GWPs, CARB reports the statewide GHG inventory using the AR4 GWPs, which is consistent with international reporting standards.

The scientific community's understanding of the fundamental processes responsible for global climate change has improved over the past decade, and its predictive capabilities are advancing. However, there remain significant scientific uncertainties in, for example, predictions of local effects of climate change, occurrence, frequency, and magnitude of extreme weather events, effects of aerosols, changes in clouds, shifts in the intensity and distribution of precipitation, and changes in oceanic circulation. Due to the complexity of the Earth's climate system and inability to accurately model it, the uncertainty surrounding climate change may never be completely eliminated. Nonetheless, the IPCC's Fifth Assessment Report, Summary for Policy Makers states that, "it is extremely likely that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in greenhouse gas concentrations and other anthropogenic forcings together" (IPCC, 2014, p. 5). A report from the National Academy of Sciences concluded that 97 to 98 percent of the climate researchers most actively publishing in the field support the tenets of the IPCC in that climate change is very likely caused by human (i.e., anthropogenic) activity.

According to the California Air Resources Board (CARB), the potential impacts in California due to global climate change may include: loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, more drought years, increased erosion of California's coastlines and sea water intrusion into the Sacramento and San Joaquin Deltas and associated levee systems, and increased pest infestation.

3.6.2.2 Adaptation

Adaptation refers to proposed program's resiliency to potential climate change impacts. Global warming is already having a profound impact on water resources. Climate change already altered the weather patterns and water supply in California leading to increased water shortages (i.e., a dwindling snowpack, bigger flood flows, rising sea levels, longer and harsher droughts). Water supplies are also at risk from rising sea levels. Risks may include degradation of California's estuaries, wetlands, and groundwater aquifers that would threaten the quality and reliability of the major California fresh water supply.

Climate change could potentially affect: the amount of snowfall, rainfall and snow pack, the intensity and frequency of storms, flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events), sea level rise and coastal flooding; coastal erosion; and the potential for salt water intrusion. Sea level rise can be a product of global warming through two main processes: expansion of seawater as the oceans warm, and melting of ice over land. A rise in sea levels could result in coastal flooding and erosion and could jeopardize California's water supply. Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

Adaptation includes the responses to the changing climate and policies to minimize the predicted impacts (e.g., building better coastal defenses to sea level rise). ~~Adaptation strategies are not included in this report directly, but the project design did consider sea level rise.~~ It should be noted that adaptation is not mitigation. Mitigation includes intervention or policies to reduce GHG emissions or to enhance the sinks of GHGs.

Adaptation strategies are not included in this report directly, but the program design did consider sea level rise (see Appendix H). The conceptual grading plans for the Central and South Areas focused on creating more high marsh than mid or low marsh in order for the marsh system to be more resilient to sea level rise by starting at a higher elevation. The South Area also includes a wide areas of transition habitat, which is expected to convert to marsh over time with sea level rise. The Central Area levees include an additional 5 feet above the existing level of flood protection to account for sea level rise. Additionally, all trails and view points in the Central and South Areas would be raised above the marshplain to remove them from future flood zones.

3.6.2.3 Greenhouse Gas Emission Inventories

Global

To put perspective on the emissions generated by a program and to better understand the sources of GHGs, it is important to look at global emission inventories. The Global Carbon Project has been tracking greenhouse gases and the global carbon cycle since its establishment in 2001. The Global Carbon Project estimate for CO_2 emissions for the world and for the top ten CO_2 producing countries is presented in **Table 3.6-1**, *Top Ten CO_2-Producing Nations in 2017 (Million Metric Tons [MMT] CO_2).*

TABLE 3.6-1
TOP TEN CO_2-PRODUCING NATIONS IN 2017 (MILLION METRIC TONS [MMT] CO_2)

Country	Emissions	Percent of Global
1. China	9,839	27%
2. United States	5,270	15%
3. India	2,467	7%
4. Russian Federation	1,693	5%
5. Japan	1,205	3%
6. Germany	799	2%
7. Iran	672	2%
8. Saudi Arabia	635	2%
9. South Korea	616	2%
10. Canada	573	2%
Remaining Countries	*12,384*	*34%*
Total Global	**36,153**	**100%**

SOURCE: Global Carbon Atlas, http://www.globalcarbonatlas.org/en/CO2-emissions, accessed April 2019.

Global CO_2 emissions totaled about 36,153 $MMTCO_2$ in 2017. China released more than a quarter of the global CO_2 emissions. The United States was second and has historical significance for releasing GHG emissions, but it has been slowly decreasing its annual emissions since its peak in 2007 (Global Carbon Atlas, 2019). The data in Table 3.6-1 emphasize the major role that the United States and China play in climate change with the two countries accounting for 42% of the emissions. India has increased its emissions at an annual rate of 5 percent from 2004 to 2014 as the population grew and improved their living standards (Global Carbon Atlas, 2019).

State of California

CARB compiles GHG inventories for the State of California. Based on the 2017 GHG inventory data prepared by CARB in 2019, California emitted 429.1 million metric tons of CO_2e ($MMTCO_2e$) including emissions resulting from imported electrical power (CARB, 2019). Between 1990 and 2017, the population of California grew by approximately 9.7 million (from 29.8 to 39.5 million) (US Census Bureau, 2017. California Department of Finance, 2018). This represents an increase of approximately 33 percent from 1990 population levels. In addition, the California economy, measured as gross state product, grew from $773 billion in 1990 to $2.75 trillion in 2017 representing an increase of approximately three times the 1990 gross state product) (California Department of Finance, 2019). Despite the population and economic growth, California's net GHG emissions were reduced to below 1990 levels in 2017 (California's 2016 GHG emissions were also below 1990 levels). According to CARB, the declining trend coupled with the state's GHG reduction programs (such as the Renewables Portfolio Standard, Low Carbon Fuel Standard, vehicle efficiency standards, and declining caps under the Cap and Trade Program) demonstrate that California has met the 2020 GHG reduction target codified in California Health and Safety Code (HSC), Division 25.5, also known as The Global Warming Solutions Act of 2006 (AB 32) (CARB, 2017). **Table 3.6-2**, *State of California Greenhouse Gas Emissions*, identifies and quantifies statewide anthropogenic GHG emissions and sinks (e.g., carbon sequestration due to forest growth) in 1990 and 2017. As shown in the table, the transportation sector is the largest contributor to statewide GHG emissions at approximately 40 percent in 2017.

TABLE 3.6-2
STATE OF CALIFORNIA GREENHOUSE GAS EMISSIONS

Category	Total 1990 Emissions using IPCC SAR ($MMTCO_2e$)	Percent of Total 1990 Emissions	Total 2017 Emissions using IPCC AR4 ($MMTCO_2e$)	Percent of Total 2017 Emissions
Transportation	150.7	26%	169.9	40%
Electric Power	110.6	3%	62.4	15%
Commercial	14.4	7%	15.1	4%
Residential	29.7	24%	26.0	6%
Industrial	103.0	0%	89.4	21%
Recycling and Waste[a]	–	–	8.9	2%
High GWP/Non-Specified[b]	1.3	<1%	20.0	5%
Agriculture/Forestry	23.6	-2%	32.4	8%
Forestry Sinks	-6.7		—[c]	—
Net Total (IPCC SAR)	**426.6**	**100%**	**—**	**—**
Net Total (IPCC AR4)[d]	**431**	**100%**	**429.1**	**100%**

[a] Included in other categories for the 1990 emissions inventory.
[b] High GWP gases are not specifically called out in the 1990 emissions inventory.
[c] Revised methodology under development (not reported for 2017).
[d] CARB revised the State's 1990 level GHG emissions using GWPs from the IPCC AR4.
SOURCE: CARB, 2019.

These categories are broadly defined as (CARB, 2018):

- **Transportation** includes the combustion of fuels sold in-state that are used by on-road and off-road vehicles, aviation, rail, and water-borne vehicles, as well as a few other smaller sources.
- **Industrial** GHG emissions are produced from many industrial activities. Major contributors include oil and natural gas extraction, refineries, cement manufacturing, chemical manufacturing, and a portion of cogeneration emissions attributed to thermal energy output.
- **Electric generation** includes both emissions from in-state power generation (including the portion of cogeneration emissions attributed to electricity generation) and emissions from imported electricity.
- **Agriculture** includes enteric fermentation and manure management from livestock, crop production (fertilizer use, soil preparation and disturbance, and crop residue burning), and fuel combustion associated with agricultural activities (water pumping, cooling or heating buildings, and processing commodities).
- **Commercial and residential** uses generate GHG emissions primarily from the combustion of natural gas and other fuels for space and water heating, cooking, or steam generation.
- **Recycling and waste** includes primarily landfills and a small fraction from compost production facilities.
- **High (GWP)** emissions consist of releases of ozone depleting substance substitutes and electricity losses from the transmission and distribution system.

3.6.2.4 Electricity

Electricity, a consumptive utility, is a man-made resource. The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into energy. The delivery of electricity involves a number of system components, including substations and transformers that lower transmission line power (voltage) to a level appropriate for on-site distribution and use. The electricity generated is distributed through a network of transmission and distribution lines commonly called a power grid. Conveyance of electricity through transmission lines is typically responsive to market demands.

Energy capacity, or electrical power, is generally measured in watts (W) while energy use is measured in watt-hours (Wh). For example, if a light bulb has a capacity rating of 100 W, the energy required to keep the bulb on for 1 hour would be 100 Wh. If ten 100 W bulbs were on for 1 hour, the energy required would be 1,000 Wh or 1 kilowatt-hour (kWh). On a utility scale, a generator's capacity is typically rated in megawatts (MW), which is one million watts, while energy usage is measured in megawatt-hours (MWh) or gigawatt-hours (GWh), which is one billion watt-hours.

Southern California Edison is the electricity provider for the program area. SCE provides electricity to approximately 15 million people, 180 incorporated cities, 15 counties, 5,000 large businesses, and 280,000 small businesses throughout its 50,000-square-mile service area (CEC, 2017b). SCE is required to commit to the use of renewable energy sources for compliance with the Renewables Portfolio Standard. SCE is required to meet the requirement to procure at least 33 percent of its energy portfolio from renewable sources by 2020 through the procurement of energy from eligible

renewable resources. Senate Bill (SB) 350 (Chapter 547, Statues of 2015) further increased the Renewables Portfolio Standard to 50 percent by 2030. Most recently, SCE provided approximately 32 percent of its 2017 electric supply from renewable power (CEC, 2017).

3.6.2.5 Natural Gas

Natural gas is a combustible mixture of simple hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas consumed in California is obtained from naturally occurring reservoirs, but relies upon out-of-state imports for nearly 90 percent of its natural gas supply (CEC, 2019a). A majority of natural gas consumed in California is for electricity generation, along with the industrial, residential, and commercial sections (CEC, 2019a). Among energy commodities consumed in California, natural gas accounts for one-third of them (CEC, 2019b). Natural gas is measured in terms of cubic feet (cf).

Natural gas is provided to the proposed program by the Southern California Gas Company (SoCalGas). SoCalGas is the principal distributor of natural gas in Southern California, serving residential, commercial, and industrial markets. SoCalGas serves approximately 21.6 million customers in more than 500 communities encompassing approximately 20,000 square miles throughout Central and Southern California, from the City of Visalia to the Mexican border (SoCalGas, 2018).

SoCalGas receives gas supplies from several sedimentary basins in the western United States and Canada, including supply basins located in New Mexico (San Juan Basin), West Texas (Permian Basin), the Rocky Mountains, and Western Canada as well as local California supplies (California Gas and Electric, 2018~~a~~). The traditional, southwestern United States sources of natural gas will continue to supply most of SoCalGas' natural gas demand. The Rocky Mountain supply is available but is used as an alternative supplementary supply source, and the use of Canadian sources provide only a small share of SoCalGas supplies due to the high cost of transport (California Gas and Electric Utilities, 2016b). Gas supply available to SoCalGas from California sources averaged 84 million standard cubic feet (scf) per day in 2017 (the most recent year for which data are available) (California Gas and Electric Utilities, 2018~~a~~). Total annual natural gas sale to customers in 2017 was approximately 913,960 million scf (California Gas and Electric Utilities, 2018~~b~~).[2]

3.6.2.6 Transportation Energy

According to the California Energy Commission (CEC), transportation accounts for nearly 38.5 percent of California's total energy consumption in 2015 (California Energy Commission, 2017). In 2017, California consumed 15.5 billion gallons of gasoline and 3.8 billion gallons of diesel fuel (California Energy Commission, 2018). Petroleum-based fuels currently account for more than 90 percent of California's transportation fuel use (California Energy Commission, 2016). However, the state is now working on developing flexible strategies to reduce petroleum use. Over the last decade, California has implemented several policies, rules, and regulations to improve vehicle efficiency, increase the development and use of alternative fuels, reduce air pollutants and GHGs

[2] Daily natural gas usage in 2017 was 2,504 million scf, annual value derived by multiplying daily values by 365 days.

from the transportation sector, and reduce vehicle miles traveled (VMT). Accordingly, gasoline consumption in California has declined. The CEC predicts that the demand for gasoline will continue to decline over the next 10 years, and there will be an increase in the use of alternative fuels (California Energy Commission, 2015). According to fuel sales data from the CEC, fuel consumption in Los Angeles County was approximately 3.66 billion gallons of gasoline and 0.301 billion gallons of diesel fuel in 2017 (California Energy Commission, 2018). Fuel consumption in Orange County was approximately 1.38 billion gallons of gasoline and 0.061 billion gallons of diesel fuel in 2017 (California Energy Commission, 2018).

3.6.3 Regulatory Framework

3.6.3.1 Federal

Voluntary Programs

The United States Environmental Protection Agency (USEPA) is responsible for implementing federal policy to address GHGs. The federal government administers a wide array of public-private partnerships to reduce the GHG intensity generated in the United States. These programs focus on energy efficiency, renewable energy, methane and other non-CO2 gases, agricultural practices, and implementation of technologies to achieve GHG reductions. The USEPA implements numerous voluntary programs that contribute to the reduction of GHG emissions. These programs (e.g., the ENERGY STAR labeling system for energy-efficient products) play a significant role in encouraging voluntary reductions from large corporations, consumers, industrial and commercial buildings, and many major industrial sectors.

Light Duty Vehicle GHG and Fuel Efficiency Standards

In August 2012, the USEPA and USDOT adopted standards for model year 2017 through 2025 for passenger cars and light-duty trucks. By 2020, vehicles are required to achieve a combined standard of 41.7 mpg and 213 grams of CO_2 per mile. By 2025, vehicles are required to achieve 54.5 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO_2 per mile. According to the USEPA, a model year 2025 vehicle would emit one-half of the GHG emissions from a model year 2010 vehicle (USEPA, 2012). In 2017, the USEPA recommended no change to the GHG standards for light-duty vehicles for model years 2022-2025. In August 2018, the USEPA and NHTSA proposed the Safer Affordable Fuel-Efficient Vehicles Rule that would, if adopted, maintain the CAFE and CO_2 standards applicable in model year 2020 for model years 2021 through 2026. The estimated CAFE and CO_2 standards for model year 2020 are 43.7 mpg and 204 grams of CO_2 per mile for passenger cars and 31.3 mpg and 284 grams of CO_2 per mile for light trucks, projecting an overall industry average of 37 mpg, as compared to 46.7 mpg under the standards issued in 2012. The proposal, if adopted, would also exclude CO_2-equivalent emission improvements associated with air conditioning refrigerants and leakage (and, optionally, offsets for nitrous oxide and methane emissions) after model year 2020 (NHTSA and USEPA, 2018).

Medium- and Heavy-Duty GHG Standards

GHG emissions and fuel efficiency standards for medium- and heavy-duty trucks have been jointly developed by the USEPA and the National Highway Traffic Safety Administration (NHTSA). For vocational vehicles, which consist of a variety of work vehicles including dump trucks, the Phase 1 Heavy-Duty Vehicle Greenhouse Gas Regulation started with model year 2014 and the standard requires up to a 10 percent reduction in CO_2 emissions by model year 2017 over the 2010 baseline. The Phase 2 standards start in model year 2021 and require the phase-in of a 12 to 24 percent reduction in CO_2 emission reduction from vocational vehicles by model year 2027 over the 2017 baseline. The USEPA states that the Phase 2 standards reduce oil consumption by up to two billion barrels (84 billion gallons) over the lifetime of the vehicles sold under the program (USEPA 2018).

Energy Independence and Security Act

The Energy Independence and Security Act of 2007 (EISA) facilitates the reduction of national GHG emissions by requiring the following:

- Increasing the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard (RFS) that requires fuel producers to use at least 36 billion gallons of biofuel in 2022;
- Prescribing or revising standards affecting regional efficiency for heating and cooling products, procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances;
- Requiring approximately 25 percent greater efficiency for light bulbs by phasing out incandescent light bulbs between 2012 and 2014; requiring approximately 200 percent greater efficiency for light bulbs, or similar energy savings, by 2020; and
- While superseded by the USEPA and NHTSA actions described above, (i) establishing miles per gallon targets for cars and light trucks and (ii) directing the NHTSA to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for trucks.

Additional provisions of EISA address energy savings in government and public institutions, promote research for alternative energy, additional research in carbon capture, international energy programs, and the creation of green jobs.[3]

3.6.3.2 State

Executive Order S-3-05, Executive Order B-30-15, and Executive Order B-55-18

In June, 2005, through Executive Order S-3-05, the following GHG emission reduction targets were established:

- By 2010, California shall reduce GHG emissions to 2000 levels;

[3] A green job, as defined by the United States Department of Labor, is a job in business that produces goods or provides services that benefit the environment or conserve natural resources.

- By 2020, California shall reduce GHG emissions to 1990 levels; and
- By 2050, California shall reduce GHG emissions to 80 percent below 1990 levels.

In April, 2015, Governor Brown issued Executive Order B-30-15 that:

- Established a new interim statewide reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030.
- Ordered all state agencies with jurisdiction over sources of GHG emissions to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 reduction targets.
- Directed CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent.

In September 2018, Governor Brown issued Executive Order B-55-18, which establishes a statewide goal of achieving carbon neutrality as soon as possible and no later than 2045.

California Global Warming Solutions Act of 2006 (Health and Safety Code § 38500 et seq.)

In September 2006, Governor Arnold Schwarzenegger signed Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006. In general, CARB is required to adopt rules and regulations directing state actions that would achieve GHG emissions reductions equivalent to 1990 statewide levels by 2020.

AB 32 takes into account the relative contribution of each source or source category to protect adverse impacts on small businesses and others by requiring CARB to recommend a *de minimis* (minimal importance) threshold of GHG emissions below which emissions reduction requirements would not apply. AB 32 also allows the Governor to adjust the deadlines mentioned above for individual regulations or the entire state to the earliest feasible date in the event of extraordinary circumstances, catastrophic events, or threat of significant economic harm.

In 2016, the California State Legislature adopted Senate Bill (SB) 32 and its companion bill AB 197, and both were signed by Governor Brown. SB 32 and AB 197 amend HSC Division 25.5, establish a new climate pollution reduction target of 40 percent below 1990 levels by 2030 and include provisions to ensure that the benefits of state climate policies reach into disadvantaged communities.

The Climate Change Scoping Plan was first approved by CARB in 2008. The First Update to the Climate Change Scoping Plan was approved by the Board on May 22, 2014. CARB published the latest 2017 Climate Change Scoping Plan to reflect the 2030 target established in Executive Order B-30-15.

CARB Mandatory Reporting Regulations

Under AB 32, CARB propounded regulations to govern mandatory greenhouse gas emissions reporting for certain sectors of the economy, most dealing with approximately 94 percent of the industrial and commercial stationary sources of emissions. Regulated entities include electricity

generating facilities, electricity retail providers, oil refineries, hydrogen plants, cement plants, cogeneration facilities, and industrial sources that emit over 25,000 metric tons of CO_2 from stationary source combustion.

Assembly Bill 1493 (2002) (Health and Safety Code § 43018.5)

AB 1493 required CARB to develop and adopt the nation's first GHG emission standards for automobiles. Not only have litigants challenged their legality in federal court, but also USEPA initially denied California's request for a Clean Air Act waiver to implement its regulations in 2008, but a June 2009 decision overturned the denial. AB 1493 reduces GHG emissions in new passenger vehicles from model year 2012 through 2016 (Phase I) and model years 2017–2025 (Phase II). AB 1493 also reduces gasoline consumption to a rate of 31 percent of 1990 gasoline consumption (and associated GHG emissions) by 2020.

Executive Order S-01-07

Executive Order S-01-07 was enacted on January 18, 2007. The order mandates the following: (1) that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020; and (2) that a Low Carbon Fuel Standard (LCFS) for transportation fuels be established in California. In the proposed 2017 Climate Change Scoping Plan Update, CARB's preferred recommendation includes increasing the stringency of the LCFS by reducing the carbon intensity of transportation fuels by 18 percent by 2030, up from the current target of 10 percent by 2020. In April 2017, the LCFS was brought before the Court of Appeal challenging the analysis of potential nitrogen dioxide impacts from biodiesel fuels. The Court directed CARB to conduct an analysis of nitrogen dioxide impacts from biodiesel fuels and froze the carbon intensity targets for diesel and biodiesel fuel provisions at 2017 levels until CARB has completed this analysis. On March 6, 2018, CARB issued its *Draft Supplemental Disclosure Discussion of Oxides of Nitrogen Potentially Caused by the Low Carbon Fuel Standard Regulation*. CARB posted modifications to the amendments on August 13, 2018. Final approval of regulatory changes from CARB's analysis of nitrogen dioxide impacts from biodiesel fuels was made on January 4, 2019.

Senate Bill 375

In September 2008, SB 375 was signed by Governor Schwarzenegger. SB 375 is a comprehensive global warming bill that helps to achieve the goals of AB32. Under SB 375, CARB is required, in consultation with the state's Metropolitan Planning Organizations, to set regional GHG reduction targets for the passenger vehicle and light-duty truck sector for 2020 and 2035. In February 2011, CARB adopted the final GHG emissions reduction targets for the state's Metropolitan Planning Organizations, including the Southern California Association of Governments (SCAG), which is the Metropolitan Planning Organization for the region including both Los Angeles County and Orange County; CARB updated these targets in 2018 (CARB, 2018). Of note, the reduction targets explicitly exclude emission reductions expected from the AB 1493 and the low carbon fuel standard regulations. SB 375 requires MPOs, such as SCAG, to incorporate a "sustainable communities strategy" (SCS) in their regional transportation plans (RTPs) that will achieve GHG emission reduction targets set by CARB. Certain transportation planning and programming activities would then need to be consistent with the RTP/SCS;

however, SB 375 expressly provides that the SCS does not regulate the use of land, and further provides that local land use plans and policies (e.g., general plan) are not required to be consistent with either the RTP or SCS.

Title 24, Part 6, California Code of Regulations

The California Energy Commission first adopted the Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the state. Although not originally intended to reduce GHG emissions, increased energy efficiency, and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods.

Title 24, Part 11, California Code of Regulations

Part 11 of the Title 24 Building Energy Efficiency Standards is referred to as the California Green Building Standards (CALGreen) Code. The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality" (California Building Standards Commission, 2010). The CALGreen Code was updated in 2016 to include new mandatory measures for residential and nonresidential uses including energy efficiency, water conservation, material conservation, planning and design, and overall environmental quality. These new measures took effect on January 1, 2017. The CALGreen code was most recently updated in 2019, with new measures taking effect on January 1, 2020.

Senate Bill 1368

SB 1368 required the California Public Utilities Commission ("PUC") to establish a "GHG emission performance standard" by February 1, 2007, for all electricity providers under its jurisdiction, including the state's three largest privately owned utilities. These utilities provide approximately 30 percent of the state's electric power. After the PUC acted, the California Energy Commission (CEC) adopted a performance standard "consistent with" the PUC performance standard and applied it to local publicly-owned utilities on May 23, 2007 (over one month ahead of its June 30, 2007, deadline). Cal. Pub. Res. Code § 8341(e)(1). However, the California Office of Administrative Law ("OAL") found four alleged flaws in the CEC's rulemaking. The CEC overcame these alleged flaws and adopted reformulating regulations in August 2007.

Senate Bill 1389

Senate Bill 1389 (Public Resources Code Sections 25300–25323; SB 1389) requires the California Energy Commission (CEC) to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the state's electricity, natural gas, and

transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety (Public Resources Code Section 25301[a]). The 2015 Integrated Energy Policy Report provides the results of the CEC's assessments of a variety of energy issues facing California including energy efficiency, strategies related to data for improved decisions in the Existing Buildings Energy Efficiency Action Plan, building energy efficiency standards, the impact of drought on California's energy system, achieving 50 percent renewables by 2030, the California Energy Demand Forecast, the Natural Gas Outlook, the Transportation Energy Demand Forecast, Alternative and Renewable Fuel and Vehicle Technology Program benefits updates, update on electricity infrastructure in Southern California, an update on trends in California's sources of crude oil, an update on California's nuclear plants, and other energy issues.

Renewables Portfolio Standard

SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010. In November 2008, Executive Order S-14-08 was signed, which expands the state's Renewables Portfolio Standard (RPS) to 33 percent renewable power by 2020. Pursuant to Executive Order S-21-09, CARB was also preparing regulations to supplement the RPS with a Renewable Energy Standard that would result in a total renewable energy requirement for utilities of 33 percent by 2020. On April 12, 2011, SB X1-2 was signed to increase California's RPS to 33 percent by 2020. SB 350 (Chapter 547, Statues of 2015) further increased the RPS to 50 percent by 2030. The legislation also included interim targets of 40 percent by 2024 and 45 percent by 2027. SB 350 was signed into law on October 7, 2015.

On September 10, 2018, Governor Jerry Brown signed SB 100, which further increased California's Renewables Portfolio Standard and requires retail sellers and local publicly owned electric utilities to procure eligible renewable electricity for 44 percent of retail sales by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030, and that CARB should plan for 100 percent eligible renewable energy resources and zero-carbon resources by December 31, 2045.

Low Carbon Fuel Standard

The Low Carbon Fuel Standard (LCFS), established in 2007 through Executive Order S-1-07 and administered by CARB, requires producers of petroleum-based fuels to reduce the carbon intensity of their products, starting with 0.25 percent in 2011 and culminating in a 10-percent total reduction in 2020. Petroleum importers, refiners and wholesalers can either develop their own low carbon fuel products, or buy LCFS credits from other companies that develop and sell low carbon alternative fuels, such as biofuels, electricity, natural gas and hydrogen.

California Air Resource Board Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling

In 2004, the CARB adopted an Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling in order to reduce public exposure to diesel particulate matter emissions (Title 13 California Code of Regulations [CCR] Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than five minutes at any given location. While the goal of this measure is primarily to reduce public health impacts from diesel emissions, compliance with the regulation also results in energy savings in the form of reduced fuel consumption from unnecessary idling.

California Air Resource Board Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles

In addition to limiting exhaust from idling trucks, CARB also promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower (hp) such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The In-Use Off-Road Diesel-Fueled Fleets regulation adopted by CARB on July 26, 2007, aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models (13 CCR Section 2449). The compliance schedule requires full implementation by 2023 in all equipment for large and medium fleets and by 2028 for small fleets. While the goal of this measure is primarily to reduce public health impacts from diesel emissions, compliance with the regulation has shown an increase in energy savings in the form of reduced fuel consumption from more fuel-efficient engines.

California Air Resource Board Cap-and-Trade Regulation

The California Air Resource Board has implemented a cap-and-trade type program, pursuant to the AB-32 directed Scoping Plan, applicable to specific industries that emit more than 25,000 MTCO2e. The AB 32 Scoping Plan identifies a Cap-and-Trade program as one of the strategies California will employ to reduce the greenhouse gas (GHG) emissions that cause climate change. Under Cap-and-Trade, an overall limit on GHG emissions from capped sectors will be established by the Cap-and-Trade program and facilities subject to the cap will be able to trade permits (allowances) to emit GHGs. The program started on January 1, 2012, with an enforceable compliance obligation beginning with the 2013 GHG emissions for GHG emissions from stationary sources. The petroleum and natural gas systems sector is covered starting in 2013 for stationary and related combustion, process vents and flare emissions if the total emissions from these sources exceed 25,000 MTCO2e per year. Suppliers of natural gas and transportation fuels are covered beginning in 2015 for combustion emissions from the total volume of natural gas delivered to non-covered entity or for transportation fuels.

Cap-and-Trade is designed to reduce the emissions from a substantial percentage of GHG sources (about 80% of GHG emissions will come under the program) within California through a market

trading system. The system would reduce GHG emissions by reducing the available GHG "allowances" over time up until the year 2020. The program beyond the year 2020 has not been designed yet, but the program is intended to extend beyond that timeframe through 2030. Facilities are required to obtain an "allowance", either through purchasing on auction or through freely allocated "industry assistance" allowances from CARB, for each MTCO2e of GHG they emit. CARB issues the "industry assistance" allocations for free for a number of industries. These are based, in part, on a pre-defined "benchmark" of GHG emissions per unit of production.

For the oil recovery production sector, allowances are provided as a function of the amount of crude oil produced, thereby establishing, in effect, a level of efficiency in regards to GHG emissions for that sector. Other sectors are also allocated allowances based on their own respective activities. If an operation within the sector operates less efficiently than the specified "benchmark", thereby receiving an insufficient number of "free" allowances to cover their emissions, they would be required to implement efficiency improvements or purchase additional allowances from the CARB auction. Some availability of "offsets" is also included in the program which can be obtained from specific, allowable offset programs, such as GHG reduction projects related to forestry, livestock and ozone depleting chemicals. Offsets outside of these three options are not allowed at this time. The first group of sectors began trading in allowances in 2012. That group includes the oil and gas sector as well as most stationary sources. Compliance obligation began for distributers of transportation fuels, natural gas and other fuels in 2015. Under Cap-and-Trade program, an overall limit is established for GHG emissions from capped sectors (e.g., electricity generation) and declines over time, and facilities subject to the cap can trade permits to emit GHGs. The statewide cap for GHG emissions from the capped sectors commenced in 2013 and declines over time, achieving GHG emission reductions throughout the Program's duration and on July 17, 2017, the California legislature passed Assembly Bill 398, extending the Cap-and-Trade program through 2030.

2017 Climate Change Scoping Plan Update

CARB adopted the 2017 Climate Change Scoping Plan at a public meeting held in December 2017 (CARB, 2017b). The 2017 Scoping Plan outlines the strategies the state will implement to achieve the 2030 GHG reduction target of 40 percent below 1990 levels by 2030 established by SB 32. The 2017 Scoping Plan is also intended to "substantially advance" toward the EO S-3-05 2050 climate goal to reduce GHG emissions by 80 percent below 1990 levels by 2050.

The 2017 Scoping Plan builds on the Cap-and-Trade Regulation, the Low Carbon Fuel Standard (LCFS), improved vehicle, truck and freight movement emissions standards, increasing renewable energy, and strategies to reduce methane emissions from agricultural and other wastes by using it to meet our energy needs. The 2017 Scoping Plan also comprehensively addresses GHG emissions from natural and working lands of California, including the agriculture and forestry sectors. The 2017 Scoping Plan considered a number of different alternatives to achieve the 2030 GHG reduction goal. The "Scoping Plan Scenario" was ultimately adopted and relies on the continuation of ongoing and statutorily required programs and continuation of the Cap-and-Trade Program. The Scoping Plan Scenario was modified from the January 2017 Proposed Scoping Plan to reflect AB 398, including removal of the 20 percent GHG reduction measure for refineries (CARB, 2017b).

CARB states that the Scoping Plan Scenario "is the best choice to achieve the state's climate and clean air goals" (CARB, 2017b). Under the Scoping Plan Scenario, the majority of the reductions would result from continuation of the Cap-and-Trade regulation. Additional reductions are achieved from electricity sector standards (i.e., utility providers to supply 50 percent renewable electricity by 2030), doubling the energy efficiency savings at end uses, additional reductions from the LCFS, implementing the short-lived climate pollutant strategy (e.g., hydrofluorocarbons), and implementing the mobile source strategy and sustainable freight action plan.

3.6.3.3 Regional

South Coast Air Quality Management District

The program area is located in the South Coast Air Basin (Air Basin), which consists of Orange County, Los Angeles County (excluding the Antelope Valley portion), and the western, non-desert portions of San Bernardino and Riverside Counties, in addition to the San Gorgonio Pass area in Riverside County. The South Coast Air Quality Management District (SCAQMD) is responsible for air quality planning in the Air Basin and developing rules and regulations to bring the area into attainment of the ambient air quality standards. This is accomplished through air quality monitoring, evaluation, education, implementation of control measures to reduce emissions from stationary sources, permitting and inspection of pollution sources, enforcement of air quality regulations, and by supporting and implementing measures to reduce emissions from motor vehicles.

In 2008, SCAQMD released draft guidance regarding interim CEQA GHG significance thresholds (CARB, 2008). On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold for stationary source/industrial projects where the SCAQMD is Lead Agency. A GHG Significance Threshold Working Group was formed to further evaluate potential GHG significance thresholds (SCAQMD, 2008). The aforementioned Working Group has been inactive since 2011 and the SCAQMD has not formally adopted any GHG significance threshold.

3.6.3.4 Local

City of Seal Beach

The City of Seal Beach General Plan, adopted in December 2003, does not contain a stand-alone air quality element or a Climate Action Plan.

City of Long Beach

The City of Long Beach adopted an "Air Quality Element," (adopted December 3, 1996). The Element does not contain specific control strategies for greenhouse gases except a policy to support reduced energy consumption through conservation improvements that would reduce greenhouse gas emissions (Policy 7.1.7).

The City of Long Beach is in the process of developing a Climate Action and Adaptation Plan (CAAP). The City released a working draft of the CAAP on May 31, 2019. The CAAP will be

incorporated into the City of Long Beach General Plan as a mitigation measure to the Land Use Element. The CAAP goals include:

- Distinguish Long Beach as a leader in climate mitigation and adaptation planning
- Be inclusive of the entire community while prioritizing vulnerable and disproportionately impacted populations
- Create a healthier community by addressing climate change
- Consider social, environmental, and economic co-benefits holistically
- Empower young people to be leaders in creating a most sustainable community
- Invoke personal sense of responsibility among residents and businesses
- Be an actionable plan (right balance of innovation and practicality)

It is anticipated that the CAAP will be adopted by City Council by the Fall of 2019 (http://www.longbeach.gov/lbds/planning/caap/).

3.6.4 Significance Thresholds and Methodology

3.6.4.1 Significance Thresholds

For the purposes of this Program Environmental Impact Report (PEIR) and consistency with Appendix G of the CEQA Guidelines, the proposed program would have a significant impact on greenhouse gas emissions if it would:

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

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

The proposed program would have a significant impact on energy if it would:

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

On December 5, 2008, the SCAQMD adopted an interim GHG significance threshold for projects where the SCAQMD is lead agency. The threshold utilizes a tiered approach, with a screening significance threshold of 10,000 $MTCO_2e$ per year for industrial projects. Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA. Tier 2 consists of determining whether or not the project is consistent with a GHG reduction plan. If the proposed project is consistent with the qualifying local GHG reduction plan, it is not significant for GHG emissions. If the project is not consistent with a local GHG reduction plan, there is no approved plan, or the GHG reduction plan does not consist of all the required components, then the project would move to Tier 3. Tier 3 establishes a screening significance threshold level that is intended to have a 90 percent emission capture rate approach. If the project exceeds the GHG screening significance threshold level and GHG emissions cannot be mitigated to less than the

screening level, the project would move to Tier 4. Tier 4 is a decision tree approach to achieve compliance, but is not recommended for approval by SCAQMD. Tier 5 requires the project proponent to implement off-site mitigation to reduce GHG emission impacts to below the proposed screening level. For this proposed program, the most appropriate threshold to use is the 10,000 $MTCO_2e$ per year because it is a program level evaluation of a wetlands restoration program with eventual phasing out of oil fields and oil operation infrastructure. The SCAQMD's working group is currently inactive and has not set a date for finalizing these recommendations.

3.6.4.2 Methodology

Greenhouse Gas Emissions

Existing Site

For the purposes of this program-level analysis, it is conservatively assumed that the program activities would result in all net new emissions. Most of the program area is either vacant or an active oil field. Existing emissions from oil fields within the boundaries of the Los Cerritos Wetlands Oil Consolidation and Restoration Project, located in the northern portion of the program area, have already been addressed in a previously certified EIR. As the program activities would restore habitats and eventually decommission and phasing out existing oil operations, the net change for emissions in the long term could be negative. However, this cannot be accurately quantified at this program-level since the timing and commitments to cease oil operations in the future is unknown. As a conservative approach, no existing emissions were subtracted from estimated program emissions before comparison to emission thresholds.

Construction

GHG emissions have been quantified using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 software, an emissions inventory software, which is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professions to quantify potential criteria pollutant and GHG emissions from a variety of land use projects. CalEEMod was developed in collaboration with the air districts of California. Regional data (e.g., 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 considered to be an accurate and comprehensive tool for quantifying GHG emissions from land use projects throughout California and is recommended by the SCAQMD. For on-road vehicle emissions, CalEEMod uses the emission factors and fleet mix based on the CARB on-road vehicle emissions model (EMFAC), which is incorporated into CalEEMod. On-road vehicle emission factors from the USEPA-approved EMFAC2017 model were used for the analysis. It is assumed that a tugboat would be used to pull the barges for soil transport and that there would be two crew/survey boats at most on any given day. Tugboat and crew/survey boat emissions were calculated using emission factors from USEPA marine engine rules for Tier 2 engines.

The input values used in this analysis were adjusted to account for the nature of wetlands restoration activities and referenced the equipment and assumptions used for the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse Number

2016041083) for consistency (Table 3 of the Greenhouse Gas Emissions Technical Report). Specialized construction equipment was added as appropriate according to the activities listed in Chapter 2, *Project Description*, of this PEIR. Construction is phased by location (South, Isthmus, Central, and North Areas) and by time (Near-Term, Mid-Term, and Long-Term). In order to calculate a conservative emissions estimate and because the sequence of restoration is uncertain, a worst-case year in the Near-Term (2020) was formulated. Emission factors decline in later years because of the requirement and development of cleaner and more efficient equipment. Maximum daily GHG emissions were calculated by subphase using CalEEMod and then multiplied by a conservatively estimated maximum total number of days for that construction subphase to obtain an estimated total construction GHG emissions for the entire program restoration activities. Construction activities and schedule are discussed in further detail in the Greenhouse Gas Emissions Technical Report. Modeling input and output files provided in Appendix A of the Greenhouse Gas Emissions Technical Report, provided in Appendix F, of the PEIR.

Operation

Similar to construction, GHG emissions have been quantified using CalEEMod version 2016.3.2. CalEEMod was used to forecast the annual emissions from mobile sources that would occur during long-term program operations. The operational year was set to 2021 for a conservative emissions estimate. This consists mostly of truck trips for maintenance of the trails and wetlands and emissions from passenger vehicles from visitors. The analysis relied on the Institute of Transportation Engineers (ITE) Manual, 10th Edition "Public Park" category trip rates (i.e., denoted in the ITE Manual as "Land Use [LU] 411").

Area source emissions are based on natural gas (building heating and water heaters), landscaping equipment, and consumer product usage (including paints) rates provided in CalEEMod for the visitor center building. Most of the emissions would be associated with passenger cars traveling to and from the visitor center. Painting and re-painting of this facility will contribute to emissions. Additional emissions will come from maintenance of the wetlands and trails.

Operational GHG impacts are presented as net new emissions and added to amortized construction emissions. Modeling input and output files are provided in Appendix A of Greenhouse Gas Emissions Technical Report, provided in Appendix F, of the PEIR.

The proposed program's GHG emissions are also evaluated by assessing consistency with applicable GHG reduction strategies. As discussed previously, the GHG regulations have been adopted primarily at the federal and state levels to reduce emissions of GHGs from program sources, such as trucks and energy, under the Clean Air Act and the state's GHG regulatory framework under HSC Division 25.5 (AB 32). In addition, the SCAG 2016 RTP/SCS outlines goals for improving air quality and encouraging active transportation to reduce per capita vehicle miles traveled and associated transportation GHG emissions. Impacts are evaluated based on consistency with these applicable GHG regulations and plans.

Energy

Existing Site

For the purposes of this program-level analysis, it is conservatively assumed that the program activities would result in all net new energy demand. Most of the program area is either vacant or an active oil field. Existing energy demand from oil fields within the boundaries of the Los Cerritos Wetlands Oil Consolidation and Restoration Project, located in the northern portion of the program area, have already been addressed in a previously certified EIR. As the proposed program activities would restore habitats and eventually decommission and phase out existing oil operations, the net change for energy demand in the long term could be negative. However, this cannot be accurately quantified at this program-level since the timing and commitments to cease oil operations in the future is unknown. As a conservative approach, existing energy emissions was not subtracted from estimated program energy demand in the quantitative analysis.

Construction

Construction of the proposed program would result in energy demand as a result of the use of heavy-duty construction equipment, on-road trucks, and workers commuting to and from the program area. The assumption that diesel fuel would be used for all equipment represents the most conservative scenario for maximum potential energy use during construction. Energy demand from heavy-duty construction equipment is estimated based on the equipment analyzed in the California Emissions Estimator Model (CalEEMod), consistent with the air quality analysis in the proposed program's Air Quality Technical Report and Greenhouse Gas Emissions Technical Report. For on-road vehicle energy demand, on-road vehicle fuel demand factors were obtained from the USEPA-approved EMFAC2017. It is assumed that a tugboat would be used to pull the barges for soil transport and that there would be two crew/survey boats at most on any given day. Tugboat and crew/survey boat energy demand were calculated based on USEPA marine engine rules for Tier 2 engines, similar to the GHG emissions estimate, and the carbon content in a gallon of diesel fuel. Detailed energy calculations can be found in Appendix G. Construction activities, including the construction of new buildings and hardscape, typically do not involve the consumption of natural gas. Accordingly, natural gas would not be needed to support program construction activities, and no natural gas demand would be generated by construction of the proposed program.

Operation

Energy would be required in the form of electricity and natural gas for operation of the visitor center. The energy usage takes into account building energy standards pursuant to the Title 24 Building Standards Code and CALGreen Code. Energy for transportation would include fuel used for employee and visitor trips to the program area. The estimated fuel economy for vehicles is based on fuel consumption factors from the CARB EMission FACtors model (EMFAC2017). It is assumed that the wetland itself would not require any imported water or associated energy for water pumping and conveyance (the Visitor's Center would require potable water). Detailed energy calculations can be found in Appendix G.

As stated in Chapter 1, *Introduction*, on March 8, 2019, the Los Cerritos Wetlands Authority sent a Notice of Preparation to responsible, trustee, and federal agencies, as well as to organizations,

and individuals potentially interested in the proposed program to identify the relevant environmental issues that should be addressed in the PEIR. Issues related to greenhouse gas emissions were identified.

3.6.5 Program Impacts and Mitigation Measures

Impact GHG-1: The proposed program would result in a significant impact if the proposed program would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

Construction

Construction of the proposed program would generate GHG emissions from multiple sources (**Table 3.6-3**, *Program Construction GHG Emissions*). GHG emissions would be generated from tailpipe emissions of heavy duty construction equipment and mobile trips for maintenance. The proposed program would require special equipment such as low ground pressure equipment, mats, long reach excavators, clamshell and dragline crane, amphibious excavator, rotary ditcher, floating equipment, and a hydraulic dredge. Complete equipment lists are shown in Table 3 of the Greenhouse Gas Emissions Technical Report.

TABLE 3.6-3
PROGRAM CONSTRUCTION GHG EMISSIONS

Construction Subphase	Total Program $MTCO_2e$
Demolition/Site Preparation	3,426
Grading/Excavation	22,191
Drainage/Utilities/Subgrade	2,682
Building Construction	379
Paving	86
Architectural Coating	6
Total	*28,772*
Amortized over 30 years ($MTCO_2e$/year)	959

SOURCE: Appendix A, Greenhouse Gas Emissions Technical Report, ESA, 2019.

Operation

Operational emissions would be generated at the visitor center by electric consumption for lighting and natural gas consumption for space heating. In addition, there would be emissions from motor vehicles traveling to and from the visitor center and other trailheads. A minimal amount of emissions is anticipated for periodic maintenance activities. It is anticipated that no water would be pumped into the wetland so the only water use would be to serve the visitor center. Annual operational emissions were calculated using CalEEMod and shown in **Table 3.6-4**, *Program Operational GHG Emissions*. Emissions were then compared to the SCAQMD GHG threshold of 10,000 $MTCO_2e$/year for industrial projects. The program annual emissions would be below the 10,000 $MTCO_2e$/year threshold. Because CalEEMod has a default assumption of 0 $MTCO_2$/acre for the wetland land use category, no carbon sequestration from the

increase in wetland vegetation is incorporated into the GHG emissions analysis. Impacts from the program GHG emissions would be less than significant and mitigation measures would not be required.

TABLE 3.6-4
PROGRAM OPERATIONAL GHG EMISSIONS

Phase	Program $MTCO_2e$/year
Area	<0.1
Energy	9.43
Mobile	464.88
Waste	17.02
Water	2.19
Operational Total	*493.5*
Amortized over 30 years ($MTCO_2e$/year)	959
Total	**1,453**

SOURCE: Appendix A, Greenhouse Gas Emissions Technical Report, ESA, 2019.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

Impact GHG-2: The proposed program would result in a significant impact if the proposed program would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Construction

The proposed program would utilize construction contractors that would be in compliance with regulations including the USEPA Heavy Duty Vehicle Greenhouse Gas Regulation and the CARB ACTM that limits heavy-duty diesel motor vehicle idling. For vocational vehicles, which consist of a variety of work vehicles including dump trucks, the Phase 1 Heavy-Duty Vehicle Greenhouse Gas Regulation requires up to a 10 percent reduction in CO_2 emissions by model year 2017 over the 2010 baseline. The Phase 2 standards require the phase-in of a 12 to 24 percent reduction in CO_2 emission reduction from vocational vehicles by model year 2027 over the 2017 baseline. Compliance with anti-idling provisions would minimize unnecessary GHG emissions. Implementation of these measures would ensure that GHG-efficient equipment and practices in accordance with applicable plans, policies, and regulations would be used. Therefore, the proposed program would not conflict with applicable regulations to reduce GHG emissions and construction impacts would be less than significant.

Operation

GHG emissions associated with mobile sources would only occur from periodic vehicle trips by workers for inspection and maintenance purposes and recreational visitors accessing the program area, which would not generate substantial emissions. Nonetheless, workers and visitors to the program area would utilize vehicles that comply with state motor vehicle emissions standards.

The Seal Beach visitor center and any other new facilities would be built to the CALGREEN standards, which would reduce water consumption, improve energy efficiency, and decrease waste. The proposed program would be compliant to all state and city codes and regulatory requirements. As of June 2019, the City of Seal Beach and City of Long Beach do not have any certified GHG-related policies, plans, or regulations. The City of Long Beach CAAP is expected to be certified by City Council in the Fall of 2019. The CAAP will serve as a guidance document for future climate change planning for the City of Long Beach and address both mitigation and adaptation. The proposed program is expected to align with these strategies since its design considered sea level rise to adapt to a warming climate.

While the proposed program is not a transportation project or a residential, commercial, or mixed-use project that would generate substantial numbers of vehicle trips, the proposed program would contribute to the non-automotive transportation network for both the City of Seal Beach and City of Long Beach. The proposed program would provide improved public access to the wetlands both on foot and by bicycle within a populated urban area in the City of Seal Beach and the City of Long Beach that would be accessible to local area residents, employees, and visitors. These recreational opportunities for City of Seal Beach and City of Long Beach residents, employees, and visitors would reduce transportation-related air pollutants and GHG emissions by providing nearby recreational amenities including visitor centers and trails. Therefore, the proposed program would not conflict with the SCAG 2016 RTP/SCS goals of improving air quality, increasing accessibility to natural areas, preserving open space, and encouraging active transportation (e.g., bicycling and walking).

Therefore, impacts from the proposed program's GHG emissions would be less than significant with regard to a conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

Impact EN-1: The proposed program would result in a significant impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during program construction or operation.

Construction

Construction of the proposed program would result in energy consumption from the use of heavy-duty construction equipment, on-road trucks, and workers commuting to and from the program area. Energy demand from heavy-duty construction equipment is estimated based on the equipment analyzed in CalEEMod, consistent with the proposed program's air quality and GHG emissions assessment. The conservatively estimated total and annual average construction energy demand (i.e., total diesel and gasoline fuel) for heavy-duty construction equipment and construction worker vehicle trips are shown in **Table 3.6-5**, *Program Construction Fuel Usage*.

TABLE 3.6-5
PROGRAM CONSTRUCTION FUEL USAGE

Source	Total Gallons of Diesel Fuel	Total Gallons of Gasoline Fuel
Construction:		
Heavy-Duty Construction Equipment	2,977,544	—
Tugboats and Crew/Survey Boats	2,213,058	—
Haul Trucks	65,909	—
Vendor Trucks	4,762	—
Worker Trips	—	127,191
Total (over the approximately 22-year construction duration)	**5,261,273**	**127,191**
Annual Average (over the approximately 22-year construction duration)	**239,149**	**5,781**

SOURCE: ESA 2019

For comparison purposes, the proposed program's construction energy demand from transportation fuel is compared to the Los Angeles County transportation fuel sales. As shown in **Table 3.6-6**, *Comparison of Project Construction and County Fuel Usage*, the conservatively estimated construction energy demand for the proposed program would represent a very small fraction of the County's total fuel consumption. Actual construction energy demand is likely to be lower than the values shown in Table 3.6-6 as construction of the proposed program would be intermittent and variable over the near-, mid-, and long- term depending on the construction schedule, volume of construction activities, and specific location of such activity across the 503-acre program area. Program construction trucks would be required to comply with fuel saving regulations such as the USEPA Phase 2 standards, which affect model year 2021 through model year 2027 medium- and heavy-duty trucks. According to the USEPA, the Phase 2 standards would reduce oil consumption by up to two billion barrels (84 billion gallons) over the lifetime of the vehicles sold under the program (USEPA 2018), and a portion of the fuel savings would be from those model year 2017 through 2027 medium- and heavy-duty trucks used for the proposed program. Program construction trucks would also be required to comply with the CARB Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling (Title 13 California Code of Regulations [CCR] Section 2485) as applicable. This measure does not allow

diesel-fueled commercial vehicles to idle for more than five minutes at any given location (unless specifically exempted from the regulation[4]). While the goal of this measure is primarily to reduce public health impacts from diesel emissions, compliance with the regulation also results in energy savings in the form of reduced fuel consumption from unnecessary idling. As such, the proposed program would result in a less than significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during program construction.

TABLE 3.6-6
COMPARISON OF PROGRAM CONSTRUCTION AND COUNTY FUEL USAGE

Source	Gallons of Diesel Fuel	Gallons of Gasoline Fuel
Los Angeles County (in 2017)[a]	590,196,078	3,659,000,000
Orange County (in 2017)[a]	119,607,843	1,382,000,000
Annual Program Construction	239,149	5,781
Percent of Los Angeles County	0.041%	0.0002%
Percent of Orange County	0.200%	0.0004%

[a] California Energy Commission, California Retail Fuel Outlet Annual Reporting (CEC-A15) Results, 2017. Available at: https://www.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html. Accessed February 2019. Diesel is adjusted to account for retail (51%) and non-retail (49%) diesel sales.

SOURCE: ESA 2019.

Operation

Operational energy consumption would occur as a result of building energy needs for the visitor center and the use of transportation fuels (e.g., diesel and gasoline) from vehicles traveling to and from the program area. Daily operation of the proposed program would consume energy in the form of electricity and natural gas. Additionally, a minimal amount of energy would be consumed for the conveyance and treatment of water, wastewater, and the disposal of solid waste off-site to service the visitor center. Building energy use factors and water demand factors from CalEEMod, consistent with the proposed program analyses conducted for air quality and GHG emissions, are used to estimate building energy use. The wetland would not require imported water. The proposed program's estimated net operational electricity demand, including from water demand, is provided in **Table 3.6-7**, *Program Operational Electricity Usage*. As previously discussed, the proposed program's electricity consumption would have no impact on SCE's electricity generation.

[4] For instance, the regulation exempts concrete pouring trucks where idling is a necessary function of the equipment.

TABLE 3.6-7
PROGRAM OPERATIONAL ELECTRICITY USAGE

Source	Electricity per Year (million kWh)
SCE Electricity Sales (2017)[a]	85,879
Program Operations:	
Building Electricity[b]	0.026
Water Electricity[c]	0.006
Program Net Total	**0.032**

[a] CEC, 2017b.
[b] Electricity is calculated in the proposed program's Greenhouse Gas Emissions Technical Report (ESA 2019) using CalEEMod (includes water-related electricity for conveyance and treatment).
[c] Electricity for water supply, treatment, distribution, and wastewater treatment.
SOURCE: ESA 2019

The proposed project's estimated net operational natural gas demand is provided in **Table 3.6-8**, *Program Operational Natural Gas Usage*. Operation of the proposed program would use a minimal amount of energy, not increase the need for new energy infrastructure, and not cause a wasteful, inefficient, and unnecessary consumption of energy. Therefore, operational energy impacts would be less than significant.

TABLE 3.6-8
PROGRAM OPERATIONAL NATURAL GAS USAGE

Source	Natural Gas per Year (million kBtu)
SoCalGas Natural Gas Sales (2017)[a]	913,960
Program Operations[b]	0.02
Percent of SoCalGas	0.000002%
Program Net Total	**0.032**

[a] California Gas and Electric Utilities, 2018~~b~~.
[b] Natural gas is calculated in the proposed program's Greenhouse Gas Emissions Technical Report (ESA 2019) using CalEEMod.
SOURCE: ESA 2019

Operation of the proposed program would result in transportation energy use by visitors and employees coming and going to the program area. The proposed program's estimated operational transportation fuel demand is provided in **Table 3.6-9**, *Program Operational Fuel Usage*.

TABLE 3.6-9
PROGRAM OPERATIONAL FUEL USAGE

Source	Gallons of Diesel Fuel per Year	Gallons of Gasoline Fuel per Year
Los Angeles County (2017)[a]	590,196,078	3,659,000,000
Orange County (in 2017)[a]	119,607,843	1,382,000,000
Program Operations	8,514	46,964
Percent of Los Angeles County	0.001%	0.001%
Percent of Orange County	0.007%	0.003%

[a] California Energy Commission, California Retail Fuel Outlet Annual Reporting (CEC-A15) Results, 2017. Available at: https://www.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html. Accessed February 2019. Diesel is adjusted to account for retail (51%) and non-retail (49%) diesel sales.

SOURCE: ESA 2019.

As shown above, operation of the proposed program would result in energy demand from building energy usage and transportation-related energy associated with vehicles traveling to and from the program area. The amount of energy used would not represent a substantial fraction of the available energy supply in terms of building energy or transportation fuels and would not increase the need for new energy infrastructure. The program area is surrounded by urban developed uses such that visitors to the program area would not need to travel long distances thus minimizing VMT. Furthermore, as discussed in the GHG analysis, while the proposed program is not a transportation project or a residential, commercial, or mixed-use project that would generate substantial numbers of vehicle trips, the proposed program would provide improved public access to the wetlands both on foot and by bicycle within a populated urban area in the City of Seal Beach and the City of Long Beach that would be accessible to local area residents, employees, and visitors. These recreational opportunities for the City of Seal Beach and the City of Long Beach residents, employees, and visitors would reduce transportation-related fuel demand by providing nearby recreational amenities including visitor centers and trails. The proposed program would incorporate green building measures consistent with energy efficiency standards in city policy and CALGreen. Therefore, operation of the proposed program would not result in the wasteful, inefficient, and unnecessary consumption of building energy or transportation energy usage and operational energy impacts would be less than significant.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

Impact EN-2: The proposed program would result in a significant impact if the proposed program would conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

The proposed program would be consistent with energy efficiency standards in the City of Seal Beach municipal code, City of Long Beach municipal code, and CALGreen Code. The City of Seal Beach, where the visitor center is to be located, does not have a specific, local plan or policy for energy efficiency or renewable energy. Nonetheless, the proposed program would provide recreational opportunities for City of Seal Beach and City of Long Beach residents, employees, and visitors that would reduce transportation-related fuel demand by providing nearby recreational amenities including visitor centers and trails. The proposed program would not conflict with the SCAG 2016 RTP/SCS general goals and strategies of increasing accessibility to natural areas, preserving open space, and encouraging active transportation (e.g., bicycling and walking) thereby minimizing transportation fuel demand. As the proposed program is to restore a wetland and has a small building footprint of 2,000-square-foot for a visitor center, the proposed program would use minimal energy and have a less than significant impact with regard to conflicting with or obstructing a state or local plan for renewable energy or energy efficiency. Impacts would be less than significant.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

3.6.6 Cumulative Impacts

3.6.6.1 Greenhouse Gas Emissions

The emissions of a single project will not cause or exacerbate global climate change. Climate change is a global phenomenon and the significance of a project's GHG emissions is inherently cumulative in nature. CEQA requires that lead agencies consider evaluating the cumulative impacts of GHGs from even relatively small (on a global basis) increases in GHG emissions. Small contributions to this cumulative impact (from which significant effects are occurring and are expected to worsen over time) may be potentially considerable and therefore significant. A cumulatively considerable impact is the impact of a proposed program in addition to impacts of the related projects. However, in the case of global climate change, the proximity of the proposed program to other GHG-generating activities is not directly relevant to the determination of global GHG cumulative impacts.

As shown in Table 3.6-4, the proposed program would not exceed the SCAQMD screening level threshold of 10,000 $MTCO_2e$/year. The proposed program would be consistent with the goals in the SCAG 2016 RTP/SCS, USEPA Heavy Duty Vehicle Greenhouse Gas Regulation, the CARB

ACTM, and CALGREEN. Because GHG emissions are considered cumulative in nature, the proposed program would not result in GHG emissions that are cumulatively considerable.

3.6.6.2 Energy

Future development would result in the irreversible use of electricity and natural gas resources that could limit future energy availability. However, the use of such resources would be minor compared to existing supply and infrastructure within the SCE and SoCalGas service area and would be consistent with growth expectations. The proposed program would have a relatively small footprint with the majority of land set aside for wetland restoration and a 2,000-square-foot visitor center. Accordingly, the impacts related to electricity and natural gas consumption would not be cumulatively considerable, and thus would be less than significant. Likewise, the demand for transportation energy would be driven by mobile trips from visitors and employees. As the proposed program's impact to transportation energy would be considered less than significant, the proposed program's cumulative impact to transportation energy would also be less than significant.

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SECTION 3.7
Hazards and Hazardous Materials

3.7.1 Introduction

This section evaluates the potential for the proposed program to result in adverse impacts associated with hazards or hazardous materials. The analysis is based on review of available hazards and hazardous materials reports, websites, and maps of the program area and vicinity, including reports and information posted on websites by the State Water Resources Control Board (SWRCB), the Department of Toxic Substances Control (DTSC), and the California Geologic Energy Management Division (CalGEM) [formerly known as the Division of Oil, Gas, and Geothermal Resources (DOGGR)], as well as information gathered from site-specific investigations conducted for sites within or near the program area. The relevant regulatory requirements are discussed, as are the methodology and thresholds used to determine whether the proposed program would result in significant impacts. This section analyzes the potential for both program-level and cumulative environmental impacts. All information sources used are included as citations within the text; sources are listed in Section 3.7.7, *References*.

3.7.2 Environmental Setting

Figure 2-1, *Regional Location*, and Figure 2-2, *Project Site and Local Vicinity*, in Chapter 2, *Project Description*, of this PEIR, show the program area, which is comprised of four program areas made up of 17 individual sites. The study area for evaluation of hazards and hazardous materials impacts includes the four program areas, along with nearby properties with the potential to affect or be affected by the proposed program. In addition, the larger program vicinity up to 0.25 mile from program area is considered relative to proximity to schools and up to 2 miles relative to proximity to airports. Note that hazards and hazardous materials impacts for the Synergy Oil Field site within the North Area, the City Property site within the Central Area, and the western portion of the Pumpkin Patch site were evaluated in the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse No. 2016041083).

3.7.2.1 Historical and Present Land Uses in the Program Vicinity

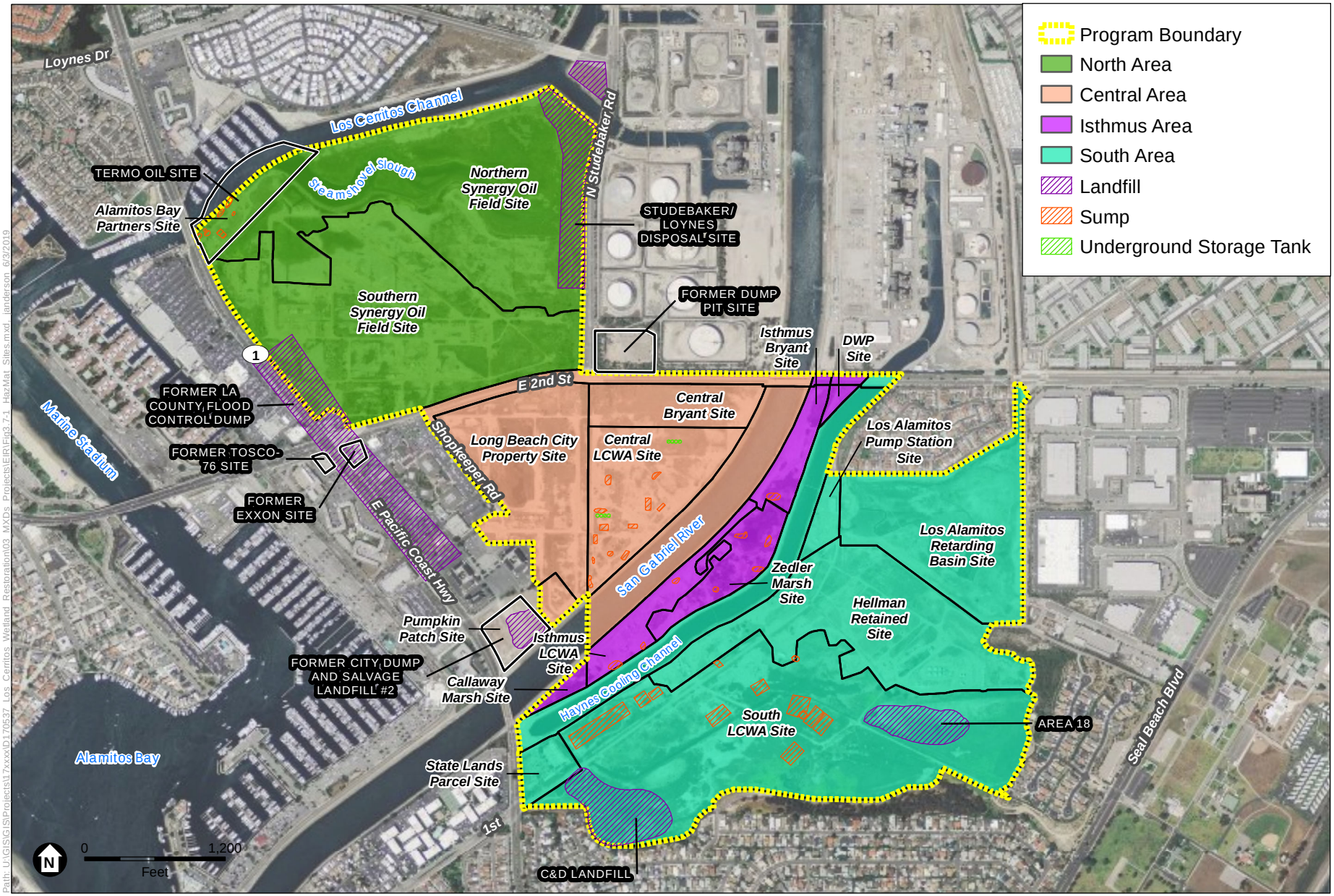
Various past and current land uses associated with the use, generation, or disposal of hazardous materials exist in the program area, including the ongoing production of oil and natural gas, other industrial and commercial uses such as gasoline service stations, and historical agricultural use. In

general, these land uses have the potential to have contributed to surface and subsurface contamination as described below:

- **Oil and Natural Gas Production**—Oil and natural gas production in the vicinity began as early as 1921. Oil production within the program area is discussed further below. Oil field production typically includes the extraction, storage, and transportation of oil and natural gas; and the reinjection of produced water back into the production zone. The maintenance of equipment requires the use of oils and greases, solvents, paints, and thinners. The four program areas have never been used for petroleum refining and no active refineries are located in the immediate vicinity.
- **Commercial/Industrial Uses**—Commercial and industrial land uses include former and current gasoline service stations, and other facilities that typically involve the use and storage of fuel, lubricants and oil, solvents, and other hazardous materials. Facilities with known releases of hazardous materials that have affected soil or groundwater are discussed further below.
- **Landfills**—Several locations within the program area have been used in the past as landfills, as discussed further below. Depending on the nature of the waste materials disposed of in the landfills, the timing of the landfilling operations (early landfills were typically lightly regulated and unlined), and the level of compliance with regulations, the landfilled waste materials may have included hazardous materials or have generated hazardous materials as the buried waste decomposed; however, based upon preliminary investigations, these landfills appear to have been used for limited periods of time for primarily municipal and construction wastes.
- **Agricultural Uses**—Portions of the program area were used for raising cattle and beets in the 1800s and early 1900s. Historical agricultural land uses may have left behind residual levels of fertilizers, pesticides, and herbicides in soils. In addition, fuels, oils, lubricants, and cleaning solvents for farm equipment maintenance may have been released during use or storage on the prior agricultural areas; however, considering the length of time since agricultural use was conducted on these individual sites, it is unlikely that residual chemicals associated with agricultural use would be present and natural attenuation would be expected to have degraded most, if not all, of the chemicals down to inert and nonhazardous compounds.

3.7.2.2 Hazardous Materials within the Program Area

This section assesses the potential for hazardous materials to be present in soil and groundwater at the program area as a result of past and present land uses, and documented releases of hazardous materials. The discussion of past and present uses of hazardous materials and documented releases is based on a review of environmental assessments and hazardous materials investigation reports, regulatory agency databases, and hazardous materials investigation reports available on regulatory agencies' websites, and site reconnaissance. In addition to the Phase I and II assessments conducted for various individual sites, the following regulatory agency databases of hazardous materials sites that are compiled pursuant to Government Code Section 65962.5 were reviewed for information: the SWRCB GeoTracker database and the DTSC EnviroStor database. The locations of the hazardous materials sites are shown on **Figure 3.7-1**, *Hazardous Materials Sites*.



SOURCE: Mapbox, LCWA

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 3.7-1
Hazardous Materials Sites

ESA

Synergy Oil Field Site

A Phase I environmental site assessment (Phase I assessment) was conducted for the Synergy Oil Field site to identify recognized environmental conditions[1] (Rincon 2015a). The Phase I report also summarized the results of previous assessments, investigations, and remediation activities. The Synergy Oil Field site is listed on the GeoTracker and EnviroStor websites for two landfill sites and one polychlorinated biphenyl (PCB) cleanup action; the Phase I assessment included discussion of other spills and cleanups not listed on GeoTracker or EnviroStor websites. The following summarizes the information and is based on the Rincon Phase I assessment, unless otherwise cited. More recent soil investigations are discussed in the 2016 and 2017 Soil Investigations section further below.

Oil Production and Associated Infrastructure

The Synergy Oil Field site currently consists of an active oil field and vacant land, the northern part of which is wetland habitat along the Los Cerritos Channel. The site includes 22 active (producing), seven idle, and 13 plugged (abandoned or destroyed) oil and natural gas production wells, eight water injection wells,[2] a network of piping and roads, a field office building, vapor recovery equipment, tank battery areas, two sheds, and numerous transformers. The type, status, and location of all wells on the program area are identified on Figure 3.5-3, *Oil Production and Injection Wells*, in Section 3.5, *Geology, Soils, and Paleontological Resources*. Historically, it was a common practice during the drilling of oil wells to excavate earthen sumps that would contain the produced oil, water, and drilling fluids (AEC 2016a). Sediment was allowed to settle and the oil was removed and sent to refineries for processing. After production ceased, the sump would be backfilled with drilling mud and other sediment, and left in place. An unknown number of these backfilled sumps are expected to be present on the Synergy Oil Field site adjacent to oil wells. The Phase I assessment noted that staining was observed on and in the vicinity of some of the producing and idle wells and in the vicinity of the transformers that were observed on-site.

Subsurface geologic materials sometimes contain naturally occurring radioactive materials, referred to in the oil industry as Naturally Occurring Radioactive Material (NORM)[3] (USGS 1999). This can occur due to the presence of the radioactive forms of radium, radon, and uranium, all of which occur naturally with low levels of radioactivity. The cited USGS study noted that the level of radioactivity in scale in California oil production sources tends to be at background or marginally detectable (i.e., imperceptible or trace levels). There is the potential for concentrations of dissolved NORM constituents may result in scale in pipes and storage tanks that handle oil. This scale is referred to as a type of "diffuse NORM waste" and can have low levels of radioactivity above background levels. During operations, oil processing facilities routinely remove scale to the extent

[1] A recognized environmental condition is defined as the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.

[2] The production of oil actually produces much more water than oil. This is called produced water, which is returned to the production zone using injection wells to prevent land subsidence. For current production on the Synergy Oil Field site, typically less than 5 percent of the pumped fluid is oil and remainder is water (Rincon 2015a).

[3] NORM consists of materials, usually industrial wastes or by-products, enriched with radioactive elements found in the environment.

feasible from pipelines and tanks (API 2014). After operations when the pipeline is removed, the pipeline segments are tested for radioactivity and managed accordingly.

Documented Spill/Release Incidents

Four spill/release incidents of oil or grease were documented between 2006 and 2010 on the Synergy Oil Field (and/or Long Beach City Property site discussed further below) site; all of these spills were reportedly cleaned up with the oversight and approval of regulatory agencies, as summarized below:

- On March 28, 2006, an unknown oil material (10 barrels) mixed with produced water (30 barrels) spilled onto soil from a punctured aboveground storage tank (AST) in a tank farm. Remedial action included a cleanup crew on-site physically removing the spilled material.
- In July 2007, an internal flow line broke resulting in the discharge of crude oil and produced water (approximately 1 barrel) onto the ground.
- On February 4, 2010, an unknown amount of pipe grease was released. The area was cleaned up and was witnessed by an EPA coordinator.
- On February 15, 2010, an unknown amount of crude oil was released from a pinhole leak on the production line of an oil well that resulted in the release of oil onto off-site private property. In response, the line was clamped and booms were placed to contain the oil.

The Phase 1 assessment also noted that various other older site investigations and cleanups were conducted from 1992 through 2004 to assess the extent and concentrations of petroleum hydrocarbons in soil across the site. The combined result of the various investigations indicated that released petroleum hydrocarbons were predominantly composed of heavier hydrocarbons with carbon chain lengths of greater than C_{36}. This means the majority of the molecules in the residual oil in the soil have 36 or more carbon atoms in each molecule; gasoline is in the range of C_4 to C_{12} and diesel in the range of C_8 to C_{24}. The hydrocarbon range heavier than C_{36} includes heavier, less mobile hydrocarbons such as heavy fuel oils, lubricating oils, asphalts, pitch, waxes, and related compounds. Recent soil investigations conducted in 2016 and 2017 further tested soil, as discussed below in the 2016 and 2017 Soil Investigations section.

Closed On-Site Landfills

The Studebaker/Loynes Disposal Site or City Dump and Salvage #4 Landfill was located on a narrow strip in the northeastern portion of the Synergy Oil Field site, as shown in Figure 3.5-4, *Landfill Areas and Oil Production Sumps*, in Section 3.5, *Geology, Soils, and Paleontological Resources*, and Figure 3.7-1. The landfill was a Class II landfill permitted to accept Class II waste including household and commercial refuse such as cans, metals, paper products, lawn clippings, sod, shrubs, garbage, market refuse, ashes, and inert solid materials such as rock, gravel, asphalt, earth, brick, glass, plaster products, rubber, and street sweepings. No reported liquid or hazardous wastes were deposited at the site and maximum depth to refuse is estimated to be up to 25 feet. The waste was placed in a previously existing depression area, compacted, and covered with new soil in conformance with slope and final cover requirements. Approximately 160,000 cubic yards of waste materials were landfilled during the 1960s. The landfill was closed in mid-April 1980.

The former LA County Flood Control Dump may have extended onto the southwestern corner of the Synergy Oil Field site. The records are unclear as the precise location and extent. This possible landfill was reportedly used to dispose of vegetation growing along the banks of the San Gabriel River. No hazardous materials are known to have been disposed of at this location.

PCB Removal

Historical records indicate that there had been a release of PCBs at transformer locations on the Synergy Oil Field and City Property sites. To address the releases, several site assessments and remedial excavations were performed in 2009 and 2010. The U.S. Environmental Protection Agency (USEPA) directed that soils having PCB concentrations above 1 milligram per kilogram (mg/kg) be removed and disposed of off-site. One of the transformer locations on the Synergy Oil Field site required remediation and was excavated to approximately 3 feet below ground surface (bgs). Two excavations approximately 10 feet wide by 10 feet long by 3 feet deep were excavated and the material removed for off-site disposal. The USEPA issued a No Further Action letter for the PCB remedial action on February 24, 2010.

Asbestos-Containing Materials and Lead-Based Paint

A 2003 survey of the on-site structures indicated that asbestos-containing materials (ACM) and lead-based paint (LBP) had been identified in the office building, north shed, and south shed areas. In addition, tank batteries and pipelines may have ACM insulation or LBP (AEC 2017b).

2016 and 2017 Soil Investigations

Based on the results of the previously summarized Phase I assessment, additional soil testing was conducted in December 2016, February 2017, and April 2017 (AEC 2017a). The samples were tested for total petroleum hydrocarbons (TPH) in the gasoline, diesel, and oil range; volatile organic compounds (VOCs); and metals. Not all samples were analyzed for all chemicals; the selection of analytical tests depended on the sample location, surrounding land use, and previous testing results.

The testing results were mostly below detection levels or at low concentrations below regulatory screening levels. Elevated concentrations of TPH and other chemicals were detected for some of the samples collected near the locations of the storage tanks and along Steamshovel Slough. Some of the detected concentrations exceeded screening levels for TPH in the gasoline and diesel range, naphthalene, and arsenic. Note that the DTSC has established a regional background arsenic concentration of 12 mg/kg in soil used as screening criteria for sites in Southern California (Chernoff et al. 2008); all of the arsenic concentrations are below background levels. The concentrations of TPH and naphthalene are above screening levels. Based on the analytical results, the affected soil above screening levels is scheduled to be excavated and disposed at a landfill permitted to accept the soil. The lateral limits of the excavation and the volume of soil to be removed would depend on the results of additional sampling proposed to define the extent of the affected area. As previously noted, the scheduled removal actions were evaluated in the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse No. 2016041083).

Termo Oil Site

The Termo Oil Site is an active oil production site operated by the Alamitos Bay Partners (see Figure 3.7-1) and adjacent to the northwest of the Synergy Oil Field site. The site has been used for the production of oil since the 1920s and currently has three active oil production wells, two plugged wells, one idle well, a tank farm, and associated infrastructure (Arcadis 2018). The site has been undergoing soil, soil gas, and groundwater investigations to characterize the nature and extent of petroleum hydrocarbons since 1991, primarily associated with former oil sumps adjacent to wells. In 1998, soil excavation, dewatering, and land treatment was conducted to treat contaminated soil and remove oily water. Groundwater monitoring was conducted from 1997 to 1999 to confirm successful groundwater treatment and subsequent sampling indicates low to non-detectable petroleum hydrocarbon levels below action levels. Subsequent soil sampling in 2017 indicated the following:

- **Soil Gas** – No VOCs or TPH compounds were reported in soil gas above the applicable soil gas screening levels.
- **Soil** – No VOCs, semivolatile organic compounds (SVOCs), PCBs, chlorinated herbicides, organochlorine pesticides, or organophosphorus pesticides were reported above the applicable soil screening levels. TPH in the oil range (TPH-oil) was detected in some soil samples at concentrations ranging from 3.38 to 18,900 mg/kg. The source of heavy-end TPH is crude oil production.
- **Groundwater** – Groundwater samples were collected from the three on-site monitoring wells. Based on prior groundwater monitoring reports, groundwater flows primarily to the southwest. TPH concentrations ranged from 0.28 to 1.039 milligrams per liter (mg/L) Pentachlorophenol was detected in one groundwater sample at a concentration of 17 micrograms per liter (µg/L), which exceeded the maximum contaminant level (MCL; also known as the primary drinking water standard) of 1 µg/L. No other constituents were reported in groundwater above the MCLs.

Long Beach City Property Site

A Phase I assessment was conducted for the Long Beach City Property site to identify recognized environmental conditions (Rincon 2015b). The Phase I assessment also summarized the results of previous assessments, investigations, and remediation activities. The Long Beach City Property site is listed on the GeoTracker and/or EnviroStor websites for the landfill sites and PCB cleanup described above in the Synergy section; the Phase I assessment included discussion of other spills and cleanups not listed on GeoTracker or EnviroStor websites. The following summarizes the information and is based on the 2015 Rincon Phase I assessment unless otherwise cited.

Oil Production and Associated Infrastructure

As shown in Figure 3.5-3 in Section 3.5, *Geology, Soils, and Paleontological Resources*, the Long Beach City Property site has eleven active, two idle, and nine plugged oil wells. As previously discussed for the Synergy Oil Field site, it is assumed that some of the wells may have backfilled sumps adjacent to the oil wells.

Documented Spill/Release Incidents

Spills and/or releases documented between 2006 and 2010 are discussed above (see Synergy Oil Field site information above); all of these spills were reportedly cleaned up with the oversight and approval of regulatory agencies, as summarized below.

PCB Removal

Investigations and cleanups for the release of PCBs at transformer locations on the Long Beach City Property site are discussed above (see Synergy Oil Field site information above). The USEPA issued a No Further Action letter for the PCB remedial action on February 24, 2010.

2016 and 2017 Soil Investigations

As a part of the previously discussed 2016 and 2017 soil investigations conducted on the Synergy Oil Field site, one soil sample was collected at the northeast corner of the Long Beach City Property site (AEC 2017a). The sample was tested for TPH in the gasoline, diesel, and oil range; lead; and arsenic. The testing results were either below detection levels (TPH-gasoline) or at low concentrations below regulatory screening levels (all other chemicals). Similar to the other testing results, arsenic was detected above screening levels but below regional background levels. Additional testing has been proposed for the area around two storage tanks in the southern part of the Long Beach City Property site (AEC 2017c). Based on the sampling results to date, no remediation has been proposed for the City Property site.

Pumpkin Patch Site

A Phase I assessment was conducted for the Pumpkin Patch site to identify recognized environmental conditions (AEC 2016a). As discussed in Chapter 2, *Project Description*, of this PEIR, the program area includes only the eastern portion of the Pumpkin Patch property. The former City Dump and Salvage Landfill #2 shown on Figure 3.7-1, is just west and outside of the program area; that former landfill is discussed further below in the section on Hazardous Materials at Nearby Sites. The eastern portion that is within the program area is discussed below.

Oil Production and Associated Infrastructure

The eastern one-third of the Pumpkin Patch site has one active oil well with a pumpjack type pumping unit (also called a horsehead, rocking horse, and other names) and surface and subsurface pipelines for oil delivery. Oil production from this site dates to the 1920s and is part of the Seal Beach Oil Field. As shown in Figure 3.5-3 Section 3.5, *Geology, Soils, and Paleontological Resources*, the Pumpkin Patch site has one active and one plugged oil well. As previously discussed, backfilled earthen sumps are anticipated to be adjacent to some wells that would contain produced oil and drilling mud. The Phase I assessment review of 1928 and 1938 aerial photographs indicated within the central-eastern portion of the site two side-by-side sumps adjacent to the drilling derrick. The two sumps and the derrick were removed by 1947. Future grading may encounter crude oil and/or drilling fluids in undocumented former sumps in this area, if any remain.

Central LCWA Site

The Central LCWA site is located within the Central Area (see Figure 2-2 in Chapter 2, *Project Description*, and Figure 3.7-1) and has seven active oils wells, 14 plugged oil wells (see Figure 3.5-3 in Section 3.5, *Geology, Soils, and Paleontological Resources*), oil pipelines, and dirt access roads (CalGEM, 2019). Oil production started as early as 1944. Given the age of this oil production area, the oil wells are assumed to also have sumps adjacent to the well heads; Figure 3.5-4 in Section 3.5, *Geology, Soils, and Paleontological Resources*, shows the locations of known sumps (Geosyntec, 2017).

Central Bryant Site

The Central Bryant site is located within the Central Area (see Figure 2-2 in Chapter 2, *Project Description*, and Figure 3.5-3 in Section 3.5, *Geology, Soils, and Paleontological Resources*) and has two oil wells, installed in 1945 and 1946, and plugged in 1973 (CalGEM, 2019). It is unknown whether any oil pipelines are still present. Given the age of this oil production area, the oil wells are assumed to also have sumps adjacent to the well heads. No development is visible on this site.

Isthmus Area

The Isthmus LCWA site portion of the Isthmus Area has four active oil wells, one idle oil well, 12 plugged wells, and oil infrastructure consisting of an access road, oil pipelines, three storage tanks, and eight buildings (see Figure 2-2 in Chapter 2, *Project Description*, and Figure 3.5-3 in Section 3.5, *Geology, Soils, and Paleontological Resources*) (CalGEM, 2019). The Isthmus Bryant portion of the Isthmus Area has one plugged oil well. Oil production started as early as 1946. Given the age of this oil production area, the oil wells are assumed to also have sumps adjacent to the well heads. The locations of known sumps are shown on Figure 3.5-4 in Section 3.5, *Geology, Soils, and Paleontological Resources*, and Figure 3.7-1 (Geosyntec 2017).

Hellman Oil Fields

The Hellman oil fields originally consisted of the Hellman Retained site and the South LCWA site in the South Area, as shown on Figure 2-2 in Chapter 2, *Project Description*. LCWA acquired the South LCWA site, which is no longer used for oil production. The combined Hellman oil field has 46 active oils wells, 11 idle well, 9 plugged wells, 17 storage tanks, along with several buildings and pipelines (see Figure 2-2 in Chapter 2, *Project Description*, and Figure 3.5-3 in Section 3.5, *Geology, Soils, and Paleontological Resources*) (CalGEM, 2019). Four plugged wells are on the South LCWA site. Oil production started as early as 1936. Given the age of this oil production area, the oil wells are assumed to also have sumps adjacent to the well heads. The location of known sumps are shown on Figure 3.5-4 in Section 3.5, *Geology, Soils, and Paleontological Resources* (Kinnetic 2012).

Former C&D Landfill

The former C&D landfill is located with the South Area (see Figure 3.7-1). The landfill area is not known to have had any oil wells (CalGEM, 2019). The landfill was investigated for hazardous materials in 2004 and 2006 (Anchor 2006). The landfill reportedly accepted clean fill material from

city projects, private projects, and the U.S. Army Corps of Engineers (USACE) in conjunction with dredging of the San Gabriel River. When investigated further in 2006, the observed landfilled materials consisted of layered sand, silt, clay, and gravel, with chunks of concrete and asphalt of varying sizes; no other waste types were observed other than one license plate.

Although not considered to be associated with the former landfilling activities, crude oil was observed along the southern portion of the landfill in 2006. The extent of the crude oil in 2006 was approximately 100 feet wide by 500 feet long by 3 to 6 inches thick at a depth of about 10 feet below the ground surface. The source is believed to be a former oil pipeline that crossed this area that was removed between 1954 and 1958.

Area 18

Area 18 is located in the eastern portion of the South LCWA site (see Figure 3.7-1) (Geosyntec, 2017). Stockpiled and buried materials consisted of asphalt-like materials consisting of "tank bottom sludge" – heavy petroleum material removed from the bottom of tanks or sumps, which was mixed with sand or other aggregate and used for improvised road paving.

3.7.2.3 Hazardous Materials at Nearby Sites

The following regulatory agency databases of hazardous materials sites that are compiled pursuant to Government Code Section 65962.5 were reviewed to identify documented releases of hazardous materials in soil and groundwater within 0.25 mile (1,320 feet) of the program area: the SWRCB GeoTracker and DTSC EnviroStor website databases. The relevant individual site documents are cited below. A 0.25-mile search radius from the program area was selected because sites beyond this distance would be unlikely to affect the program area due to the typically limited migration of shallow groundwater contaminant plumes from leaking underground storage tank (LUST) cases.

Open environmental cases and their distance from project components are summarized below in **Table 3.7-1**, *Environmental Cases Identified within 0.25 Miles of the Program Area*. The location of environmental cases identified within this area is shown in Figure 3.7-1. LUST sites and other sites that have been closed by the regulatory agency are not discussed because site closure indicates that the regulatory agency considers such sites to pose a low threat to human health and groundwater quality. In addition, sites listed with operational permits are not listed unless the website indicates active investigation and cleanup in response to releases. The landfills within the program area are discussed above. The Former Dump Pit Site identified on Figure 3.7-1, located just north of the Central Area, another LCWA site but located just outside of the program area, is also included below.

TABLE 3.7-1
ENVIRONMENTAL CASES IDENTIFIED WITHIN 0.25 MILES OF THE PROGRAM AREA

Site Name/Address	Approximate Distance and Direction from Program Area	Status and Comments
Pumpkin Patch site	Adjacent and southwest of Long Beach City Property site	Active—Groundwater monitoring
Former Dump Pit site	Adjacent; east of Synergy Oil Field site and north of Central Bryant site	Inactive investigation
Termo Oil site	Adjacent and northwest of Synergy Oil Field site	Active—Site assessment
Former Exxon #7-3047	East corner of Pacific Coast Highway and Westminster Avenue; just south of Synergy Oil Field site	Active—Groundwater remediation in progress
Former Tosco—76 Station #5379	South corner of Highway 1 and Westminster Avenue; just south of Synergy Oil Field site	Active—Groundwater remediation in progress

SOURCES: AEC, 2016a; Arcadis, 2018; Blaes, 2016; Northgate, 2019.

Pumpkin Patch Site

A Phase I assessment was conducted for the Pumpkin Patch site to identify recognized environmental conditions (AEC 2016a). As discussed in Chapter 2, *Project Description*, of this PEIR, the program area includes only the eastern portion of the Pumpkin Patch property. The former City Dump and Salvage Landfill #2 shown on Figure 3.7-1 is just west and outside of the program area and is discussed below.

Closed Landfill

The western two-thirds of the Pumpkin Patch property was previously operated as the City Dump and Salvage Landfill #2; the extent of the landfilled material is shown in Figure 3.5-4 in Section 3.5, *Geology, Soils, and Paleontological Resources*, and Figure 3.7-1. In September 1960, City Dump and Salvage received a permit from the County of Los Angeles, Industrial Waste Division, to accept household and construction waste in the eastern half of the site at a minimum of at least 300 feet from Pacific Coast Highway (PCH). The following waste was permitted for acceptance:

- Non-water soluble, non-decomposable inert solids;
- Ordinary household and commercial refuse, including decomposable organic refuse and scrap metal; and
- Garbage and market refuse.

The disposal of liquids, semi-liquids, and hazardous waste was not permitted. The landfill commenced waste acceptance operations at the site in mid-1960 and ceased operations in early 1961 after filling the "trench" landfill to its permitted capacity. The disposal permit allowed for the excavation of a trench to below the groundwater table and the subsequent filling with refuse. Final cover of the landfill was completed by May 16, 1961.

Various investigations have been conducted beginning in 1987 to delineate the extent of the landfill, and to characterize the nature and extent of chemicals associated with both the landfill and the oil production. The combined investigations indicate the landfill is rectangular-shaped,

encompasses the eastern half of the property, and that the refuse in the central portion of the burial area extends to a depth of 30 feet bgs. The refuse in the landfill consists of newspaper, plastic, metal, wood, glass, plant debris, rubber tubes and tires, and green waste.

Soil and groundwater investigation was initiated in July 2016 and included the installation of six groundwater monitoring wells, along with the sampling and analysis of soil and groundwater samples (AEC 2019). The measured depths to groundwater have ranged from 12.92 to 15.37 feet bgs, and fluctuate with the tides, primarily derived by sea water intrusion.

The soil samples were analyzed for TPH, VOCs, polynuclear aromatic hydrocarbons (PNAs or PAHs), Title 22 metals (arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc), and PCBs. The soil analytical results identified numerous detections of TPH as gasoline, diesel and oil, along with various VOCs at two locations within the former landfill trench. In addition, the shallow soil sample in or near the former oil well sump associated with the on-site oil well indicated the presence of crude oil and the soil sample exhibited a crude oil odor. One soil sample in the boring within the former landfill trench was the only soil sample to exceed an industrial environmental screening level (ESL)[4] with diesel at 2,000 mg/kg. The ESL for diesel is 1,100 mg/kg.

The groundwater samples have been analyzed for TPH, VOCs, PNAs, Title 22 metals, PCBs, and water quality parameters of chloride, sulfate, and total dissolved solids (TDS) (AEC 2019). The groundwater analytical results identified numerous detections of TPH as gasoline, diesel, and oil, along with various VOCs in groundwater. As previously discussed, the two locations within the former landfill trench have the most and highest detections of chemicals. The results from one well exceeded industrial land use ESLs for gasoline and diesel, the VOCs 1,4-dichlorobenzene, benzene, ethylbenzene, naphthalene, and tertiary butyl alcohol (TBA; a gasoline additive) and Aroclor-1242 and 1258 (PCB compounds). The chloride, sulfate, and TDS concentrations from all groundwater wells exceeded their respective secondary maximum contaminant levels (SMCLs) of 250 mg/L, 250 mg/L, and 50 mg/L, respectively. The landfill continues to be monitored under the requirements of General Order No. R4-2002-022 for post closure maintenance of closed, inactive, or abandoned landfills (LARWQCB 2002).

Former Dump Pit Site

A Phase I assessment was conducted for the Former Dump Pit site to identify recognized environmental conditions (AEC 2016b) (see Figure 3.7-1). The Phase I report also summarized the results of previous Phase I and II assessments. The following assessment results are from the Phase I assessment unless otherwise cited.

Recent Land Use

The Former Dump Pit site consists of a level grade, hard packed dirt and gravel pad with a perimeter chain-link fence. An off-site earthen berm borders the northern and eastern borders of

[4] Although the AEC report did not provide a source for the ESL, it is assumed to be from the San Francisco Bay RWQCB ESLs, screening levels that are commonly used throughout the state to screen analytical results and assess whether further action is needed. Note that ESLs do not necessarily represent cleanup action levels but are rather used for preliminary screening to assess whether further action is needed.

the site and provides containment for the adjacent large volume crude oil ASTs that are also located to the north and east of the Former Dump Pit site. At the time of the Phase I site inspection in 2016, concrete K-Rails, two locked metal "sea train" type storage containers, several roll-off type metal containers containing dirt and cement/asphalt construction debris, and concrete wash-out containers were located throughout the site. Stockpiles of waste dirt and construction debris were observed throughout the site and it was reported that the subject site had been built up with approximately 20 feet of undocumented fill soil that was brought on-site over a long period previous to 1973.

A large stockpile of plastic traffic barricades was located along the northeast corner of the site and an outdoor workspace was located near the steel containers within the northwest corner of the site. Visible within this area were 55-gallon drums, as well as smaller metal and plastic containers and miscellaneous scrap metal and construction waste including wood, concrete and scrap metal. Several 55-gallon drums of "Spec Strip 100 VOC", which prevents bonding of concrete to forms and form liners, were located on wooden pallets; this material is used as a "non-stick" agent for off-site construction projects. A large amount of windblown household waste was also observed along the southern and western perimeter of the site adjacent to the chain-link fence. Possible drainage features were additionally observed on-site but did not appear to be in working condition at the time of the Phase I assessment.

Oil Production and Associated Infrastructure

The Former Dump Pit site is within the Seal Beach Oil Field. Historical aerial photographs, topographic maps, and CalGEM Map 132 indicates one plugged oil well along the southern edge of the site (Cal Resources "Bryant" 9) and numerous active and abandoned oil wells off-site to the west and south (see Figure 3.5-3 in Section 3.5, *Geology, Soils, and Paleontological Resources*). Otherwise, the site has remained undeveloped and no other permanent structures are known to have existed.

Dump Pit

A previous 2004 Phase II report, included in the above-cited 2016 Phase I assessment, described an area in the central-western portion of the Former Dump Pit site as a "dump pit" previously used for dumping waste cement and asphalt debris prior to 2004. The location of the dump pit is shown in Figure 3.7-1, but the areal extent of the pit is uncertain. During the Phase II investigation, a solid-stem auger dropped approximately 5 feet in an area where the buried concrete debris included a void space. A visual inspection inside the annular space indicated a small cavern in the shallow subsurface.

The 2004 chemical testing of soil indicated soil with elevated concentrations of arsenic lead, nickel, and vanadium. Soil gas concentrations for VOCs did not exceed the conservative shallow soil gas ESLs for the commercial/industrial land use scenario published by the San Francisco Bay Area RWQCB.[5] Hydrogen sulfide gas was not detected in the 10 soil gas samples collected at the site. Methane concentrations in soil gas samples were several orders of magnitude below the

[5] As discussed in Section 3.7.3, Regulatory Framework, other regions within California also use the San Francisco Bay Area RWQCB ESLs.

lower explosive limit (LEL) of 5 percent (50,000 parts per million [ppm]). No VOCs or SVOCs were detected in groundwater samples collected at the Former Dump Pit site.

In light of elevated concentrations of arsenic, lead, nickel and vanadium in soil at two locations identified during the 2004 investigation, additional soil testing was conducted in June 2017 at two locations proximal to earlier sampling locations within the central portion of the site (AEC 2017d). The results indicated that the metals concentrations were below screening levels, arsenic concentrations were all below regional background levels, and no further investigation or remediation was recommended for the Former Dump Pit site.

Former Exxon #7-3047

The former Exxon Station #7-3047, now called the Circle K Store, is located at 6401 Pacific Coast Highway, south of the Synergy Oil Field site and is an active gasoline service station (Blaes 2016, 2019) (see Figure 3.7-1). The station had a release of gasoline and is currently undergoing monitoring and cleanup. Liquid phase gasoline was removed from various on-site wells between 1988 and 2012, after which liquid phase gasoline has not been observed floating on groundwater in any of the wells. A vapor extraction system operated at the station from 1998 to 2006 to further remove gasoline from the subsurface. An air sparge system has been installed and periodically operated to the present. Air sparge wells bubble air into groundwater to transfer the gasoline components from groundwater to air, which is then pumped out of the subsurface and treated by a soil vapor extraction and treatment system. The March 2019 groundwater monitoring results indicate the extent of gasoline in groundwater is on the site and to the west away from the program area.

Former Tosco-76 Station #5379

The former Tosco-76 Station #5379, is located at 6280 East 2nd Street, south of the Synergy Oil Field site and is a now removed gasoline service station (Northgate 2019) (see Figure 3.7-1). The gasoline service station operated at the site between 1968 and 1998 and had releases of fuel and waste oil from leaking underground storage tanks and related equipment such as dispensers, product pipelines, pumps, and valves. The station previously underwent soil and groundwater investigation and cleanup from 1998, when the USTs were removed and the station demolished, to 2018, when the last soil excavation action was completed. Confirmation samples indicated that fill and soil with petroleum hydrocarbon concentrations above regulatory action levels had been removed. Subsequent sampling of groundwater did not detect any free floating fuel or oil product and did not detect any VOCs including the volatile components of gasoline. The fuel additives of methyl tertiary butyl ether (MTBE) and tributyl alcohol (TBA) were detected at low concentrations but were attributed to the adjacent former Exxon station discussed above. Groundwater flow directions range from southwest to northwest, and are influenced by tidal action. The groundwater flow directions are away from the program area.

3.7.2.4 Nearby Airports

The Los Alamitos Army Airfield is located about 2.7 miles northeast of the Synergy Oil Field site. The Long Beach Airport is located about 3.2 miles northwest of the Synergy Oil Field site. No public or private airports are located within 2 miles of the program area. The Boeing Seal

Beach complex, located about 1 mile east of the program area, has a rooftop helicopter pad; however, a helicopter pad would not have the flight path restrictions that planes and jets have. Therefore, this helicopter pad is not considered further.

3.7.2.5 Nearby Schools

The nearest schools are the JH McGaugh Elementary School, located about 0.36-mile south of the South LCWA Site at 1698 Bolsa Avenue in Seal Beach, and the Charles F. Kettering Elementary School, located about 0.40-mile north of the Synergy Oil Field site at 550 Silvera Avenue. No schools are located within 0.25 mile of the program area.

3.7.2.6 Wildfire Hazards

California Department of Forestry and Fire Protection (CAL FIRE) maps identify fire hazard severity zones in state and local responsibility areas for fire protection. The program area is not located within or near a very high or high fire hazard severity zone (CAL FIRE 2007, 2011).

3.7.3 Regulatory Framework

The primary program activities that have the potential for resulting in potential impacts with respect to hazards and hazardous materials consist of encountering existing on-site contaminants. Portions of the program area contain amounts of regulated materials from past oil drilling and production operations, requiring certain treatment and disposal techniques; removal of landfill material that may be present on portions of the program area; and the potential for leaks and other hazards from the equipment and oil field facilities to be used as part of the ongoing oil production operations. For the most part, the majority of these activities are heavily regulated by existing state and local laws and regulations. The discussion below identifies the numerous federal, state and local laws and regulations that will govern the proposed activities, and how those regulations serve to avoid or minimize potentially significant effects.

3.7.3.1 Federal

Comprehensive Environmental Response, Compensation, and Liability Act, and the Superfund Amendments and Reauthorization Act of 1986

The Comprehensive Environmental Response, Compensation, and Liability Act, also known as Superfund or CERCLA, provides for the response and cleanup of hazardous substances that may endanger public health or the environment. The Superfund Amendments and Reauthorization Act (SARA) amended Superfund to increase state involvement and required Superfund actions to consider state environmental laws and regulations.

Relevant to this program, SARA also established a regulatory program for the Emergency Planning and Community Right-to-Know Act. The applicable part of SARA for the proposed program is Title III, otherwise known as the Emergency Planning and Community Right-To-Know Act of 1986. Title III requires states to establish a process for developing local chemical emergency preparedness programs and to receive and disseminate information on hazardous

substances present at facilities in local communities. The law provides primarily for planning, reporting, and notification concerning hazardous substances. Key provisions require notification when extremely hazardous substances are present above their threshold planning quantities, immediate notification to the local emergency planning committee and the state emergency response commission when a hazardous material is released in excess of its reportable quantity, and that material safety data sheets for all hazardous materials or a list of all hazardous materials be submitted to the state and local emergency planning agencies and local fire department.

Resource Conservation and Recovery Act of 1976, Toxic Substances Control Act of 1976, and Hazardous and Solid Waste Act of 1984

Implementation of the Resource Conservation and Recovery Act (RCRA) and the Toxic Substances Control Act (TSCA) of 1976 resulted in the creation of a major federal hazardous waste regulatory program that is administered by USEPA. USEPA regulates the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended by the associated Hazardous and Solid Waste Amendments (HSWA), which affirmed and extended the concept of regulating hazardous wastes from generation through disposal. HSWA specifically prohibits the use of certain techniques for the disposal of some hazardous wastes. Under RCRA, individual states may implement their own hazardous waste programs instead of RCRA, as long as the state program is at least as stringent as the federal RCRA requirements. USEPA approved California's program to implement federal hazardous waste regulations on August 1, 1992.

Clean Water Act of 1972 as amended by the Oil Pollution Act of 1990

Under the authority of the Clean Water Act (CWA), as amended by the Oil Pollution Act, USEPA adopted, implements, and enforces the Oil Pollution Prevention regulations of 40 Code of Federal Regulations (CFR) Parts 109–114. The regulations establish requirements for preventing, preparing for, and responding to oil discharges at specific non-transportation-related facilities that have a reasonable expectation of an oil discharge into or upon navigable Waters of the US or adjoining shorelines. The regulations also establish procedures, methods, and equipment requirements, in addition to the Spill Prevention, Control, and Countermeasure (SPCC) plan. Onshore oil well drilling/production facilities are subject to SPCC rule if a single oil container has a storage capacity equal to or greater than 55 gallons, the total aboveground oil storage capacity exceeds 1,320 gallons, or the underground oil storage capacity exceeds 42,000 gallons and, due to its location, the facility could reasonably be expected to discharge oil into or upon the navigable Waters of the U.S. Typically, any facility that could not reasonably be expected to have a discharge due to the facility's location is not subject to the regulations. That applicability determination must be based solely upon considering the geographical and location aspects of the facility, such as proximity to navigable waters or adjoining shorelines, land contour, and drainage. The determination cannot be based in whole or part on manmade features (e.g., dikes or equipment) that may restrain, contain, or otherwise prevent a discharge. The SPCC plans covered in these regulatory programs apply to oil storage and transportation facilities and terminals, tank farms, bulk plants, oil refineries, and production facilities, as follows:

- Part 109 establishes the minimum criteria for developing oil-removal contingency plans for certain inland navigable waters by state, local, and regional agencies in consultation with the regulated community, i.e., oil facilities.

- Part 110 prohibits discharge of oil such that applicable water quality standards would be violated, or that would cause a film or sheen upon or in the water. These regulations were updated in 1987 to adequately reflect the intent of Congress in CWA Section 311(b)(3) and (4), specifically incorporating the provision "in such quantities as may be harmful."
- Part 112 deals with oil spill prevention and preparation of SPCC plans. These regulations establish procedures, methods, and equipment requirements to prevent the discharge of oil from onshore and offshore facilities into or upon the navigable waters of the United States. These regulations apply only to non-transportation-related facilities. One of the requirements of the SPCC is that storage tanks be equipped with secondary containment systems to prevent oil spills from migrating into soil, groundwater, or surface water.
- Part 113 established financial liability limits; however, these limits were preempted by the Oil Pollution Act of 1990.
- Part 114 provides civil penalties for violations of the oil spill regulations.

U.S. Department of Transportation Hazardous Materials Transport Act of 1974

The U.S. Department of Transportation (USDOT), in conjunction with USEPA, is responsible for enforcement and implementation of federal laws and regulations pertaining to transportation of hazardous materials. The Hazardous Materials Transportation Act of 1974 directs the USDOT to establish criteria and regulations regarding the safe storage and transportation of hazardous materials. CFR 49, 171–180, regulates the transportation of hazardous materials, types of material defined as hazardous, and the marking of vehicles transporting hazardous materials.

Hazardous Liquid Pipeline Safety Act of 1979 and Transportation of Hazardous Liquids by Pipeline

The Department of Transportation Office of Pipeline Safety is responsible for enforcement and implementation of regulations pertaining to the minimum requirements for materials, design, fabrication, assembly, construction, operation, inspection, testing, and maintenance of pipelines transporting hazardous liquids including petroleum products. The regulations within 49 CFR 195 include the following:

- Part 195.30 incorporates many of the applicable national safety standards of the American Petroleum Institute (API), American Society of Mechanical Engineers (ASME), American National Standards Institute (ANSI), and American Society for Testing and Materials (ASTM).
- Part 195.50 requires an accident report by telephone and in writing for each failure in a pipeline system in which there is a release of the hazardous liquid or carbon dioxide (CO_2).
- Part 195.100 includes minimum design requirements for new pipeline systems including for the temperature environment; variations in pressure; internal design pressure for pipe specifications; external pressure and external loads; and new and used pipe, valves, fittings and flanges.
- Part 195.200 provides minimum pipeline construction requirements for standards such as compliance, inspections, welding, siting and routing, bending, welding and welders, inspection and nondestructive testing of welds, external corrosion and cathodic protection, installing in-ditch and covering, clearances and crossings, valves, pumping, breakout tanks, and construction records.

- Part 195.300 provides minimum requirements for pressure testing of steel pipes (including test pressures and duration, test medium, and records), and
- Part 195.400 provides minimum requirements for operating and maintaining pipeline systems constructed with steel pipeline.

Occupational Safety and Health Act of 1970

The Occupational Safety and Health Act was passed to address employee safety in the workplace. The act created the Occupational Safety and Health Administration (OSHA), whose mission is to ensure the safety and health of America's workers by setting and enforcing standards; providing training, outreach, and education; establishing partnerships; and encouraging continual improvement in workplace safety and health. The OSHA staff establishes and enforces protective standards and reaches out to employers and employees through technical assistance and consultation programs. Some OSHA regulations contain standards related to hazardous materials handling, including workplace conditions, employee protections requirements, first aid, and fire protection. The regulations in 29 CFR et seq. include the following:

- Part 1910.38 requires facilities to have an emergency action plan to ensure the safe response to emergencies.
- Part 1910.119 contains requirements for preventing or minimizing the consequences of catastrophic releases of toxic, reactive, flammable, or explosive chemicals, which may result in toxic, fire, or explosion hazards.
- Part 1910.1200 ensures that the hazards of all chemicals produced or imported are classified, and that information concerning the classified hazards is transmitted to employers and employees. The transmittal of information is to be accomplished by means of comprehensive hazard communication programs, which are to include container labeling and other forms of warning, safety data sheets, and employee training.

3.7.3.2 State

Division of Oil, Gas, and Geothermal Resources

All California oil and gas wells (development and prospect wells), enhanced-recovery wells, water-disposal wells, service wells (i.e., structure, observation, temperature observation wells), core-holes, and gas-storage wells, onshore and offshore (within 3 nautical miles of the coastline), located on state and private lands, are permitted, drilled, operated, maintained, plugged, and abandoned under requirements and procedures administered by the Department of Conservation's CalGEM.

Regulations pertaining to oil and natural gas production are summarized in the CalGEM Publication No. PRC10, *California Statutes and Regulations for Conservation of Oil, Gas, & Geothermal Resources*, dated January 2017. Regulations for the installation and abandonment of oil and natural gas wells are also in 14 CCR 1712 through 1724.10. Environmental protection regulations for oil and natural gas well installations, operations, and abandonments are in 14 CCR 1750 through 1789.

Additionally, CalGEM publishes instruction manuals related to the oil drilling. Instruction Manual M06 pertains to the testing of oil and gas wells and explains the formation tester

mechanism, engineering principles, testing methods, and result analyses. Instruction Manual M07 pertains to blowout prevention equipment (BOPE) and explains the functions and operating characteristics of BOPE for oil, gas, and geothermal wells drilled in California.

CalGEM requires written approval prior to changing the condition of any well (e.g., making an "idle" well "active," or plugging and abandoning a well). For new wells or alteration of existing wells, approval depends on protection of subsurface hydrocarbons and fresh waters; protection of the environment; utilization of adequate BOPE; and utilizing approved drilling and cementing techniques.

California Pipeline Safety Act of 1981

The California Pipeline Safety Act of 1981, codified in Chapter 5.5, Sections 50001–51298.5, applies to pipelines that carry hazardous liquids (e.g., crude oil) and authorizes the State Fire Marshal to implement the federal Hazardous Liquid Pipeline Safety Act, as summarized above. This act imposes additional specific safety requirements on intrastate pipelines carrying hazardous liquids, including a time schedule for conformance to federal regulations, hydrostatic testing requirements, pipeline maps, contingency plans, and pipeline incident reporting.

NPDES Construction General Permit

The National Pollutant and Discharge Elimination System (NPDES) Construction General Permit is applicable to this program. Details of the Construction General Permit are provided in Section 3.5, *Geology, Soils, and Paleontological Resources*, which describes the required SWPPP and BMPs designed to control and prevent the release of sediments and pollutants into water ways.

Hazardous Materials Release Response Plans and Inventory Act

The Hazardous Materials Release Response Plans and Inventory Act of 1985, codified in Health and Safety Code, Sections 25500 et seq., also known as the Business Plan Act, requires businesses using hazardous materials to prepare a Hazardous Materials Business Plan (HMBP) that describes their facilities, inventories, emergency response plans, and training programs. HMBPs contain basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed. This code and the related regulations in 19 California Code of Regulations (CCR) Sections 2620 et seq. require local governments to regulate local business storage of hazardous materials in excess of certain quantities. The law also requires that entities storing hazardous materials be prepared to respond to releases. Those using and storing hazardous materials are required to submit a HMBP to their local Certified Unified Program Agency (CUPA) and to report releases to their CUPA and the State Office of Emergency Services. The California Office of Emergency Services is responsible for implementing the accident prevention and emergency response programs established under the Act and implementing regulations.

Hazardous Waste Control Act

The Hazardous Waste Control Act of 1972, codified in Health and Safety Code Sections 25100 et seq., created the state hazardous waste management program, which is similar to but more stringent than the federal RCRA program. The Act is implemented by regulations contained in CCR Title 26, which describes the following required aspects for the proper management of

hazardous waste: identification and classification; generation and transportation; design and permitting of recycling treatment, storage and disposal facilities; operation of facilities and staff training; and closure of facilities and liability requirements. These regulations list more than 800 materials that may be hazardous and establish criteria for identifying, packaging, and disposing of such waste. Under the Hazardous Waste Control Act and Title 26, the generator of hazardous waste must complete a manifest that accompanies the waste from generator to transporter to the ultimate disposal location. Copies of the manifest must be filed with the DTSC.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

The Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program), codified in Health and Safety Code Sections 25404 et seq., requires the administrative consolidation of six hazardous materials and waste programs (Program Elements) under one agency, a CUPA. The following Program Elements are consolidated under the Unified Program:

- Hazardous Waste Generator and On-Site Hazardous Waste Treatment Programs (a.k.a. Tiered Permitting);
- Aboveground Petroleum Storage Tanks and Spill Prevention Control and Countermeasure Plans (SPCCs);
- Hazardous Materials Release Response Plans and Inventory Program (a.k.a. Hazardous Materials Disclosure or "Community-Right-To-Know");
- California Accidental Release Prevention Program;
- Underground Storage Tank (UST) Program; and
- Uniform Fire Code Plans and Inventory Requirements.

The Unified Program is intended to provide relief to businesses complying with the overlapping and sometimes conflicting requirements of formerly independently managed programs. The Unified Program is implemented at the local government level by CUPAs. Most CUPAs have been established as a function of a local environmental health or fire department. Within Seal Beach, the CUPA is the Orange County Environmental Health Division. Within Long Beach, the CUPA is the Long Beach/Signal Hill Joint Powers Authority.

California Occupational Safety and Health Act

The California Occupational Safety and Health Act of 1973, codified in California Labor Code, Sections 6300 et seq., addresses California employee working conditions, enables the enforcement of workplace standards, and provides for advancements in the field of occupational health and safety. The act also created the California Occupational Safety and Health Administration (Cal OSHA), the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal OSHA's standards are generally more stringent than federal regulations. Under Cal OSHA standards, the employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR Sections 337–340). The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings.

License to Transport Hazardous Materials

A valid Hazardous Materials Transportation License, issued by the California Highway Patrol, is required by the State of California Vehicle Code Section 32000.5 for transportation of hazardous materials shipments for which the display of placards is required by state regulations; or hazardous materials shipments of more than 500 pounds, which would require placards if shipping greater amounts in the same manner.

Additional requirements on the transportation of explosives, inhalation hazards, and radioactive materials are enforced by the California Highway Patrol under the authority of the State Vehicle Code Sections 32100–33002. Transportation of explosives generally requires consistency with additional rules and regulations for routing, safe stopping distances, and inspection stops (Title 14, CCR, Chapter 6, Article 1, Sections 1150–1152.10). Inhalation hazards face similar, more restrictive rules and regulations (Title 13, CCR, Chapter 6, Article 2.5, Sections 1157–1157.8).

Utility Notification Requirements

The regulations in 8 CCR Section 1541 require excavators to determine the approximate locations of subsurface installations, such as sewer, telephone, fuel, electric, and water lines (or any other subsurface installations that may reasonably be encountered during excavation work) prior to opening an excavation. The California Government Code (Sections 4216 et seq.) requires owners and operators of underground utilities to become members of and participate in a regional notification center. According to Section 4216.1, operators of subsurface installations who are members of, participate in, and share in the costs of a regional notification center, such as Underground Services Alert of Southern California, more commonly referred to as DigAlert, are in compliance with this section of the code. DigAlert receives planned excavation reports from public and private excavators and transmits those reports to all participating members that may have underground facilities at the location of excavation. Members will mark or stake their facilities, provide information, or give clearance to dig.

Hazardous Materials Storage and Handling

The California Fire Code (Chapter 27) and 24 CCR, Part 9, Sections 2700 et seq. includes specific requirements for the safe storage and handling of hazardous materials. These requirements reduce the potential for a release of hazardous materials and for mixing of incompatible chemicals, and specify the following specific design features to reduce the potential for a release of hazardous materials that could affect public health or the environment:

- Separation of incompatible materials with a noncombustible partition, or appropriate distance separation;
- Spill control in all storage, handling, and dispensing areas; or
- Separate secondary containment for each chemical storage system. The secondary containment must hold the entire contents of the tank, plus the volume of water needed to supply the fire suppression system for a period of 20 minutes in the event of a catastrophic spill.

California Fire Code (Chapter 14) addresses fire safety during construction and demolition and includes requirements for smoking, waste disposal, cutting and welding, fire protection equipment, fire reporting, access for firefighting.

Screening Levels for Hazardous Materials in Soil, Soil Gas, or Groundwater

The USEPA Regional Screening Levels (RSLs)[6] and San Francisco Bay Area RWQCB ESLs[7] are guidelines used to evaluate the potential risk associated with chemicals found in soil or groundwater where a release of hazardous materials has occurred. Screening levels have been established for both residential and commercial/industrial land uses, and for construction workers. Residential screening levels are the most restrictive; soil with chemical concentrations below these levels generally would not require remediation and would be suitable for unrestricted uses if disposed of off-site. Commercial/industrial screening levels are generally less restrictive than residential screening levels because they are based on potential worker exposure to hazardous materials in the soil (and these are generally less than residential exposures). Screening levels for construction workers are also less restrictive than for commercial/industrial workers because construction workers are only exposed to the chemical of concern during the duration of construction, while industrial workers are assumed to be exposed over a working lifetime.

Hazardous Waste Levels in Soil or Groundwater

TTLCs and Soluble Threshold Limit Concentrations (STLCs) are chemical-specific concentrations used to define whether a material is a hazardous, designated, or nonhazardous waste. TTLCs and STLCs are listed in CCR Title 22, Chapter 11, Article 3, Section 66261. TTLCs and STLCs are used as acceptance criteria for landfills. For example, waste materials with chemical concentrations above TTLCs or STLCs must be sent to Class I disposal facilities, may be sent to Class II disposal facilities depending on the waste material, and may not be sent to Class III disposal facilities.

Screening Levels for NORM

There currently exist no federal or California regulations that specifically address the handling and disposal of oil-field NORM wastes (USGS 1999). Texas, Louisiana, New Mexico, and Mississippi have enacted specific NORM regulations; NORM regulations or modifications to general radiation protection statutes are under consideration in California; however, McKittrick Landfill is permitted by California to accept NORM waste. Its Waste Discharge Requirements permit it to accept radioactive materials that do not requiring federal or state license and regulation, which includes unregulated low-level radioactive materials such as NORM (Kern County 2013). Materials with NORM at a 13 microroentgens per hour (µR/hr) readings or higher are considered to be NORM (Spec Services 2017).

[6] RSLs were previously referred to as Preliminary Remediation Goals (PRG), cited in older investigation reports.

[7] Although promulgated by the San Francisco Bay Area RWQCB, ESLs are commonly used by regulatory agencies throughout the state to screen analytical results and assess whether further action is needed.

3.7.3.3 Local

Coastal Development Permit (CDP) 9-18-0395 Special Condition 19

The application for CDP 9-18-0395 was filed by Beach Oil Minerals (BOM) and the Los Cerritos Wetlands Authority (LCWA) for this project on November 11, 2018. The CCC staff recommended issuance of the permit with a number of Special Conditions, including Special Condition 19. Special Condition 19 requires BOM to revise its existing SPCC to include "a quantitative risk assessment of an oil spill, demonstration that proposed prevention and response measures address the quantified risk, measures to maximize containment for all tanks, evidence of financial responsibility to clean-up an oil spill and additional prevention measures related to monitoring, testing, and training." The revisions to the SPCC would be required because of the changes to the site operations, and would include a comprehensive risk assessment to fully assess of an oil spill and ensure that proposed measures are adequate to address the worst case discharge scenario. Implementation of this requirement to revise the SPCC would protect coastal resources by updating the spill containment and response methods for the changes to the current oil production operations. In particular, the revisions would ensure that spill response measures would be adequately sized to respond to a worst-case spill scenario.

Orange County Drainage Area Management Plan (DAMP) and Orange County MS4 Permit

The Orange County Drainage Area Management Plan (DAMP), is the principal policy, programmatic guidance, and planning document for the Orange County Stormwater Program, a municipal regulatory compliance initiative focused on the management and protection of Orange County's streams, rivers, creeks and coastal waters. The participants in this program include the City of Seal Beach. The stormwater program was initiated in 1990 as a cooperative local government response to requirements stemming from the Clean Water Act regulations and the NPDES permitting program. In response to those regulations, the County of Orange, the Orange County Flood Control District and the incorporated cities of Orange County (collectively referred to as Permittees) have obtained, renewed and complied with NPDES Stormwater Permits from the Santa Ana and San Diego Regional Water Quality Control Boards. For the Seal Beach area, the current permit is R8-2009-0030 NPDES No. CAS618030, as amended by Order No. R8-2010-0062.

The NPDES Permit includes (1) a requirement to effectively prohibit non-storm water discharges into municipal storm sewers; and (2) controls to reduce the discharge of pollutants from municipal storm drains to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the state determines appropriate for the control of such pollutants. Details of the DAMP are provided in Section 3.5, *Geology, Soils, and Paleontological Resources*.

City of Seal Beach Municipal Code

Chapter 5.55 Oil and Gas Production

5.55.090 Operation Standards. Drilling shall be conducted in accordance with the following operation standards:

I. The operation of any oil and gas well and production therefrom drilled pursuant to an oil/gas production permit shall be in accordance with the rules and regulations of the Division of Oil and Gas of the state, or any successor agency or body thereto.

5.55.095 Additional Standards. No oil/gas production permit shall be issued where all or any part of the proposed drill site is located within the city without the following additional standards being required and made a part and condition of such permit; provided, however, that the city council may in the event the proposed drill site is more than 1,000 feet from any current or proposed residential or commercial area, waive any or all of such following standards upon a finding that the standards would impose a hardship on the permittee and would not serve to protect the citizens of the city. The city council may require the following additional standards to be made a condition of any permit for wells drilled from a site outside the city, if such drill site is within 1,000 feet of any developed residential or commercial area.

F. Within 90 days after the completion of drilling operations or abandonment of further drilling, the derrick and all drilling equipment, including temporary tanks, shall be removed from the drill site. Well abandonment shall be in accordance with the requirements of the Division of Oil and Gas of the state. Upon such well abandonment, the permittee shall restore the property as nearly as possible to its original condition and shall remove all concrete foundations, oil-soaked soil, and debris; all holes or depressions shall be filled to the natural surface.

J. All drilling and production equipment installed or operated upon any controlled drill site shall be so constructed, operated, and maintained that no noise, vibration, odor, or other harmful or annoying substances of effects therefrom which can be eliminated or diminished by the use of modern and approved types of equipment silencers or greater care shall ever be permitted to result from operations on any controlled drill site to the injury or annoyance of persons in the vicinity of such controlled drill site. Proven technological and mechanical improvements in methods of drilling and production and in the type of equipment used therefore shall be adopted from time to time, as the same become available if the use of such equipment, improvements, and methods will reduce noise, vibration, odors, or the harmful effects of annoying substances. The use of equipment in any controlled drill site, which equipment causes noise or vibration, shall at all times be subject to the approval of the city council, and the city council may amend any permit and require the permittee to abate any noise or vibration which constitutes a nuisance and is detrimental to persons or property in the vicinity where such equipment is being operated.

M. No earthen sump shall be used or maintained on any controlled drill site, and all waste water, mud, oil, or other waste products from drilling and producing operations shall be accumulated in steel tanks, and such tanks shall not be permitted to overflow at any time.

Chapter 9.20 Storm Water Management Program

9.20.015 Controls for Water Quality Management.

A. New Development and Significant Redevelopment.

1. All new development and significant redevelopment within the city shall be undertaken in accordance with:

   a. The DAMP, including without limitation the development project guidance.

   b. Any conditions and requirements established by the responsible city department, which are reasonably related to the reduction or elimination of pollutants in storm water runoff from the project site.

2. Prior to the issuance by the city of a grading permit, building permit or nonresidential plumbing permit for any new development or significant redevelopment, the responsible city department shall review the project plans and impose terms, conditions and requirements on the project in accordance with this chapter.

Chapter 9.50 Grading

9.50.015 Grading Permit Requirement. No person shall perform any of the following activities without first obtaining from the city engineer, and maintaining in full force and effect, a grading permit:

A. Grading or land disturbing or land filling on existing grade that is preparatory to grading.

B. Clearing, brushing and grubbing.

C. Construction of pavement surfacing in excess of 2,499 square feet on existing grade for the purpose of a road or parking lot. This provision does not include resurfacing or maintenance of existing paved surfaces.

D. Alteration of an existing watercourse, channel or revetment by means of excavation, fill placement or installation of rock protection or structural improvements. (Ord. 1515)

Chapter 9.60 Building Code

Section 101 General

101.4.1 Building Code. The provisions of the California Building Code as adopted and amended by City of Seal Beach shall apply to all buildings and structures other than those meeting the scoping limitations contained in the California Residential Code.

101.4.7 Fire Code. The mandatory provisions of the California Fire Code as adopted and amended by City of Seal Beach shall apply to all new and existing buildings, structures and premises.

City of Seal Beach General Plan

Topic 2: Hazardous Materials

Policy 2S. Minimize changes in hydrology and pollutant loading, require incorporation of control, including structural and non-structural BMPs to mitigate the projected increases in pollutant loads and flows, ensure that post-development runoff rates and velocities from a site have no significant adverse impact on downstream erosion and stream habitat,

minimize the quantity of storm water directed to impermeable surfaces and the MS4s, and maximize the percentage of permeable surfaces to allow more percolation of storm water into the ground.

Policy 2T. Preserve wetlands, riparian corridors, and buffer zones and establish reasonable limits on the clearing of vegetation from the project site.

Policy 2U. Encourage the use of water quality wetlands, biofiltration swales, watershed-scale retrofits, etc. where such measures are likely to be effective and technically and economically feasible.

Policy 2V. Provide for appropriate permanent measures to reduce storm water pollutant loads in storm water from the development site.

Long Beach Storm Water Management Program

This City of Long Beach Program reinforces the Construction General Permit Stormwater Pollution Prevention Plan (SWPPP) requirements for projects disturbing more than an acre, and lists minimum requirements to be met at every construction site regardless of the construction site's size. The Long Beach Storm Water Management Program is noted but discussed in detail in Section 3.5.3, *Regulatory Framework*, in Section 3.5, *Geology, Soils, and Paleontological Resources*, of this PEIR.

Long Beach MS4 Permit

The City of Long Beach is covered under the Long Beach MS4 Permit: Waste Discharge Requirements for Municipal Separate Storm Sewer System Discharges from the City of Long Beach; Order No. R4-2014-0024. The Long Beach MS4 Permit is discussed in detail in Section 3.5, *Geology, Soils, and Paleontological Resources.*

Long Beach Low-Impact Development Manual

The City adopted low-impact development regulations for the purpose of encouraging the beneficial use of rainwater and urban runoff; reducing stormwater/urban runoff while improving water quality; reducing off-site runoff and providing increased groundwater recharge; reducing erosion and hydrologic impacts downstream; and enhancing the recreational and aesthetic values in our communities. The Low-Impact Development Manual is discussed in Section 3.5, *Geology, Soils, and Paleontological Resources*.

Adopted Southeast Area Development and Improvement Plan and Proposed Southeast Area Specific Plan 2060

The individual sites are located in the Southeast Area Development and Improvement Plan (SEADIP) area. This plan is in the process of revision. In July 2016, the City of Long Beach circulated a draft of the Southeast Area Specific Plan (SEASP) 2060, and includes re-designating land uses for the program area. The SEADIP does not contain standards relative to hazardous materials use or storage; however, the SEASP 2060 contains standards relevant to hazards and hazardous materials which apply to this proposed program. Chapter 5, Section 5.10, Wetland Buffers, and Chapter 8, Section 8.1.2, Storm Drains, of the SEASP 2060 are discussed in

Section 3.5.3. Chapter 5, Section 5.11, Coastal Act Compliance, has not formerly been addressed and is explained below.

Chapter 5, Development Standards, Section 5.11, Coastal Act Compliance—Protection from Oil Spills or Hazardous Substances (Section 30232)

The SEASP 2060 allows for ongoing oil drilling and production and consolidation of wells that comply with Title 12, Oil and Gas Production, of the LBMC and also California Coastal Act Section 30262, Oil and Gas Development. These regulations include provisions that help to protect against the spillage of crude oil, gas, petroleum products, or hazardous substances in relation to any development or transportation of such materials as well as requiring effective containment and cleanup facilities and procedures for accidental spills that do occur.

Long Beach Municipal Code

Title 8. Health and Safety

Chapter 8.86: Hazardous Materials Release Response Plans and Inventory. This chapter designates the Long Beach/Signal Hill CUPA as the local agency responsible for enforcing regulations regarding Hazardous Materials Release Response Plans within the City.

Chapter 8.87: Hazardous Waste Control. This chapter designates the Long Beach/Signal Hill CUPA as the local agency responsible for enforcing regulations regarding hazardous waste control within the City.

Chapter 8.88: Hazardous Materials Cleanup. This chapter reinforces the requirements for site characterization and remediation for hazardous materials spills, and requires characterization and remediation permits be acquired from the Health Officer of the City of Long Beach and any deputy Health Officer or designee. The Health Officer shall determine the compliance with the hazardous waste control laws by responsible parties.

Chapter 8.96: Storm Water and Runoff Pollution Control. This chapter reinforces the requirements of the Federal Clean Water Act and the State Porter Cologne Act (including Construction General Permit requirements) within the City.

Title 12. Oil Production Regulations

Chapter 12.12.050: Drilling Permit—Application Contents. This chapter describes the requirements for oil well drilling permits, which include setbacks from specific facilities, drilling procedures, operations procedures, and a certification that the means or method by which liquid spills will be removed from diked areas or catchment basins will conform to the regulations of the DOGGR.[8]

Chapter 12.16.050: Consolidated Drill Site Plans. This chapter describes locations exemption to encourage the consolidation of oil drilling surface facilities to make additional land available for non-oil production land uses.

Chapter 12.36.010: Abandonment Procedure. This chapter describes the permit requirements for well abandonment, including compliance with DOGGR[9] regulations, the

[8] Effective January 1, 2020, DOGGR was renamed to CalGEM.

[9] Effective January 1, 2020, DOGGR was renamed to CalGEM.

removal of all unused equipment, the cleaning out of all sumps, cellars, and ditches of all oil, oil residue, drilling fluid, and rubbish removed therefrom and the sumps, cellars, and ditches leveled or filled, all in accordance with the DOGGR[10] regulations. Where such sumps, cellars, and ditches are lined with concrete, permittee shall cause the walls and bottoms to be broken up and removed and shall cause the premises to be cleaned and graded and left entirely free of oil, rotary mud, oil-soaked earth, asphalt, tar, concrete, litter, debris, and other substances, and left in a clean and neat condition, all to the satisfaction of the DOGGR.[11]

Chapter 12.12.100: Special conditions—Petroleum operations.

A. Storage of Equipment. All equipment or materials related to petroleum operations shall be stored within the fenced area of the site. There shall be no storage of material, equipment, machinery or vehicles which is either not intended for prompt use in connection with petroleum operations at the site or for the convenience of personnel at the site.

B. Removal of Petroleum. When pipeline connections are available, petroleum produced at the well site may be removed by underground pipeline or pipelines. Petroleum produced at well sites where pipeline connections are not available shall be removed by truck. Such trucking shall be limited to Monday through Saturday, excluding legal holidays, between the hours of seven-thirty a.m. and six-thirty p.m.

D. Tanks. The number of tanks shall be kept to a minimum and new tanks shall be installed so that the height of the tank does not exceed sixteen (16) feet above grade.

E. Process Operations. The only process operations permitted at the well site is the dehydration of crude oil and wet gas produced from the well and those process operations required for injection purposes unless otherwise required by the State Division of Oil and Gas.

F. Flaring or Venting. Gas shall not be vented to the atmosphere, nor burned by open flame, unless prior approval therefor is obtained from the State Division of Oil and Gas.

H. Fencing. For renewal of well permits for wells existing prior to July 1, 1980, such wells shall be enclosed with a chain-link fence in accordance with Section 12.28.030 or with approved alternate fencing prior to renewal of a well permit. For well permits issued subsequent to July 1, 1980, the chain-link fence shall have opaque material of a neutral color approved by the Director inserted between the chain links. The Director may approve a fence of alternative material more effective in concealing the oil operations provided that it is compatible with the surrounding residential neighborhood. All existing masonry walls or alternate fencing that were constructed as a condition for drill permits shall remain in place. Fencing shall not be less than six feet (6') in height and shall be maintained in a neat and orderly condition.

J. Additional Requirements for Well Sites in the Coastal Zone. In recognition of the fact that the Coastal Zone is a unique asset of the State and in order to preserve and enhance the quality of this asset, the requirements set forth in these regulations for drilling and redrilling operations relating to fencing, landscaping and irrigation, and off-site improvements, Subsections C, D and E of this Section, shall be implemented at all well sites located in nonindustrial zones of the Coastal Zone by January 1, 1981. If permittees can show good cause why such improvement cannot be completed by January 1, 1981, then extensions of up to six (6) months may be granted to comply with these requirements, but in no event will extensions be granted past June 30, 1981. This chapter describes the permit requirements for well abandonment, including compliance with

[10] Effective January 1, 2020, DOGGR was renamed to CalGEM.

[11] Effective January 1, 2020, DOGGR was renamed to CalGEM.

DOGGR[12] regulations, the removal of all unused equipment, the cleaning out of all sumps, cellars, and ditches of all oil, oil residue, drilling fluid, and rubbish removed therefrom and the sumps, cellars, and ditches leveled or filled, all in accordance with the DOGGR[13] regulations. Where such sumps, cellars, and ditches are lined with concrete, permittee shall cause the walls and bottoms to be broken up and removed and shall cause the premises to be cleaned and graded and left entirely free of oil, rotary mud, oil-soaked earth, asphalt, tar, concrete, litter, debris, and other substances, and left in a clean and neat condition, all to the satisfaction of the DOGGR. [14]

City of Long Beach General Plan

The City of Long Beach General Plan contains a Public Safety Element and Conservation Element, which are applicable to this proposed program.

Public Safety Element

Transport of Hazardous Materials

The California Department of Transportation (Caltrans) sets forth regulations and restrictions upon the transporting of dangerous fluids, chemicals, or explosives. In the City of Long Beach, designated truck routes are established. These routes are delineated on Plate 13, along with freeways and railroads. Aside from the routine safety precautions, the City Fire and Police Departments are alerted when shipments of particularly dangerous materials are due to pass through the City of Long Beach. For the safety of the workmen, Longshoremen and Teamster Unions also require shippers and transporters of dangerous materials to take precautionary measures.

In terms of public safety, the areas immediately adjacent to designated truck routes should be allocated for low occupancy land uses, thereby exposing a fewer number of people to potential risk. The difficulty, however, is that truck routes are generally major arterials, offering ease of access for commercial and multi-family residential uses. Through physical planning and spatial design, however, an effort should be made to buffer all uses from passing dangerous materials by way of set-backs or natural barriers.

"In 1967, Caltrans, the County of Los Angeles, and the California Highway Patrol negotiated with the Pacific and General Telephone Companies for the installation of call-boxes on approximately 310 miles of Los Angeles County freeways." The Long Beach Freeway south of Anaheim Street, however, is not state maintained and thus was not equipped with emergency phones. As this portion of the freeway is designated as Harbor District responsibility, the area is patrolled rather regularly by Harbor Department personnel. Because of the close observation of the area, accidents are likely to be detected rather quickly. Nonetheless, a number of recent freeway accidents have occurred, involving such things as gasoline carriers and the potential hazard may justify the installation of phones along this stretch of the freeway from Anaheim Street to the Harbor area. A cost benefit analysis of freeway phones installations in this area should be further examined.

[12] Effective January 1, 2020, DOGGR was renamed to CalGEM.
[13] Effective January 1, 2020, DOGGR was renamed to CalGEM.
[14] Effective January 1, 2020, DOGGR was renamed to CalGEM.

Advance Planning Recommendations

- New development should be responsive to seismic considerations (see Seismic Safety Element).

Conservation Element

Soil Management Goals

- To minimize those activities which will have a critical or detrimental effect on geologically unstable areas and soils subject to erosion.
- To continue to monitor areas subject to siltation and deposition of soils which could have a detrimental effect upon water quality and the marine biosphere.

3.7.4 Significance Thresholds and Methodology

This section describes the impact analysis relating to hazards and hazardous materials for the proposed program. It describes the methods and applicable thresholds used to determine the impacts of the proposed program.

3.7.4.1 Significance Thresholds

For the purposes of this Program Environmental Impact Report (PEIR) and consistency with Appendix G of the *CEQA Guidelines*, the proposed program would have a significant impact on hazards and hazardous materials if it would:

a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;

b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;

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

d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area;

f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or

g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

As detailed in the NOP/IS (refer to Appendix A of this PEIR), the proposed program would result in less than significant impacts to threshold “e” and no impacts to threshold “f.” Although not required, evaluation of the proposed program’s impact to thresholds “e” and “f” were conducted in this section.

3.7.4.2 Methodology

This impact section assesses potential impacts related to hazards and hazardous materials based on the potential for the proposed program to adversely change those conditions or expose facilities or people or the environment to adverse impacts, using existing site conditions as a baseline for comparison. Information for this assessment of impacts relative to hazards and hazardous materials is based on a review of literature research (Phase I assessments, Phase II investigations, and cleanup actions), information from regulatory agency databases, and the General Plans for the cities of Seal Beach and Long Beach. This information was used to identify potential impacts to workers, the public, or the environment.

For purposes of this analysis, construction activities would include the excavation, grading, and movement of fill and soil to restore habitat; removal of some existing oil production facilities (wells, piping, and associated infrastructure); and construction of a visitor center, trails, and access roads. These construction activities would occur at various times spread out over time across the entire program area. Operations activities would include the operational phases of the restored habitat, visitor center, and trails. In addition, the operations activities include the post-treatment monitoring activities conducted to verify that habitat restoration objectives have been achieved.

The plugging and relocation of oil wells and associated infrastructure and impacts associated with worst-case spill scenarios on the Northern and Southern Synergy Oil Field sites, Long Beach City property site, and the Pumpkin Patch site were evaluated in the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse No. 2016041083), and are not repeated or analyzed within this PEIR.

The plugging and relocation of oil wells and associated infrastructure on the Hellman Retained site, the Isthmus LCWA site, or the Alamitos Bay Partners site are not proposed at this time, but are anticipated to occur in the long term when production falls to below economic levels. As proposed in the Termination of Oil and Gas Lease and Grant of Easement agreement between Signal Hill Petroleum Inc., and the LCWA, Signal Hill Petroleum Inc. would relocate or modify aboveground pipelines and utilities on the Central LCWA site and remediate soils that have been impacted by oil operations to accommodate the restoration. Thus, restoration in the near term would include pipeline relocation, but not well relocation. Additionally, outside of this agreement, existing Signal Hill Petroleum Inc. wells would be protected in place by proposing to raise the wells. When the owner/operators of those oil operations within the program area elect to change or close those operations, the changes would be analyzed under separate CEQA documents. The change or closure procedures and impacts analysis would be similar to those described and analyzed within this PEIR.

The program would be regulated by the various laws, regulations, and policies summarized in the Regulatory Framework. Compliance by the proposed program with applicable federal, state, and local laws and regulations is assumed in this analysis, and local and state agencies would be expected to continue to enforce applicable requirements to the extent that they do so now. Note that compliance with many of the regulations are a condition of permit approvals.

A significant impact would occur if, after considering the program features described in Chapter 2, *Project Description*, of this PEIR, and the required compliance with regulatory requirements, a significant impact would still occur. For those impacts considered to be significant, mitigation measures are proposed to reduce the identified impacts.

As stated in Chapter 1, *Introduction*, on March 8, 2019, the Los Cerritos Wetlands Authority sent a Notice of Preparation to responsible, trustee, and federal agencies, as well as to organizations, and individuals potentially interested in the proposed program to identify the relevant environmental issues that should be addressed in the PEIR. Issues related to hazards and hazardous materials were identified.

3.7.5 Program Impacts and Mitigation Measures

Impact HAZ-1: The proposed program would result in a significant impact if the proposed program would create a significant hazard to the public or the environment through the routine transport, use, or disposal, or reasonable foreseeable upset and accident conditions that release hazardous materials.

Impacts relative to encountering contaminated materials in fill, soil, and/or groundwater are analyzed further below in Impact HAZ-3.

Construction

Overall Construction Activities

Petroleum products, such as gasoline, diesel fuel, lubricants, and cleaning solvents would be utilized to fuel and maintain construction vehicles and equipment for construction of all program components. Additionally, coatings, adhesives, and paints could be used and handled for construction of the visitor center. Despite the numerous protective and preventive measures, the routine use or reasonably foreseeable upset and accident conditions for the various hazardous materials that would be used during construction activities could result in inadvertent releases of small quantities of hazardous materials, which could adversely affect construction workers or the environment.

Construction activities are required to comply with numerous hazardous materials and storm water regulations designed to ensure that hazardous materials are transported, used, stored, and disposed of in a safe manner to protect worker safety, to reduce the potential for a release of construction-related fuels or other hazardous materials to affect storm water and downstream receiving water bodies, and to respond to accidental spills, if any. The numerous regulations discussed in Section 3.7.3, *Regulatory Framework*, such as RCRA, HMBP, the Aboveground Petroleum Storage Act, the California Fire Code, and others would require measures for the safe transportation, storage, handling, and disposal of hazardous materials used for construction, including appropriate containers, secondary containment to contain a potential release. In addition, and as discussed in Section 3.5, *Geology, Soil, and Paleontological Resources*, of this PEIR, construction contractors would be required to prepare a SWPPP for construction activities according to the NPDES General Construction Permit requirements. The SWPPP would list the hazardous materials (including petroleum products) proposed for use during construction and

describe spill prevention measures, equipment inspections, equipment and fuel storage, and protocols for responding immediately to spills. With compliance with existing regulations, properly storing any materials on-site, and implementing proper containment, the impacts would be reduced to less than significant.

Well Plugging and Abandonment

The proposed program includes the phased plugging and abandonment of existing oil wells within the program area in the long term. Because there are no agreements in place for oil well removal between the oil operators and LCWA, it is expected that overall level of oil and natural gas production would continue until production decreases to below economically viable levels, after which oil production would stop. A well is plugged by placing cement in the well-bore or casing at certain intervals. The purpose of the cement is to seal the wellbore or casing and prevent fluid from migrating between underground rock layers. Cement plugs are required to be placed across the oil or gas reservoir, across the base-of-fresh-water, and at the surface. Other cement plugs may be required at the bottom of a string of open casing, on top of tools that may become stuck down hole, on top of cut casing, or anywhere else where a cement plug may be needed. Also, the hole is filled with drilling mud to help prevent the migration of fluids.

Consistent with Public Resources Code (PRC) Section 3229, Division 3, before commencing any work to abandon any well, the operator shall file with CalGEM a written notice of intention to abandon the well, which may not proceed until approval is given by CalGEM. In addition to CalGEM regulations regarding the plugging and abandonment of oil wells, the operator is also required to comply with the California Department of Health Services regulations in Section 30346 of CCR Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 7. With compliance with existing regulations, impacts from well abandonment would be reduced to less than significant.

Removal of Oil Pipelines

Pipelines would be removed from service, cleaned, and disposed of per CalGEM and DTSC requirements. The pipelines to be demolished would be marked in the field and permanently isolated with blind flanges from sections of the system that would continue operating. All removed pipelines would be tested for NORM, and any NORM pipeline identified would be segregated from other materials for handling and disposal at the McKittrick Landfill in McKittrick, California, which is permitted to accept NORM materials. Any fluids within the pipelines would be flushed into vacuum trucks. The flushing areas where the pipes would be remediated would have spill prevention methods implemented (temporary containment, plastic sheeting, containers, etc.) to contain residual fluid. Once the aboveground pipelines are emptied of residual fluids, they would be cut into smaller sections for recycling or disposal. Spill containment equipment would be placed at all the cut points and the pipes will be capped prior to removal. Plastic tarps would be laid beneath the pipelines prior to removal to collect any pieces of the pipe that may be dislodged during the removal process to prevent them from falling into the wetlands. The pipe would be placed onto a flatbed truck and then hauled to on-site storage bins for subsequent removal off-site. With compliance with existing regulations, policies, and industry standards, and with utilization of adequate spill containment equipment and practices, potential impacts associated with pipeline removal due to leaked fluids would be reduced to less than significant.

Relocation of Oil Pipelines

In some cases (e.g., the oil well field on the Central LCWA site), removed oil pipelines would be replaced with relocated oil pipelines. Newly installed pipelines would be subject to federal regulations (49 CFR Part 192 and 49 CFR Part 195) that mandate hydrostatic testing of new, cathodically protected pipelines prior to placing the pipeline into operation. Such tests are designed to prove that the pipe, fittings, and weld sections would maintain mechanical integrity under pressure without failure or leakage.

Additionally, pipelines would be inspected in accordance with CalGEM regulations to ensure the ongoing integrity of the pipeline. Other inspection and maintenance of the connecting pipeline may include the use of pigs, which are devices inserted into the pipeline. Pigs would be used as needed to clean and/or inspect the connecting pipeline and "smart pigs" would be used to detect corrosion or other damage that has affected the wall thickness or shape of the pipe. Also, emergency isolation valves and shutdown instrumentation would be regularly tested for set points and functionality.

Further, "distributed strain and temperature sensing" fiber optic lines would be installed to detect leaks. This technology would be able to detect leaks immediately upon occurrence, and would also detect any soil disturbances in the line. Additionally, seismic accelerometers at the pipeline portions at the Central LCWA site would be installed. If a seismic event is detected, valves shut according to a timed sequence to prevent pressure surges.

New pipelines would be treated to decrease the potential for corrosion. All lines would have a baked-on external epoxy coating (fusion bonded epoxy) which would protect the outside carbon steel from corrosion. Field welds would have an epoxy coating at each seam. All lines with corrosive material (wet gas, oil gathering, and water lines) would have an internal epoxy coating. Welded field connections would be joined with a specially designed welding insert ensuring the corrosive fluid does not come in contact with bare carbon steel. All coatings would be visually inspected prior to installation and after any field welds.

In addition to the state of the art leak detection mechanisms, rigorous maintenance, and pipeline treatments, earthen berms would be installed around oil wells and pipelines and would be designed to contain the estimated spill volume in the unlikely event of a pipeline spill or rupture. With compliance with existing regulations and policies, and implementing proper containment, the impacts from operation of the pipeline due to a spill or rupture of the line would be reduced to less than significant.

Raising of Signal Hill Petroleum Central LCWA Wells

Signal Hill Petroleum has active production wells in the Central LCWA area. These wells would remain in production until production drops to uneconomic levels, after which they would be plugged and abandoned, as previously described. Until then, these wells would remain in production during implementation of restoration activities. However, the well pads are currently too low and would be inundated as a result of restoration activities. To avoid this, the well pads and well heads are proposed to be raised to a higher elevation. To raise the oil well pads, the wells would be temporarily taken out of production and all equipment would be removed from

each well (pumping units, concrete pads, electrical equipment, etc.). A temporary retrievable plug would be placed in each well and a casing riser would be installed. Once the well pad grading and construction are complete, the wells would go back into production.

The proposed program includes the ongoing operation of oil wells and pipelines, which would continue to be the responsibility of the well owners, in this case, Signal Hill Petroleum. As discussed above in Section 3.7.3, *Regulatory Framework*, *CalGEM*, there are numerous regulations for the design of oil extraction wells and wellheads. Changes to wellheads would continue to be under the regulatory oversight of CalGEM. In addition, note that Signal Hill Petroleum has committed to updating their Spill Prevention and Response Plan, which would include preventing spills during changes to wellheads. With compliance with existing regulations and policies, and the continued implementation of Signal Hill Petroleum's Spill Prevention and Response Plan, potential impacts associated with raising the Signal Hill Petroleum wells would be reduced to less than significant.

Operation

Restored Wetland Habitat

Upon completion of restoration activities, the operations would not use hazardous materials, resulting in no impact.

Oil Wells and Pipelines

The proposed program includes the ongoing operation of oil wells and pipelines, which would continue to be the responsibility of the well owners. As discussed above under Construction - Relocation of Oil Pipelines and in Section 3.7.3, *Regulatory Framework*, CalGEM, there are numerous regulations requiring maintenance and inspection of the oil extraction operations. The various oil extraction operations would continue to operate under the regulatory oversight of CalGEM. Note that Signal Hill Petroleum has committed to updating their Spill Prevention and Response Plan.

To further evaluate impacts under worst-case spill scenarios, the following discusses worst-case spill volumes, responses, and impacts by site and as a cumulative scenario.

The impacts associated with worst-case spill scenarios on the Northern and Southern Synergy Oil Field sites, Long Beach City Property site, and the Pumpkin Patch site were evaluated in the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse No. 2016041083), and are not repeated or analyzed within this PEIR. The Alamitos Bay Partners site, the Isthmus Area, and Hellman Retained site have on-going oil production. Worst-case spill scenario information has not been provided for the Termo, Signal Hill Petroleum, and Hellman operations, respectively. However, the long-term plan is to continue oil production in each existing well until production becomes uneconomic, after which each well would be properly abandoned, as previously described. No new wells would be drilled and put into production, and thus there would be no changes to operation that would increase the risk of a spill over the existing conditions. Therefore, over time, the production of oil would decrease, which would reduce the potential for oil spills. The Central LCWA Site will have the well heads raised to

prevent the wells from being flooded as the wetlands are restored. However, similar to the other sites, no new wells would be drilled and put into production, and thus there would be no changes to operation that would increase the risk of a spill over the existing conditions. Therefore, over time, the production of oil would decrease, which would reduce the potential for oil spills.

Cumulative Worst Case

As discussed above, no new wells would be drilled and put into production for any of the sites, and thus there would be no cumulative changes to operation that would increase the risk of a spill over the existing conditions. Therefore, over time, the cumulative production of oil would decrease, which would reduce the potential for cumulative oil spills.

With compliance with existing regulations, potential impacts associated with oil pipeline removal due to leaked fluids would be reduced to less than significant.

General Office Building and Visitor Center

The visitor center would occasionally use small quantities of cleaning products and paints, solvents, and thinners for routine maintenance. As previously discussed, the HMBP would require the materials be stored and labeled in appropriate containers. Therefore, impacts related to hazardous materials routine use or accidental release during operation of the visitor center would be less than significant.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

Impact HAZ-2: The proposed program would result in a significant impact if the proposed program would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

There are no schools within one-quarter mile of the program area. Therefore, relative to proximity to schools, there would be no impact.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

Impact HAZ-3: The proposed program would result in a significant impact if the proposed program would 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.

Construction

As discussed in Section 3.7.2, *Environmental Setting*, the program area has several individual sites listed on one or more hazardous materials lists for the presence of active, idle, or plugged oil wells; historical releases of contamination; and/or the presence of landfill materials. The restoration and construction activities could encounter hazardous materials associated with these sites, exposing workers or the environment to hazardous materials. Hazardous materials impacts associated with the plugging of oil wells, and the removal or relocation of oil pipelines is discussed above in Impact HAZ-1. Hazardous materials impacts associated with encountering contaminated fill, soil, and landfill materials are analyzed below.

Potential impacts from encountering contaminated fill, soil, and/or groundwater during restoration and construction activities on the Synergy Oil Field, Long Beach City Property, and Pumpkin Patch sites were evaluated in the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse No. 2016041083). Potential contamination issues associated with the oil field operations on the other program area sites in the Central, Isthmus, and South Areas have not yet been investigated. Given the similar oil field land uses that include oil wells, sumps, pipelines, and storage tanks, restoration and construction activities are anticipated to encounter similar contamination in fill, soil, and groundwater that would consist of crude oil, its degradation byproducts, and metals. Potential contamination issues associated with the known landfills on the other program area sites in the Central, Isthmus, and South Areas have been investigated to some degree. Restoration and construction activities are anticipated to encounter contamination associated with those landfills that could include crude oil, its degradation byproducts, tank bottom sludge, and metals.

Impacts resulting from the potential release of or exposure to hazardous materials in fill, soil, landfilled materials, and/or groundwater would be reduced to a less-than-significant level with implementation of Mitigation Measures HAZ-1, Health and Safety Plan, and HAZ-2, Soil, Landfill Materials, and Groundwater Management Plan. Mitigation Measure HAZ-1 would require that construction contractors prepare a health and safety plan in accordance with Cal OSHA regulations. The plan would provide hazard recognition and monitoring information, specify personal protective equipment for workers, outline construction measures to reduce the potential for workers' exposures to hazardous materials in soil, landfill materials, and groundwater, and describe procedures for handling accidental hazardous materials releases and unanticipated contamination. Mitigation Measure HAZ-2 would require construction contractors to prepare and implement a Soil, Landfilled Materials, and Groundwater Management Plan in compliance with all relevant environmental regulations for the management and disposal of excavated fill, soil, and groundwater. The plan would include describing soil, landfilled materials, and groundwater testing procedures to identify the appropriate reuse and/or disposal options, the containers to be used to transport the materials, and the proposed recycling or disposal facilities along with each facilities acceptance criteria. With implementation of Mitigation Measures

HAZ-1 and HAZ-2, the potential for harmful exposure to hazardous materials present in soil, landfilled materials, or groundwater during construction would be reduced to a less-than-significant level.

For landfilled areas where the fill materials are inappropriate for a wetlands habitat, it may be necessary to remove some or all of the landfill materials. If determined necessary, this work would consist of the following phases: (1) remove the dry materials from the site and haul to a disposal facility (transfer station or landfill) depending on the acceptance criteria of the transfer station and landfills and (2) using excavation equipment to remove wet landfill materials so the water would be allowed to drain back to within the confines of the excavation. Any residual water brought to the surface would be contained for transfer to an on-site liquid storage Baker-type tank; the collected water would be sampled and subsequently disposed at an approved off-site facility. If necessary, the wet landfill materials would be allowed to drain on a rack in the excavation pit before being hauled to a disposal site.

Analytical testing of the materials to be removed would characterize the waste either as hazardous (Class I), designated (Class II), or nonhazardous (Class III), and identify the appropriate disposal location. Designated and nonhazardous waste would be hauled to a Class II or III disposal facility, and hazardous waste would be hauled to a Class I facility, likely the Kettleman Hills Landfill. With compliance with existing regulations, and with implementation of Mitigation Measures HAZ-1 and HAZ-2, the potential for harmful exposure to hazardous materials present in soil, landfilled materials, or groundwater during removal of the landfill would be reduced to less than significant with mitigation.

Operation

Once the construction activities have been completed, the hazardous materials sites issues described above would have been addressed. The proposed program would not use hazardous materials during operations. The ongoing operations of the oil wells and pipelines are regulated outside of the proposed program under CalGEM and other regulations. During operations, there would be no impact.

Mitigation Measures

Mitigation Measure HAZ-1: Health and Safety Plan. The contractor(s) shall prepare and implement site-specific Health and Safety Plans as required by and in accordance with 29 CFR 1910.120 to protect construction workers and the public during all excavation and grading activities. This Plan shall be submitted to LCWA, the Orange County Environmental Health Division (the CUPA for the City of Seal Beach area), or Long Beach/Signal Hill Joint Powers Authority (the CUPA for the Long Beach area), for review prior to commencement of construction. The Health and Safety Plans shall include, but are not limited to, the following elements:

- Designation of a trained, experienced site safety and health supervisor who has the responsibility and authority to develop and implement the site Health and Safety Plan;
- A summary of all potential risks to construction workers and maximum exposure limits for all known and reasonably foreseeable site chemicals;

- Specified personal protective equipment and decontamination procedures, if needed;
- Emergency procedures, including route to the nearest hospital; and
- Procedures to be followed in the event that evidence of potential soil or groundwater contamination (such as soil staining, noxious odors, debris or buried storage containers) is encountered. These procedures shall be in accordance with hazardous waste operations regulations and specifically include, but are not limited to, the following: immediately stopping work in the vicinity of the unknown hazardous materials release, notifying the LCWA, and the Orange County Environmental Health Division (the CUPA for the City of Seal Beach area), or the Long Beach/Signal Hill Joint Powers Authority (the CUPA for the Long Beach area), the LARWQCB, or CalGEM, as appropriate, and retaining a qualified environmental firm to perform sampling and remediation.

Mitigation Measure HAZ-2: Soil, Landfill Materials, and Groundwater Management Plan. In support of the Health and Safety Plan described in Mitigation Measure HAZ-1, the contractor(s) shall develop and implement a Soil, Landfilled Materials, and Groundwater Management Plan that includes a materials disposal plan specifying how the contractor will remove, handle, transport, and dispose of all excavated material in a safe, appropriate, and lawful manner. The Plan shall identify protocols for soil and landfilled materials testing and disposal, identify the approved disposal site, and include written documentation that the disposal site can accept the waste. Contract specifications shall mandate full compliance with all applicable local, state, and federal regulations related to the identification, transportation, and disposal of hazardous materials, including those encountered in excavated soil, landfilled materials, or dewatering effluent.

As part of the Soil, Landfill Materials, and Groundwater Management Plan, the contractor shall develop a groundwater dewatering control and disposal plan specifying how groundwater (dewatering effluent), if encountered, will be handled and disposed of in a safe, appropriate and lawful manner. The Plan shall identify the locations at which groundwater dewatering is likely to be required, the test methods to analyze groundwater for hazardous materials, the appropriate treatment and/or disposal methods, and approved disposal site(s), including written documentation that the disposal site can accept the waste. The contractor may also discharge the effluent under an approved permit to a publicly owned treatment works, in accordance with any requirements the treatment works may have.

This Plan shall be submitted to the LCWA, and the Orange County Environmental Health Division (the CUPA for the City of Seal Beach area), or the Long Beach/Signal Hill Joint Powers Authority (the CUPA for the Long Beach area), for review and approval prior to commencement of construction.

Significance after Mitigation

Less than Significant with Mitigation

Impact HAZ-4: For a proposed program 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, the proposed program would result in a significant impact if the proposed program would result in a safety hazard or excessive noise for people residing or working in the program area.

The are no airports within two miles of the program area. Therefore, relative to proximity to airports, there would be no impact.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

Impact HAZ-5: The proposed program would result in a significant impact if the proposed program would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

The City of Seal Beach Emergency Operations Plan provides emergency response and evacuation procedures for the city in lieu of firm routes of evacuation. These procedures are based on the number of people to be evacuated, the road capacity, and which roads may be blocked or have their capacity reduced by disaster conditions (City of Seal Beach, 2017). Similarly, the City of Long Beach General Plan Public Safety Element does not establish firm routes of evacuation, rather it provides emergency response and emergency evacuation procedures for the City based on availability of through streets, multiple access routes and bridges depending on the disaster and the street conditions at the time (City of Long Beach, 1975). The proposed program would not expect to stage or store construction materials or construction equipment on public roadways. The program would not propose any public road closures or rerouting of the existing public roadway network. Although the proposed program may generate traffic trips during construction and operation, the traffic trips would be minimal and would not interfere with an adopted emergency response plan. Therefore, the program would not substantially impair an adopted emergency response plan or emergency evacuation plan, and no impact would occur.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

No Impact

Impact HAZ-6: The proposed program would result in a significant impact if the proposed program would expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

The program area is not located within or near a very high or high fire hazard severity zone. Therefore, relative to wildfires, there would be no impact.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

No Impact

3.7.6 Cumulative Impacts

This section presents an analysis of the cumulative effects of the proposed program in combination with other past, present, and reasonably foreseeable future projects that could cause cumulatively considerable impacts.

As previously discussed, the proposed program would have no impact with respect to proximity to schools or airports, or being located on very high or high fire hazard severity wildland fire zones. Accordingly, the proposed program could not contribute to cumulative impacts related to these topics and are not discussed further.

The geographic area affected by the proposed program and its potential to contribute to cumulative impacts varies based on the environmental resource under consideration. The geographic scope of analysis for cumulative hazardous materials impacts encompasses and is limited to the program area and its immediately adjacent area. This is because impacts relative hazardous materials are generally site-specific. For example, the effect of a hazardous materials spill would tend to be limited to the localized area of the spill and could only be cumulative if two or more adjacent spills spatially overlapped.

The timeframe during which the proposed program could contribute to cumulative hazardous materials impacts includes the construction and operations phases. For the proposed program, the operations phase is permanent. However, similar to the geographic limitations discussed above, it should be noted that impacts relative to hazardous materials are generally time-specific. Hazardous materials impacts could only be cumulative if two or more hazardous materials impacts occurred at the same time, as well as overlapping at the same location.

3.7.6.1 Construction

Significant cumulative impacts related to hazardous materials could occur if the incremental impacts of the proposed program combined with the incremental impacts of one or more of the cumulative projects identified in Table 3-1, *List of Cumulative Projects*, to substantially increase risk to people or the environment would be exposed to hazardous materials. Note that while three

cumulative projects are within proximity of the proposed program, only Project 24, Los Cerritos Wetlands Oil Consolidation and Restoration Project, listed on Table 3-1 would geographically overlap the proposed program. Cumulative Project 24 is a marsh restoration project with the same proposed activities as the Los Cerritos Wetlands Restoration Plan: operate existing oil wells until no longer productive, destroy unproductive wells, and restore marshland areas.

More importantly, all of these cumulative projects would be subject to the same regulatory requirements discussed in Section 3.7.3, *Regulatory Framework*, including the implementation of health and safety plans, and soil and groundwater management plans, as needed. Cumulative projects involving the potential releases of hazardous materials also would be required to remediate their respective sites to the same established regulatory standards. This would be the case regardless of the number, frequency, or size of the release(s), or the residual amount of chemicals present in soil from previous spills. Therefore, while it is possible that the proposed program and cumulative projects could result in releases of hazardous materials at the same location and at the same time (e.g., two trucks carrying hazardous materials), the responsible party associated with each spill would be required to remediate site conditions to the same established regulatory standards. The residual less-than-significant effects of the proposed program that would remain after mitigation would not combine with the potential residual effects of cumulative projects to cause a potential significant cumulative impact because residual impacts would be highly site-specific. Accordingly, no significant cumulative impact with respect to the use of hazardous materials would result. Therefore, the proposed program would not cause or contribute to a cumulatively significant impact with respect to the use of hazardous materials during construction activities.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

3.7.6.2 Operation

Upon completion of construction activities for the proposed program, the proposed program would not use hazardous materials and, therefore, could not cause or contribute to a cumulatively significant impact with respect to the use of hazardous materials during operations.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

3.7.7 References

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SECTION 3.8
Hydrology and Water Quality

3.8.1 Introduction

This section evaluates the potential for the proposed program to result in adverse impacts related to hydrology and water quality environmental impacts related to surface water, groundwater, stormwater drainage, and flooding. The following analysis is based on review of available hydrology and water quality reports of the program area and vicinity, relevant statutes and regulations, and a discussion of the methodology and thresholds used to determine whether the proposed program would result in significant impacts. This section identifies the potential for both program-level and cumulative environmental impacts. Potential impacts to biological resources from water quality impacts are discussed in Section 3.3, *Biological Resources*. Potential water quality impacts associated with hazardous materials are discussed in Section 3.7, *Hazards and Hazardous Materials*. Potential impacts relative to water supply are discussed in Section 3.16, *Utilities and Service Systems*.

Data used in this section include information obtained from the State Water Resources Control Board (SWRCB), the California Department of Water Resources (DWR), the Los Angeles Regional Water Quality Control Board (LARWQCB), the Federal Emergency Management Agency (FEMA), and the City of Long Beach. Related plans and policies are discussed, including the *Water Quality Control Plan, Los Angeles Region* (Basin Plan). All information sources used are included as citations within the text; sources are listed in Section 3.8.7, *References*.

3.8.2 Environmental Setting

3.8.2.1 Regional Hydrology

Regional Watershed and Local Water Bodies

The LCW are located in the 640-square-mile San Gabriel River Watershed, which is bounded by the San Gabriel Mountains to the north, most of San Bernardino/Orange County to the east, the division of the Los Angeles River from the San Gabriel River to the west, and the Pacific Ocean to the south. The watershed drains to the San Gabriel River, which is fed by numerous tributaries and storm drains as it passes through 19 cities from its origin in the San Gabriel Mountains to its outlet at the Pacific Ocean.

The site is located near the San Gabriel River's outlet to the Pacific Ocean. The Los Cerritos Channel runs southwest along the northern side of the Synergy Oil Field site and discharges into a portion of Alamitos Bay referred to as the Marine Stadium. Alamitos Bay is connected to the

Pacific Ocean. A tidal channel referred to as Steamshovel Slough is fed by the Los Cerritos Channel and extends across the Northern Synergy Oil Field Site. The Haynes Cooling Channel, a channelized water inlet used for industrial process water cooling is located just south of the San Gabriel River towards the southern boundary of the site and is connected to the Alamitos Bay by 7 culverts.

Regional Groundwater

The site is located within the Coastal Plain of Los Angeles Groundwater Basin, which is further subdivided into subbasins: Santa Monica, West Coast, Central, and Orange County Coastal Plain subbasins. The site straddles the West Coast and Central subbasins and also includes a portion of the Orange County Coastal Plain. The border between the West Coast and Central basins is formed by the Newport Inglewood Fault Zone, as shown on **Figure 3.5-1**, provided in Section 3.5, *Geology, Soils, and Paleontological Resources*, which intersects the site in a northwest-southeast direction. The Central Basin includes the Northern Synergy Oil Field site, Central Bryant site, the Los Alamitos Pump Station and Retarding Basin site, and portions of the Hellman Retained site. The West Coast Basin includes most of the Southern Synergy Oil Field site, the Long Beach City Property site, Pumpkin Patch site, and the South LCWA site is largely within the Orange County Coastal Plain.

Groundwater enters the basins through surface and subsurface flow and by direct percolation of precipitation, stream flow, and applied water. Because of overdrafting (pumping exceeds recharge) of both basins, both basins have been adjudicated and groundwater use within the basins is managed by Watermasters, the Water Replenishment District of Southern California (USBR 2014; WRD 2016 and 2017). When multiple parties withdraw water from the same aquifer, the aquifer may become overdrafted resulting in water supply conflicts among the users. Through adjudication, the courts assign specific water rights to specific water users and compel the cooperation of those who might otherwise refuse to limit their pumping of groundwater. Watermasters are appointed by the court to ensure that pumping conforms to the limits defined by the adjudication.

Seawater Intrusion

Because of seawater intrusion along the coast, the County of Los Angeles Department of Public Works (LADPW) operates the Alamitos Barrier Project, located about 2 miles inland from the terminus of the San Gabriel River and 4,000 feet north, northeast, and east of the Synergy Oil Field site (OCWD 2013; LADPW 2014b). This is a system of injection wells that create a freshwater barrier in subsurface aquifers to prevent seawater from intruding further inland and degrading water quality in inland supply wells. Groundwater levels in the program area are tidally influenced. Previous sampling has indicated that shallow groundwater (as well as surface water) in the Steamshovel Slough in the Northern Synergy Oil Field site and existing wetlands area is saline. Salinity deceases in groundwater further away from the Steamshovel Slough and the wetlands, but is still brackish (ESA 2019). However, the program area is located on the ocean side of the Alamitos Barrier Project which indicates that saline to brackish water quality is present in shallow groundwater beneath the entire site.

Land Use History

Until the late 1800s, the LCW spanned approximately 2,400 acres and consisted of a network of meandering streams, vegetated wetlands, and upland areas. Historically, the program area was almost entirely (88.5 percent) tidal vegetated wetland, with a few natural streams and intertidal flat channels in both the north and the south.

Beginning in the late 1800s, the site began to undergo significant alterations due to agriculture (cattle and beet farming), the demands of a growing population, and oil production. Oil was first discovered at the LCW at the Seal Beach Oil Field in 1926. The development of oil production operations, paired with channelization of the San Gabriel River, resulted in substantial dredge and fill of the LCW. The program area contains oil wells, and network of oil-production tanks and pipes. Today, nearly all of the program area has been converted from its historic wetland habitat, though a few remnant and degraded historic habitats remain. Given the history of the LCW land use, sediment contamination at the site is an important consideration for restoration.

Hazardous Waste and Ecological Criteria Terms

California has established hazardous waste material disposal thresholds, known as Total Threshold Limit Concentrations (TTLC) and Soluble Threshold Limit Concentrations (STLC), that are used to evaluate sediments and soils for hazardous waste criteria that help determine disposal destinations and handling criteria. The TTLC value for each constituent is the upper limit allowed in a solid or powdered waste to possibly be considered non-hazardous; any constituent that exceeds the promulgated TTLC values are considered toxic hazardous waste. Similarly, the STLC value is the maximum concentration of a waste constituent in liquid form to not be considered hazardous. If a solid waste sample falls between the STLC and TTLC value, it is considered non-hazardous if the concentration is less than ten times the STLC value. If the measured concentration exceeds ten times the STLC, it is likely hazardous but the optional "Waste Extraction Test (WET)" can be performed to determine whether the sample is considered hazardous. Hazardous waste material criteria dictate which facility or treatment is required for disposal of hazardous material.

Beneficial reuse criteria for wetland restoration were first developed by the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) and presented in the Draft Staff Report entitled, *Beneficial Reuse of Dredged Materials: Sediment Screening and Testing Guidelines* dated May 2000. The document was prepared to assist in planning beneficial reuse projects in the Bay Area by establishing general screening guidelines and general sediment testing requirements. The guidelines include specific criteria for reuse of sediments in wetland and upland beneficial uses. The guidelines for the wetland foundation use are based on the ER-M concentrations. These guidelines are typically used in combination with bioassay testing to determine suitability of the materials for use in wetland restoration projects (SFBRWQCB, 2000).

Environmental Screening Levels (ESLs), developed and maintained by the SFBRWQCB, are used by regulatory agencies throughout the State of California. The SFBRWQCB develops separate screening levels for residential and commercial/industrial land uses and construction worker exposure. As the board notes, the residential ESLs are the most stringent thresholds, and

soil "with chemical concentrations below these levels generally would not require remediation and would be suitable for unrestricted uses if disposed offsite" (SFBRWQCB 2010). In addition to ESLs, constituent concentrations were compared to Regional Screening Levels (RSLs), which were previously referred to as Preliminary Remediation Goals (PRG), as promulgated by the United States Environmental Protection Agency (USEPA).

Sediment Quality

Based on the sediment and water quality characterization results to date for the LCW, the program area has been adversely affected from past oil and gas land uses and releases of hazardous materials associated with these operations. Sediment sampling has been conducted at the LCW dating back to the late 1980s. The effects include the presence of petroleum hydrocarbons, PCBs, pesticides, VOCs, SVOCS, and bi-products in sediments and groundwater. Recent (2014) studies show that PAHs have decreased significantly in the Zedler Marsh and State Lands Area since the mid-1990s, potentially attributable to vegetation at the marsh that is enhancing degradation of the PAHs, and do not require remediation prior to the restoration of the site (ESA 2019).

Though a few sediment samples taken to date have exceeded state hazardous waste criteria (TTLC and STLC), the primary concern within LCW is constituents that exceed ecological criteria (ER-L and ER-M)[1] and human health criteria (i.e., Environmental Screening Levels (ESLs)). The sediment studies performed at the site indicate that impacted soils may require management and/or remediation depending on the final placement and associated constituent concentrations and regulatory action levels.

Surface Water Quality

The general surface water quality conditions are identified by water body below:

Los Cerritos Channel

Historically, dry weather flows from the Los Cerritos Channel exceed copper water quality objectives from the State Water Quality Control Board and Regional Basin Plan. Data from wet-weather flows indicated exceedances for copper, lead, and zinc. In response to these exceedances, a Total Maximum Daily Load (TMDL) was developed to address impairments in the water column in Los Cerritos Channel for copper, lead, selenium, and zinc (**Table 3.8-1**, *Los Cerritos Channel TMDL*). The TMDL set numeric targets based on the water quality criteria contained in the California Toxics Rule (CTR). In addition to metals, the Los Cerritos Channel is listed under the Clean Water Act Section 303(d) for ammonia, phthalate, chlordane, metals, coliform bacteria, and trash.

[1] Effect range (ER) values are used in dredged material evaluations for ocean disposal. Effect range low (ER-L) and effect range median (ER-M) are the chemical values for paired data demonstrating benthic impairment and are used as the representative ecological criteria in this analysis.

TABLE 3.8-1
LOS CERRITOS CHANNEL TMDL

Pollutant	Anticipated TMDL Adoption Date
Ammonia	1/1/2019[a]
Bis(2ethylhexyl)phthalate (DEHP)	1/1/2019[a]
Chlordane (sediment)	1/1/2019[a]
Coliform bacteria	1/1/2019[a]
Metals (copper, lead, zinc)	USEPA TMDL Adopted on 3/17/2010
Trash	1/1/2019[a]

[a] No updated TMDLs have been adopted according to the California Waterboard's Website as of May 2019.
SOURCE: Everest 2012 as cited in ESA 2019

San Gabriel River

The San Gabriel River and its associated tributaries exceed water quality objectives (which are based on beneficial uses and CTR values) for a number of constituents. Coyote Creek, which converges with the San Gabriel River just upstream of the program area, is listed under Section 303(d) for diazinon, coliform bacteria, pH, toxicity, copper, lead, and zinc (**Table 3.8-2**, *303(d) Impaired Waters and Pollutants for the Lower San Gabriel River Watershed*). The San Gabriel River Estuary is listed for copper. The Lower San Gabriel River Watershed Management Program (WMP), a multi-jurisdictional planning document, has found that the municipal separate storm sewer systems (MS4s) contributes significantly to the metal loading rates found in the San Gabriel River during dry-weather flow events. This is attributed to high metal concentrations in urban runoff.

Haynes Cooling Channel

The Haynes Cooling Channel provides water for the Haynes Generating Station for cooling. The generating station pulls water from the Alamitos Bay, runs it through the generating station, and discharges to the San Gabriel River adjacent to the generating station. The water quality in the Haynes Cooling Channel is expected to be similar to the water quality in Alamitos Bay which is impaired by bacteria. The Haynes Generating Station is undergoing a modernization project that would eliminate the use of ocean water to cool the plant by 2029; once complete, the Haynes Cooling Channel will be decommissioned. A monitoring report found that concentrations of all priority pollutants in the Haynes Generating Station intake (e.g., water coming from the Haynes Cooling Channel) were low enough to be due to background levels or laboratory testing (City of Los Angeles 2011 as cited in ESA 2019).

TABLE 3.8-2
303(D) IMPAIRED WATERS AND POLLUTANTS FOR THE LOWER SAN GABRIEL RIVER WATERSHED

Water Body	Pollutant and TMDL Adoption Date (or Anticipated Date)
Coyote Creek	Ammonia (Timeline N/A) Cyanide (Timeline N/A) Copper (TMDL completed 3/27/2007) Diazinon (1/1/2019)[a] Coliform Bacteria (1/1/2009)[a] Lead (TMDL completed 3/27/2007) pH (1/1/2019)[a] Toxicity (1/1/2009)[a] Zinc (TMDL completed 3/27/2007)
Coyote Creek, North Fork	Indicator Bacteria (1/1/2012)[a] Selenium (1/1/2021)
San Gabriel River Reach 2	Coliform bacteria (1/1/2011)[a] Cyanide (1/1/2021) Lead (TMDL completed 3/27/2007)
San Gabriel River Reach 1	Ammonia (timeline N/A) Coliform bacteria (1/1/2019)[a] pH (1/1/2019)[a] Copper
San Gabriel River Estuary	Copper (TMDL completed 3/27/2007)

[a] No updated TMDLs on California Waterboard's Website as of May 2019.
SOURCE: Everest 2012, SGR 2015 as cited in ESA 2019

Alamitos Bay

Alamitos Bay is 303(d) listed for indicator bacteria, which is an issue that affects the local beaches as well. No TMDLs have been established for the bay.

The Long Beach Estuary Monitoring Plan (2016) is an Integrated Monitoring Program aimed to assess the effects of MS4s on receiving waters. As part of this plan, the City of Long Beach has set up a monitoring site in the Alamitos Bay (LBR2). Beginning in 2015, three wet-weather and two dry-weather events have been monitored at the Alamitos Bay Partners site. At this time, data is not publicly available.

The County Health and Human Services performs weekly water samples at Long Beach beaches, including those in Alamitos Bay. Los Angeles County provides watch conditions based on the monitoring results. Historical monthly monitoring is available through the County's website (**Table 3.8-3**, *Heal the Bay Water Quality Grades at Alamitos Bay*). According to the Long Beach Estuary Monitoring Plan, beaches in Long Beach (including the beaches at Alamitos Bay) have shown an improvement in bacterial compliance.

TABLE 3.8-3
HEAL THE BAY WATER QUALITY GRADES AT ALAMITOS BAY

Year	Summer Dry	Winter Dry	Annual Wet
2017	A	B	F
2016	B	B	F
2015	A+	A	F
2014	A	A	F
2013	B	A+	F
2012	B	A	F
2011	C	F	F
2010	C	F	F

SOURCE: Heal the Bay (2019) as cited in ESA 2019

Urban Runoff

In addition to the water bodies identified above, urban runoff contributes to water quality of the aforementioned water bodies as receiving waters. The areas of the proposed program that are most affected by urban runoff are the Los Alamitos Retarding Basin site, Gum Grove Park (on the southeastern side of the South LCWA site), and the Long Beach City Property site (ESA 2019). Constituents common to urban runoff include metals, bacteriological indicators, and nutrients. While data on the local stormwater is not available, similar characteristics can be expected from runoff entering the three locations (ESA 2019).

Groundwater Quality

Three groundwater sampling investigations have occurred within the program area dating back to 1988 and are summarized as follows:

1988 Phase I Earth Technology Corporation Site Investigation, Texaco Bryant Lease

Earth Technology Corporation performed a soil and groundwater sampling investigation on the eastern bank of the San Gabriel River within the Texaco-Bryant lease property (the Central LCWA, Isthmus LCWA, Zedler Marsh, and Isthmus Bryant locations). Groundwater sampling evaluated TPHC and BTEX concentrations at three monitoring wells. Floating hydrocarbons (a floating layer of viscous crude oil) of approximately 1/8-inch thickness were found during sampling of monitoring well 1, and a sheen on the groundwater surface was noted during sampling at monitoring well 3.

Two groundwater samples exceeded the human health based groundwater ESL for benzene and ethyl benzene. Based on the elevated concentrations of hydrocarbon in both soil and groundwater found during the 1988 sampling, Earth Technology proposed further groundwater sampling to delineate the extent of contamination at the site.

1989 Engineering Enterprises Environmental Assessment

Engineering Enterprises, Inc. (EEI) performed groundwater sampling at ten different wells between March and April 1989 in the Central LCWA, Isthmus LCWA, Isthmus Bryant, and Zedler Marsh areas. The groundwater investigation yielded sixteen groundwater samples, which were evaluated for SVOCs, total fuel hydrocarbons, and BTEX using EPA Methods 8015 (modified) and 418.1. Six groundwater samples showed elevated concentrations of TPHC (ranging from 3,700 to 32,000 micrograms/liter [µg/L]). Three samples had total fuel hydrocarbons greater than 250 µg/L, with the highest sample showing a concentration of 22,021 µg/L. At least one sample also exceeded ESL standards for BTEX.

The groundwater analysis found slightly elevated levels of TPHC in some of the sample wells. There were no samples with detectable levels of SVOCs. EEI concluded that the eastern portion of the site had elevated total petroleum hydrocarbon concentrations, "of limited lateral and vertical extent." The report further determined that some remediation activity would be necessary, though EEI did not determine the remediation activities or associated costs.

2006 Hellman Ranch (South LCWA) Groundwater Sampling

In 2006, as a follow-up to their 2004 LCWA Phase II Soil and Groundwater Sampling, Anchor collected groundwater samples at seven different monitoring wells located on the Hellman ranch (South LCWA) property. The sampling aimed to characterize the former dump site materials, define the lateral extent of the crude oil plume found in the 2004 monitoring, identify the potential and likely sources of crude oil, characterize the groundwater flow, and analyze the contaminants of concern and their ability of migrating to potential receiving waters.

Anchor determined the approximate extent of the crude oil: a 100-by-500-foot area on the southwestern portion of the property and determined that the likely source was a former 6-inch oil and gas line that ran along the border of the contaminated area.

To assess groundwater quality, samples were tested for volatile organic compounds, polycyclic aromatic hydrocarbons, semi volatile organic compounds, dissolved metals, and common cations and anions and compared to the most stringent California Toxics Rule Standards. In general, the samples were below the Toxic Rule Standards, though there were exceedances for benzene, bromodichloromethane, 1,2,-dichlorethane, chrysene, benzo(a)pyrene, copper, and silver. Additionally, the sampling found crude-oil at one of the monitoring wells.

Given the zone of the approximated crude oil contamination and constituent results, Anchor recommended that "future restoration plans should minimize disturbance of groundwater flow gradients in this area."

Flooding

Flooding can occur when stormwater runoff exceeds the conveyance capacity of the drainage system. Flooding can also occur due to tsunamis, high tides/storm surge, dam or levee failure, sea-level rise, or other causes.

FEMA identifies flood hazard areas on flood insurance rate maps including areas that will be inundated by the flood event having a 1 percent chance of being equaled or exceeded in a given year; 1 percent annual chance flood is also referred to as the 100-year flood. Currently, the extent of the 100-year flood zone in the program area is confined to the existing water bodies and excludes all upland areas.

Sea-Level Rise

Estimates of sea-level rise can be used to evaluate potential future flooding conditions. Projections of global sea-level rise are well-documented and investigated, with recent research projecting sea-level rise on the order of 2 to 10 feet by 2100 in California (e.g., Cayan et al. 2008; Griggs et al. 2017). This research has been used to develop a series of policy guidance documents by the State of California that recommend including a specific amount of sea-level rise in project planning and design, the most recent being the California Ocean Protection Council's (OPC) *State of California Sea-Level Rise Guidance* (OPC 2018). The OPC (2018) Guidance includes tables of projected relative sea-level rise at well-established tide gauges located along the coast of California through 2150 for a range of risk aversion scenarios, including low, medium-high, and extreme (e.g., H++). **Table 3.8-4**, *Projected Sea-Level Rise (in feet) for Los Angeles*, shows the projections for Los Angeles (the closest tide gauge to Seal Beach/Long Beach). These projections were developed and summarized with the intention that local planning and design efforts would have a consistent and accepted basis for addressing future sea-level rise.

The California Coastal Commission (CCC) recently updated their *Sea-Level Rise Policy Guidance* in 2018 (CCC 2018). The CCC (2018) Guidance provides a basis for selecting the time horizon and the risk level of the project, which are used to define the appropriate sea-level rise amounts. The CCC (2018) Guidance recommends that project planning and design consider a range of scenarios in order to bracket the possible timing of a given amount of sea-level rise.

The CCC (2018) Guidance identifies three levels of risk to consider when planning for sea-level rise (blue boxes in Table 3.8-4):

- The low risk aversion scenario is appropriate for adaptive, lower consequence decisions (e.g., unpaved coastal trail), but is not adequate to address high impact, low probability events.
- The medium-high risk aversion scenario is appropriate as a precautionary projection that can be used for less adaptive, more vulnerable projects or populations that will experience medium to high consequences as a result of underestimating sea-level rise (e.g., coastal housing development).
- The extreme risk aversion scenario is appropriate for high consequence projects with little to no adaptive capacity and which could have considerable public health, public safety, or environmental impacts (e.g., coastal power plant, wastewater treatment plant, etc.).

TABLE 3.8-4
PROJECTED SEA-LEVEL RISE (IN FEET) FOR LOS ANGELES

		Probabilistic Projections (in feet) (based on Kopp et al. 2014)						
		Median	Likely Range		1-in-20 Chance	1-in-200 Chance		H++ Scenario (Sweet et al. 2017) *Single Scenario
		50% probability sea-level rise meets or exceeds …	66% probability sea-level rise is between …		5% probability sea-level rise meets or exceeds …	0.5% probability sea-level rise meets or exceeds …		
				Low Risk Aversion			Medium-High Risk Aversion	Extreme Risk Aversion
High emissions	2030	0.3	0.2	– 0.5	0.6	0.7		1.0
	2040	0.5	0.4	– 0.7	0.9	1.2		1.7
	2050	0.7	0.5	– 1.0	1.2	1.8		2.6
Low emissions	2060	0.8	0.5	– 1.1	1.4	2.2		
High emissions	2060	1.0	0.7	– 1.3	1.7	2.5		3.7
Low emissions	2070	0.9	0.6	– 1.3	1.8	2.9		
High emissions	2070	1.2	0.8	– 1.7	2.2	3.3		5.0
Low emissions	2080	1.0	0.6	– 1.6	2.1	3.6		
High emissions	2080	1.5	1.0	– 2.2	2.8	4.3		6.4
Low emissions	2090	1.2	0.7	– 1.8	2.5	4.5		
High emissions	2090	1.8	1.2	– 2.7	3.4	5.3		8.0
Low emissions	2100	1.3	0.7	– 2.1	3.0	5.4		
High emissions	2100	2.2	1.3	– 3.2	4.1	6.7		9.9
Low emissions	2110*	1.4	0.9	– 2.2	3.1	6.0		
High emissions	2110*	2.3	1.6	– 3.3	4.3	7.1		11.5
Low emissions	2120	1.5	0.9	– 2.5	3.6	7.1		
High emissions	2120	2.7	1.8	– 3.8	5.0	8.3		13.8
Low emissions	2130	1.7	0.9	– 2.8	4.0	8.1		
High emissions	2130	3.0	2.0	– 4.3	5.7	9.7		16.1
Low emissions	2140	1.8	0.9	– 3.0	4.5	9.2		
High emissions	2140	3.3	2.2	– 4.9	6.5	11.1		18.7
Low emissions	2150	1.9	0.9	– 3.3	5.1	10.6		
High emissions	2150	3.7	2.4	– 5.4	7.3	12.7		21.5

SOURCE: OPC, 2018

For habitat restoration projects, the CCC (2018) Guidance recommends using multiple time horizons and sea-level rise projections (CCC 2018, pg. 102):

> *Determining an anticipated life for restoration activities or other related projects is somewhat more complex than for typical development projects because these activities are typically meant to exist in perpetuity. As such, assessing sealevel rise impacts may necessitate analyzing multiple different time frames, including the present, near future, and very longterm depending on the overall goals of the project.*

According to a mapping tool created by the USGS based on their Coastal Storm Modeling System (CoSMoS), 6.6 feet of sea-level rise would inundate the majority of the program area. Even 1 foot of sea-level rise would inundate most of the Synergy Oil Field sites.

Sediment Dynamics

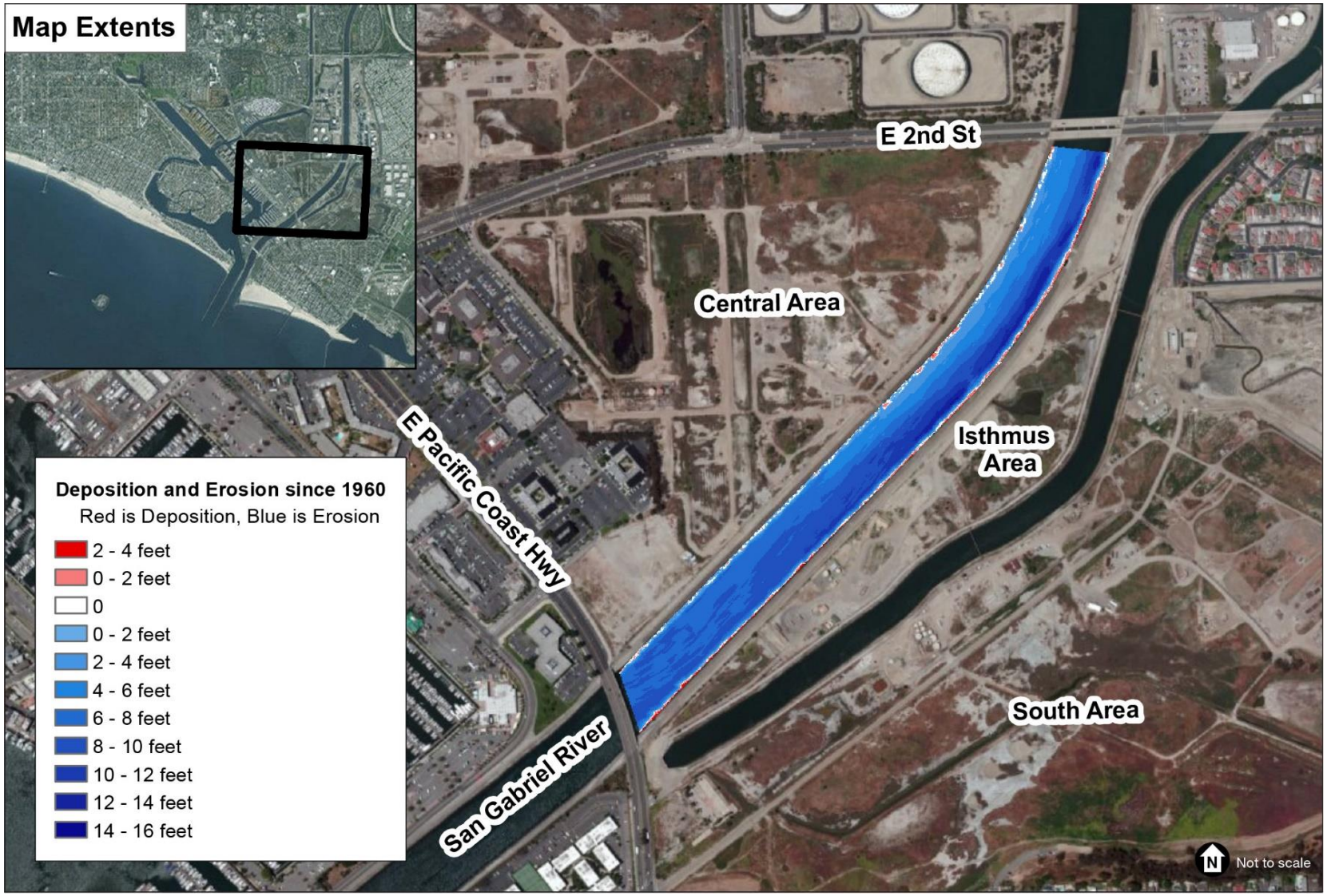
Sediment Dynamics in the San Gabriel River

The San Gabriel River is an intermittently-concrete-lined, flood-control channel in a highly urbanized watershed. These factors limit the supply of sediment to the river, which in turn limits the potential for sedimentation in the channel. The concrete lining also prevents channel erosion, so erosion only occurs in the soft-bottom portion of the channel.

Storm events can mobilize sediment from the watershed or within the San Gabriel River and result in either net deposition or, where the channel has a soft-bottom, net erosion within the channel. Channel profiles from 1960 and 2019 were compared to identify areas of net channel deposition or erosion in feet over time (**Figure 3.8-1**, *San Gabriel River Erosion between 1960 and 2019*). Based on this historic data, the San Gabriel River has generally scoured in the vicinity of the program site, with erosion depths up to 14 feet in some areas. The most significant channel bed scour is on the northeastern side of the channel near 2nd St and along the Isthmus Area. This indicates velocities in the San Gabriel River are higher on the outside of the channel bend, which is typical of natural systems. Additionally, the overall scour indicates that the channel is sediment supply limited rather than transport limited (e.g., there is more erosive power than sediment available to be moved).

Sediment Dynamics along the Coast

In the vicinity of the LCW, the historic longshore transport is generally toward the southeast. The LCW is part of the San Pedro Littoral Cell, which extends from Point Fermin in the northwest to Dana Point at the southeast. The Newport Submarine Canyon is at the southeastern end of the cell and acts as a sediment sink. Historic processes in the littoral cell have been disrupted by the San Pedro-Long Beach port complex, dam construction, channelization of the Los Angeles and San Gabriel Rivers and the construction of a series of coastal structures. Prior to the dam construction, the Santa Ana, San Gabriel, and Los Angeles Rivers often changed course and their watersheds provided abundant sediment to local beaches. Following the extensive construction of dams, pavement, and channelization, the sediment deliveries from the San Gabriel and Los Angeles river basins are now substantially reduced.



SOURCE: ESRI (background imagery)
NOTE: WSE = Water Surface Elevation

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 3.8-1
San Gabriel River Erosion between 1960 and 2019

The San Gabriel River flowed into Alamitos Bay from 1868 until 1933–1935, when its new flood channel outlet was constructed. The new construction included levees and stone jetties at its mouth. The east and west jetties for the new San Gabriel River mouth were completed in 1932 and 1933, respectively. The west jetty was extended in 1940–1941 to slow the shoaling of the outlet. A new bay entrance was dredged in 1945–1946. This separated the Alamitos Bay from the San Gabriel River ocean outlet, resulting in three stone jetties at the bay entrance and its adjacent river mouth outlet.

The Long Beach Detached Breakwater protects most of the coast from ocean waves, resulting in relatively little longshore transport in the vicinity of the site (USACE 1986). However, northwest longshore transport at Seal Beach has led to accumulation of sand at the San Gabriel River mouth east jetty and erosion at the Anaheim Bay west jetty according to Wiegel (2009). Many of the beaches in the San Pedro Littoral Cell are nourished with sands annually to combat erosion (Orme et al 2011). In the vicinity of the program at Belmont Shore Beach and Seal Beach, nourishment began in 1940s, with much of the material coming from Alamitos Bay. A history of dredge events for Alamitos Bay from 1933–2002 is provided in Appendix I.

The program site is upstream along the San Gabriel River and, therefore, the sediment dynamics along the coast may not directly affect the sediment dynamics near the site. However, sedimentation at the river mouth could affect the hydrodynamics further up the river and at the site.

3.8.3 Regulatory Framework

3.8.3.1 Federal

Clean Water Act

The Clean Water Act (CWA), also known as the Federal Water Pollution Control Act as amended by the Federal Water Pollution Control Act Amendments of 1972, (33 USC 1251–1376) is the major federal legislation governing water quality. The CWA established the basic structure for regulating discharges of pollutants into the waters of the United States and gave the USEPA the authority to implement pollution control programs, such as setting wastewater standards for industry. The CWA sets water quality standards for all contaminants in surface waters. The statute employs a variety of regulatory and non-regulatory tools to reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. The United States Army Corps of Engineers (Corps) has jurisdiction over all waters of the United States including, but not limited to, perennial and intermittent streams, lakes, and ponds, as well as wetlands in marshes, wet meadows, and side hill seeps. The CWA states that the discharge of pollutants to waters of the United States from any point source is unlawful, unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. Amendments to the CWA established a framework for regulating municipal and industrial stormwater discharges under the NPDES program. In addition, the USEPA published final regulations that establish application requirements for stormwater permits in 1990.

The relevant sections of the CWA are summarized below.

Clean Water Act Section 401

Federal CWA Section 401 requires that any person applying for a federal permit or license that may result in the discharges of dredged or fill material or pollutants (including sediment) into waters of the United States must obtain a state water quality standards certification (WQC) that the activity complies with all applicable state water quality standards, limitations, and restrictions. In California, this certification is typically administered ~~in California~~ by the Regional Water Quality Control Boards (RWQCBs). For all applications for WQC received by the Water Boards after May 29, 2020, the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State must be implemented. For guidance on the application process see: https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/procedurs_conformed.pdf).~~SWRCB via the local RWQCB.~~ No license or permit may be granted by a federal agency until certification as required by Section 401 has been granted. Further, no license or permit may be issued if certification has been denied. An entity seeking a Section 401 water quality certification typically must obtain a CWA Section 404 permit from USACE. This certification ensures that the proposed activity does not violate state or federal water quality standards. The Los Cerritos Wetlands Restoration Plan area lies on the boundary between two water quality control regions, Santa Ana and Los Angeles, and therefore the State Water Resources Control Board may be designated as the permitting authority for issuance of some or all of the WQCs that may be needed for the projects to be conducted under this PEIR.

Clean Water Act Section 402

CWA Section 402 regulates discharges to surface waters of the United States through the NPDES program. In California, the USEPA authorizes the SWRCB to oversee the NPDES program through the local RWQCB. Stormwater discharges are also regulated under CWA Section 402. Construction activities disturbing 1 acre of land or greater must be covered under the NPDES Construction General Permit, discussed in Section 3.5.3, *Regulatory Framework*, of Section 3.5, *Geology, Soils, and Paleontological Resources*, which requires the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) for construction activities that includes erosion and sediment controls, runoff water quality monitoring, means of waste disposal, implementation of approved local plans, control of post-construction sediment, and maintenance responsibilities.

Clean Water Act Section 303—Water Quality Criteria and Standards

Under federal law, the USEPA has published water quality regulations under 40 CFR. CWA Section 303 requires states to adopt water quality standards for all surface waters of the United States. As defined by the CWA, water quality standards consist of two elements: identified designated beneficial uses of the water body in question and criteria that protect the designated uses. Where multiple uses of a water body exist, water quality standards must protect the most sensitive use. In California, the USEPA has granted SWRCB and its local RWQCBs the authority to identify beneficial uses and adopt applicable water quality objectives.

Clean Water Act Section 303(d)

CWA Section 303(d) requires that each state identify water bodies or segments of water bodies that are "impaired" (i.e., do not meet one or more of the water quality standards established by the

state). These waters are identified in the Section 303(d) list as waters that are polluted and need further attention to support their beneficial uses. Once the water body or segment is listed, the state is required to establish TMDLs for the pollutant.

A TMDL is a pollution budget, includes a calculation of the maximum amount of a pollutant that can occur in a waterbody, and allocates the necessary reductions to one or more pollutant sources. A TMDL serves as a planning tool and potential starting point for restoration or protection activities with the ultimate goal of attaining or maintaining water quality standards. Under CWA Section 303(d), states are required to submit lists of impaired waters. These are waters that are too polluted or otherwise degraded to meet water quality standards. The law requires that the states establish priority rankings for waters on the lists and develop TMDLs for these waters. TMDLs can be narrative actions to reduce loading or numeric goals such as an amount of mercury in fish tissue, concentrations in water, or concentrations in sediment.

As of 2016, the Los Cerritos Channel is listed as a Water Quality Limited Segment for ammonia, bis(2ethylhexyl)phthalate, indicator bacteria (coliform), copper, lead, zinc, trash, and pH (LARWQCB 2016). In addition to narrative actions to reduce the pollutant loading, the LARWQCB has developed and the USEPA has accepted the following numeric TMDLs for the channel (USEPA 2010):

- Copper = 0.0039 mg/L;
- Lead = 0.0151 mg/L; and
- Zinc = 0.386 mg/L.

The San Gabriel River is also listed as an impaired water body for metals and bacteria. Separate numeric targets for metals were developed for dry and wet weather.

- Dry Weather Copper = 3.7 µg/L[2] or 0.0037 mg/L
- Wet Weather Lead = 166 µg/L or 0.166 mg/L

The draft TMDL for bacteria numeric target for the San Gabriel River Estuary and tributaries are provided in **Table 3.8-5**, *Numeric Targets for San Gabriel River Estuary and Tributaries*.

[2] ug/L = micrograms per liter.

TABLE 3.8-5
NUMERIC TARGETS FOR SAN GABRIEL RIVER ESTUARY AND TRIBUTARIES

Numeric Targets (Beneficial Uses)	Estuary (Marine REC-1)	SGR and Tributaries (Freshwater REC-1)
Single Sample		
E. coli	NA	235/100 ml
Fecal coliform	400/100 ml	NA
Enterococcus	104/100 ml	NA
Total coliform*	**10,000/100 ml**	**NA**
Geometric Mean		
E. coli	NA	126/100 ml
Fecal coliform	200/100 ml	NA
Enterococcus	35/100 ml	NA
Total coliform*	**1,000/100 ml**	**NA**

* Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.
NA = not applicable
SOURCE: LARWQCB, 2015

Clean Water Act Section 404

CWA Section 404 requires that any person conducting any activity that involves any discharge of dredged or fill material into waters of the United States, including wetlands, obtain a permit. USACE is responsible for issuing permits for the placement of fill or discharge of material into waters of the United States required under CWA Sections 401 and 404. Projects that involve construction in streams or wetlands trigger the need for these permits and related environmental reviews by USACE. Under the CWA, ~~W~~wetlands are *"areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions."* ~~generally considered to be areas that are periodically or permanently inundated by surface water or groundwater, and support vegetation adapted to life in saturated soil~~. Wetlands are recognized as important features on a regional and national level due to their high inherent value to fish and wildlife, use as storage areas for storm and floodwaters, and water recharge, filtration, and purification functions. Technical standards for delineating wetlands have been developed by the USACE, which ~~generally~~ defines wetlands through consideration of three criteria: hydrology, soils and vegetation. Under CWA Section 404, the ACOE is responsible for regulating the discharge of dredged or fill material into waters of the United States. The term "waters of the United States" includes wetlands and non-wetland bodies of water that meet specific criteria as defined in the Code of Federal Regulations.

National Flood Insurance Program

The National Flood Insurance Program was created to reduce the impact of flooding private and public structures by providing affordable property insurance and encouraging communities to implement floodplain management regulations. FEMA implements NFIP and identifies flood hazard areas on flood insurance rate maps. FEMA requires minimum design standards are implemented in flood hazard areas.

33 U.S.C. Section 408: Modifications and Alterations of Corps of Engineers Projects

Section 14 of the Rivers and Harbors Act of 1899 and codified in 33 U.S.C. Section 408 (commonly referred to as "Section 408") authorizes the Secretary of the Army, on the recommendation of the Chief of Engineers of the Corps, to grant permission for the alteration of a Corps' civil works project if the Secretary determines that the activity will not be injurious to the public interest and will not impair the usefulness of the project. Because the San Gabriel River flood control channel is a Corps flood risk management project, a Section 408 permit would be required to remove the levees and reconnect the channel to the floodplain or to install culverts in the levee. The Section 408 permit application would include all project plans and review the proposed hydrologic changes for the Chief of Engineer's consideration on whether these changes would ultimately impair the usefulness of the original project or not.

National Weather Service TsunamiReady Communities

The National Weather Service established guidelines to be followed to ensure an area is prepared in the event of a tsunami. These guidelines are referred to as "TsunamiReady" Guidelines, and include mitigation, preparation, and response guidelines. Examples of mitigation guidelines include designating and mapping tsunami hazard zones and installing signage identifying tsunami hazard zones and instructions to go to higher ground. Preparation guidelines include conducting public education and outreach efforts regarding tsunamis. Response guidelines include addressing tsunami hazards in emergency plans, having a reliable means for a 24-hour warning point to disseminate warnings to the public, and using weather receivers in critical facilities and public venues (NWS 2016). The County of Los Angeles, including the City of Long Beach, is not considered a TsunamiReady community, however, the City Seal Beach is (NWS 2019). Pacific Coast Highway is identified as a primary disaster route and runs adjacent to the western boundary of the South Synergy Oil Field site (LADPW 2013); this roadway is designated for use in the event of an emergency to transport emergency personnel and supplies.

3.8.3.2 State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (California Water Code Sections 13000–16104) (Porter-Cologne Act) provides the basis for water quality regulation within California and defines water quality objectives as the limits or levels of water constituents that are established for reasonable protection of beneficial uses. Porter-Cologne is administered by the State Water Resources Control Board (State Water Board) and nine Regional Water Quality Control Boards (RWQCBs), collectively referred to as the Water Boards ~~The SWRCB administers water rights, water pollution control, and water quality functions throughout the state, while the local water boards (in this case, LARWQCB) conducts planning, permitting, and enforcement activities.~~ The State Water Board sets statewide water quality standards, issues statewide general permits, conducts statewide surface and groundwater monitoring and assessment, administers water rights, regulates drinking water supplies, and issues orders for cleaning up contaminated sites.

The nine semi-autonomous Regional Water Boards are responsible for setting water quality standards and objectives, issuing waste discharge requirements, determining compliance with those requirements, and taking appropriate enforcement actions. Each Water Quality Control Region is regulated through a Water Quality Control Plan, or "Basin Plan," which is updated every three years. The Basin Plans contain the regulations adopted by the Regional Water Boards to control the discharge of waste and other controllable factors affecting the quality or quantity of waters of the state. The Los Cerritos Wetlands Restoration Plan area lies on the boundary of two water quality control regions: Los Angeles and Santa Ana.

The Porter-Cologne Act requires the Los Angeles Regional Water Quality Control Board (LARWQCB) to establish water quality objectives, while acknowledging that water quality may be changed to some degree without unreasonably affecting beneficial uses. Beneficial uses, together with the corresponding water quality objectives, are defined as standards, per federal regulations. Therefore, the regional plans form the regulatory standards for meeting state and federal requirements for water quality control. Changes in water quality are only allowed if the change is consistent with the maximum beneficial use designated by the state, does not unreasonably affect the present or anticipated beneficial uses, and does not result in water quality less than that prescribed in the water quality control plans.

California Coastal Act

The California Coastal Act (CCA) establishes policies with respect to the review of new development projects by both state and local agencies. The CCA policies concerning hydrology and water quality are as follows:

- **Section 30230.** Marine resources shall be maintained, enhanced, and, where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.
- **Section 30231.** The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.
- **Section 30232.** Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.
- **Section 30236.** Channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to (1) necessary water supply projects, (2) flood control projects where no other method for protecting existing structures in the floodplain is feasible and where such protection is necessary for public

safety or to protect existing development, or (3) developments where the primary function is the improvement of fish and wildlife habitat.

In addition to these CCA policies, the Coastal Commission in August 2015 adopted a Sea-Level Rise Policy Guidance document setting forth the means by which new development that may be subject to sea-level rise should be analyzed (CCC 2015).

Senate Bill 610 (Water Code Sections 10910 et seq.)

Senate Bill 610 of 2001 (Water Code Sections 10910 et seq.) was promulgated to assist water suppliers, cities, and counties in integrating water and land use planning. In particular, the statute requires detailed information regarding water availability to be provided to the city and county decision-makers prior to approval of specified large development projects in the form of a Water Supply Assessment. The statute applies to the following specified large development project types as cited in Water Code Section 10912:

- A proposed residential development of more than 500 dwelling units;
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
- A proposed hotel or motel, or both, having more than 500 rooms;
- A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
- A mixed-use project that includes one or more of the projects specified in this subdivision; and
- A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling-unit project.

The proposed program does not include development of any of the above categories, nor does the proposed program generate a water demand equal to or greater than the demand generated by a 500-dwelling unit project (i.e., approximately 125 acre-feet per year). Therefore, a water supply assessment is not required for the proposed program.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA) of 2014, effective January 1, 2015, gives local agencies the authority to manage groundwater in a sustainable manner and allows for limited state intervention when necessary to protect groundwater resources. The SGMA establishes a definition of sustainable groundwater management, establishes a framework for local agencies to develop plans and implement strategies to sustainably manage groundwater resources, prioritizes basins with the greatest problems (ranked as high- and medium-priority) and sets a 20-year timeline for implementation. The initial basin prioritization under SGMA uses the prioritization conducted by the California Department of Water Resources (DWR) in 2014 under the California Statewide Groundwater Elevation Monitoring program. As previously noted, the

Central Subbasin is ranked as high priority. SGMA requires the creation of a Groundwater Sustainability Agency that would develop and implement a Groundwater Sustainability Plan that would manage and use groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results, defined as follows:

1. Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply;
2. Significant and unreasonable reduction of groundwater storage;
3. Significant and unreasonable seawater intrusion;
4. Significant and unreasonable degraded water quality, including the migration of contaminant plumes that impair water supplies;
5. Significant and unreasonable land subsidence that substantially interferes with surface land uses; or
6. Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water.

NPDES Construction General Permit

Construction associated with the proposed program would disturb more than 1 acre of land surface affecting the quality of stormwater discharges into waters of the United States. The proposed program would, therefore, be subject to the *NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities* (Order 2009-0009-DWQ, NPDES No. CAS000002; as amended by Orders 2010-0014-DWQ and 2012-006-DWQ). The Construction General Permit, discussed in Section 3.5.3, *Regulatory Framework*, of Section 3.5, *Geology, Soils, and Paleontological Resources*, requires the preparation and implementation of a SSWPPP for construction activities that includes erosion and sediment controls, runoff water quality monitoring, means of waste disposal, implementation of approved local plans, control of post-construction sediment, and maintenance responsibilities.

Municipal Stormwater Permitting (MS4)

The state's Municipal Stormwater Permitting Program regulates stormwater discharges from Municipal Separate Storm Sewer Systems (MS4s). MS4 Permits were issued in two phases. Phase I was initiated in 1990, under which the RWQCBs adopted NPDES stormwater permits for medium (serving between 100,000 and 250,000 people) and large (serving more than 250,000 people) municipalities. The regional water quality control boards, including LARWQCB, have adopted an MS4 Permit specific to their region. As part of the Phase II of the MS4 Permit, the SWRCB adopted a General Permit for small MS4s (serving less than 100,000 people) and non-traditional small MS4s including governmental facilities such as military bases, public campuses, and hospital complexes. The Long Beach MS4 Permit is noted below but discussed in detail in Section 3.5.3, *Regulatory Framework*, of Section 3.5, *Geology, Soils, and Paleontological Resources*.

3.8.3.3 Local

Water Quality Control Plan for the Los Angeles Region (Basin Plan)

The Water Quality Control Plan for the Los Angeles Region (Basin Plan) is designed to preserve and enhance water quality and protect the beneficial uses of waters within the region. The Basin Plan (i) designates beneficial uses for surface and groundwater, (ii) sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state's antidegradation policy, and (iii) describes implementation programs to protect all waters in the region. The Basin Plan incorporates pertinent water quality policies and regulations including applicable State and Regional Board plans and policies. The Basin Plan is a resource for the LARWQCB and others who use water and/or discharge wastewater in the Los Angeles Region. Other agencies and organizations involved in environmental permitting and resource management activities also use the Basin Plan. Finally, the Basin Plan provides valuable information to the public about local water quality issues. The Basin Plan is reviewed and updated as necessary. For the Los Cerritos Channel Watershed, the beneficial uses identified in the Basin Plan are listed below:

- Wetland Habitat (WET);
- Navigation (NAV);
- Commercial and Sport Fishing (COMM);
- Estuarine Habitat (EST);
- Wildlife Habitat (WILD);
- Rare, Threatened, or Endangered Species (RARE);
- Migration of Aquatic Organisms (MIGR);
- Shellfish Harvesting (SHELL);
- Water Contact Recreation (REC-1); and
- Non-contact Water Recreation (REC-2).

For the San Gabriel River, the beneficial uses are as follows:

- Wildlife Habitat (WILD);
- Warm water habitat (WARM);
- Cold water habitat (COLD);
- Rare, Threatened, or Endangered Species (RARE);
- Estuarine Habitat (EST);
- Marine habitat (MAR);
- Migration of Aquatic Organisms (MIGR);
- Spawning, Reproduction, and or Early Development (SPWN);
- Wetland Habitat (WET);

- Municipal water supply (MUN);
- Industrial service supply (IND);
- Agricultural Supply (AGR);
- Groundwater Recharge (GWR); and
- Industrial process supply (PROC).

Wetland Beneficial Use Guidelines

Criteria for assessing sediment for wetland surface and foundation beneficial uses were first developed by the San Francisco Bay Regional Water Quality Control Board in the Draft Staff Report entitled *Beneficial Reuse of Dredged Materials: Sediment Screening and Testing Guidelines*, dated May 2000. The document was prepared to assist in planning beneficial reuse projects in the San Francisco Bay Area by establishing general screening guidelines and general sediment testing requirements, and included specific criteria for reuse of sediments in wetland and upland beneficial uses. Subsequent additional ambient sediment chemical and toxicity testing was performed along with a statistical analysis of the historical and more recent analytical data to develop a statically derived set of recommended sediment chemistry screening guidelines for beneficial reuse, as documented in *An Evaluation of Existing Sediment Screening Guidelines for Wetland Creation/Beneficial Reuse of Dredged Material in the San Francisco Bay Area along with a Proposed Approach for Alternative Guideline Development* prepared by Germano & Associates in 2004 and funded by the California State Coastal Conservancy. The subsequent recommended guidelines are based on predicting acute amphipod toxicity and, therefore, can be applied to sites outside of the San Francisco Bay area, as they are based on toxicity testing results rather than ambient concentrations in the Bay. The guidelines were applied to a restoration project at the Ballona Wetlands, located in a similar setting just north of Los Angeles International Airport (ESA 2015).

Long Beach MS4 Permit

The City of Long Beach is covered under the Long Beach MS4 Permit: Waste Discharge Requirements for Municipal Separate Storm Sewer System Discharges from the City of Long Beach; Order No. R4-2014-0024 (LARWQCB 2014). The Long Beach MS4 Permit is discussed in detail in Section 3.5, *Geology, Soils, and Paleontological Resources*. The MS4 Permit includes regulations that would apply to maintaining water quality.

Long Beach Storm Water Management Program

The City of Long Beach prepared and implemented a Storm Water Management Program, as required by the above-cited MS4 Permit. The Long Beach Storm Water Management Program is discussed in detail in in Section 3.5, *Geology, Soils, and Paleontological Resources*. The Storm Water Management Program includes regulations that would apply to maintaining water quality.

Long Beach Low-Impact Development Manual

The City of Long Beach adopted low-impact development (LID) regulations for the purpose of encouraging the beneficial use of rainwater and urban runoff; reducing stormwater/urban runoff

while improving water quality; reducing off-site runoff and providing increased groundwater recharge; reducing erosion and hydrologic impacts downstream; and enhancing the recreational and aesthetic values in our communities. The LID Manual is discussed in in Section 3.5, *Geology, Soils, and Paleontological Resources*. The above-described Long Beach Storm Water Management Program requires that each project prepare and implement a project-specific LID Plan.

Long Beach Municipal Code

The relevant portions of the Long Beach Municipal Code include Chapter 8.96, Stormwater and Runoff Pollution Control, which reinforces the requirements of the CWA and the Porter-Cologne Act (including Construction General Permit requirements) within the City.

Southeast Area Development and Improvement Plan and Draft Southeast Area Specific Plan

Approved in 1977, the Southeast Area Development and Improvement Plan (SEADIP) was the first Planned Development district in the City of Long Beach. The SEADIP document was intended to guide land use and development in area that was experiencing a period of rapid growth and is identified as the zoning for the program area. The 1977 SEADIP included the following planning goals and objectives relevant to hydrology and water quality:

> **Goal 2. c):** Preservation, revitalization, and, if feasible, enlargement of the Cerritos [sic] Wetlands as a wildlife reserve park.
>
> > **Environmental Objective: 3. b)** Enhance the natural environment, improving features that are renewable and preserving those that are unique.

The 1977 SEADIP also provided the following narrative environmental consideration:

> *"Protection of the Cerritos Wetlands was of primary consideration during the project planning. Area 33, which contains the marsh, is to be improved and enhanced so that it can serve its natural function and still serve the community by providing open space, visual quality, and peripheral trails. New wildlife habitats may also be established as a result of the projected improvement. In addition, protection of an endangered bird, the least tern, can result from these improvements."*

Subsequent revisions to SEADIP are provided in the SEADIP PD-1, which includes updates, revisions, and additions of the ordinance history through 2006. The additions through 2006 include narrative discussion of "The Wetlands" and "The Buffers," which would include the restoration area. Relative to hydrology and water quality, the narrative is largely permit-, process-, phasing-, and financially-oriented.

In July 2016, the City of Long Beach circulated a draft of the Southeast Area Specific Plan (SEASP) 2060, which is intended to replace SEADIP as the applicable planning document for the program area, including re-designating land uses for the program area. Although the proposed SEASP 2060 was adopted by the City Council on September 19, 2017,the SEASP 2060 has not been certified by the CCC, it is anticipated that the SEASP 2060 will be completed and issued in its final form within the lifetime of the proposed program and is discussed here for informational

purposes. Portions of SEASP 2060 relevant to the proposed program are provided in Section 3.5.3, *Regulatory Framework*, in Section 3.5, *Geology, Soils, and Paleontological Resources*, of this PEIR, and include development standards for wetland buffers and storm drains that are also relevant to hydrology and water quality. In addition, the following objectives apply to sea-level rise:

- Project the range of sea-level rise for the proposed program.
- Determine how impacts from sea-level rise may constrain the program area.
- Determine how the proposed program may impact coastal resources, considering the influence of future sea-level rise on the landscape.

Seal Beach General Plan – Safety Element

The Safety Element of the General Plan dated December 2003 includes the following policies that would relate to the proposed program:

5D. Plan capacity for the 100-year flood and provide short term reasonable protection for locations that would benefit from 10-, 25- or 50-year storm drainage facilities.

5F. Pursue a regional approach to watershed management, particularly in regards to the San Gabriel River, and coordinate improvement plans with local, state, federal, and community-based organizations and agencies, including all of the jurisdictions located upstream on the San Gabriel River.

3.8.4 Significance Thresholds and Methodology

3.8.4.1 Significance Thresholds

For the purposes of this Program Environmental Impact Report (PEIR) and consistency with Appendix G of the CEQA Guidelines, the proposed program would have a significant impact on hydrology and water quality if it would:

a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality;

b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

   i. result in substantial erosion or siltation on- or off-site;

   ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; or

   iii. create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

   iv. impede or redirect flood flows?

d. In flood hazard, tsunami, or seiche zones, risk or release of pollutants due to project inundation; or

e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

3.8.4.2 Methodology

Hydrodynamic Modeling

The following analysis to assess potential impacts related to hydrology and water quality is based on the potential for elements of the proposed program to result in adverse impacts, using existing site conditions, as currently understood from investigations conducted to date, as a baseline for comparison. The existing regulatory requirements of proposed elements of the proposed program are also considered and assessed in the realm of applicable regulations to proposed activities. Hydrodynamic modeling is a primary tool to evaluate hydrologic changes that would occur with changes such as removal of berms or culverts and grading changes that provide hydraulic connections that currently do not exist or limit connections that do currently exist. Hydrodynamic modeling can be used to predict through computer simulations how water flows could change existing flooding, erosion, and sediment deposition regimes. This section describes the hydrodynamic model and how it was used to simulate the surface water response to the proposed program during storm events. The results of the hydrodynamic modeling are presented in Hydrodynamic Modeling Technical Report prepared by ESA for the proposed program in January 2020 (Appendix H).

Hydrodynamic models are computer simulations that represent water flow in the environment using mathematical equations. By mathematically representing a simplified version of a surface water system, reasonable scenarios can be predicted, tested, and compared. The applicability or usefulness of a model depends on how closely the mathematical equations approximate the physical system being modeled.

Setting up a standard hydrodynamic model involves establishing the model domain, which is the area within which the model stimulates surface water conditions. In a two-dimensional model, as used in Appendix H, the model domain is defined by a horizontal grid. The grid divides the two-dimensional space into cells that resemble rectangular boxes, typically numbering in the tens of thousands. Each cell can have a different roughness to represent flow resistance under different flow conditions.

Boundary conditions are applied to the model to simulate the water conditions at the upstream and downstream ends of the domain and to provide a starting place for computations. In an unsteady model, as used in Appendix H, the boundary conditions are represented by a time series (e.g., one week of tides, an entire storm event).

Features such as culverts and bridges can be added to the model domain, as well, to represent the system. Model inputs to represent these features include dimensions, roughness, and energy losses caused by the feature.

After the model has been set up for existing conditions as described in Section 3.8.2, *Environmental Setting*, it then is verified against known information. Simulations are run for measured flow rates, and model results are compared to observed/measured water elevations or

velocities. The various input parameters then are adjusted to better simulate observed conditions. When measured flow data are not available, model parameters are selected based on available information and professional judgment.

Model results for existing conditions then are used as a baseline for evaluating the potential hydrodynamic impacts of proposed changes, such as expansion of a floodplain, construction of a bridge, or enlargement of culverts. For this analysis, each alternative was modeled and the results were compared to existing conditions model results to identify potential impacts.

Hydrodynamic Model Terminology

Certain terminology is used in hydrodynamic modeling to describe and illustrate the nature, extent, and movement of surface water and the responses to changes. Key terms are presented below.

- *100-Year Flow/Flood/Storm/Event*—a storm/flood/event expected to occur once every 100 years or with an annual probability of occurring of 1 percent. Any X-year event is expected to occur once every X years or with a 100/X percent chance of annual occurrence.
- *Freeboard*—the distance between the water surface and the lowest possible entry point along a levee or berm during flooding or large waves
- *MLLW*—mean lower low water, average height of the lowest tide each day
- *MHHW*—mean higher high water, average height of the highest tide each day
- *NAVD*— North American vertical datum. A plane that elevations are measured from for consistency across North America
- *Unsteady Model*—unsteady models represent a time series
- *Tidal Prism*—the volume of water that is exchanged in a given tidal area between MLLW and MHHW

Limitations of Hydrodynamic Models

Hydrodynamic models use simplified mathematical equations to represent extremely complex natural systems. Therefore, significant uncertainty is inherent in model results, even when parameters have been calibrated to measured data. Nonetheless, hydrodynamic modeling is a standard tool for project planning, design, and impact analysis, and the results provide a basis for comparing the hydraulic performance of different scenarios relative to a baseline.

Hydrodynamic Model Used for Project Analysis

An unsteady state, two-dimensional HEC-RAS hydrodynamic model was the primary analytical tool used to evaluate project impacts on flooding. HEC-RAS is a public domain hydrodynamic modeling program that was developed by the Corps' Hydrologic Engineering Center and is used extensively in flood and sediment transport analysis applications.

Model set-ups were built for baseline conditions (no project), South Area, near-term conditions, and full breach conditions (South Area mid-term restoration, Isthmus mid-term restoration) and Central Area long-term restoration). Both phases of the South Area were modeled to assess potential interim impacts following near-term restoration. The model boundary includes the

Central Area, the San Gabriel River, the Isthmus Area, the Haynes Cooling Channel, and the South Area, as well as a small portion of Alamitos Bay Marina, where the Haynes Cooling Channel culverts connect to the bay. The models include the following bridges: 2nd Street over the San Gabriel River, 2nd Street over the Haynes Cooling Channel, the Pacific Coast Highway, and Marina Drive. Appendix H provides the detailed model set-up.

HEC-RAS computes water surface elevations for each cross section working upstream from a known water surface elevation. The downstream boundary condition (water level) is therefore an important input to the model. For this study, the downstream boundaries of the HEC-RAS model were where the San Gabriel River discharges to the Pacific Ocean and where the Haynes Cooling Channel connects to the Alamitos Bay Marina.

To evaluate flood risk, a conservative tidal boundary condition of the annual high tide was chosen. A representative two-week tide cycle from September 5 to 18, 2018, was used for the typical tides scenario. Verification time series of observed water level data provided by Moffatt and Nichol for the Hellman Channel and collected by ESA in the San Gabriel River were used in unsteady flow analyses. HEC-RAS model results were similar to recorded water surface elevations at the location of the tide gauges.

For storm conditions, a 100-year storm flow rate of 55,900 cfs was applied at the upstream boundary of the model.

Sea-Level Rise Scenarios

To assess the potential flood impacts and to inform the habitat design for the LCW, two sea-level rise amounts were selected to bracket the range of potential projections: 1.7 and 3.3 feet. According to OPC 2018, there is a 66 percent chance that sea-level rise will be between 1.7 and 3.3 feet of sea-level rise by 2110. There is a 0.5 percent chance that sea-level rise will reach or exceed 3.3 feet as soon as 2070.

To analyze potential flood impacts along the San Gabriel River, the medium-high risk aversion scenario is recommended per the OPC Guidance, since homes and other development in the area are at risk for flooding. **Table 3.8-6**, *Los Cerritos Wetlands Sea-Level Rise Projections (in feet)*, shows the model scenarios and the corresponding time frames (the first year in the range) under the medium-high risk aversion projection. To analyze habitat elevations, the likely range of sea-level rise (the second column in Table 3.8-6) can be used to understand the likely habitat acreages that will develop over time. Since habitat restoration requires a balance of creating wetland habitat today and providing space for wetland habitat tomorrow, the likely range of sea-level rise can be considered to understand the expected amount of sea-level rise (rather than a worst-case scenario). The model scenarios and the corresponding time frames under the likely range (the second year in the range) are shown in Table 3.8-6.

TABLE 3.8-6
LOS CERRITOS WETLANDS SEA-LEVEL RISE PROJECTIONS (IN FEET)

	~2040–2070	~2070–2110
Amounts of sea-level rise	1.7	3.3

Model Runs

The HEC-RAS model was run with a range of tidal conditions and storm flow combinations. **Table 3.8-7**, *Model Scenarios*, presents the different scenarios.

TABLE 3.8-7
MODEL SCENARIOS

	Run	Scenario/ Geometry	Hydrology	Downstream Boundary Conditions	Sea-Level Rise
Typical Tides	Calibration	Existing	Power plant inflow	Two weeks tides from gage data	—
	1	Existing	Power plant inflow	Two weeks typical tides, w/ annual high tide	—
	2	Existing	No flow	Two weeks typical tides, w/ annual high tide	—
	3	South Area, Near-Term	Power plant inflow	Two weeks typical tides, w/ annual high tide	—
	4	South Area, Near-Term	No flow	Two weeks typical tides, w/ annual high tide	—
	5	Full Breach	No flow	Two weeks typical tides, w/ annual high tide	—
Flood Conditions	6	Existing	100-year event	Two days, w/ annual high tide	—
	7	South Area, Near-Term	100-year event	Two days, w/ annual high tide	—
	8	Full Breach	100-year event	Two days, w/ annual high tide	—
Sea-Level Rise	9	Existing	No flow	Two weeks typical tides, w/ annual high tide	1.7 ft
	10	Full Breach	No flow	Two weeks typical tides, w/ annual high tide	1.7 ft
	11	Existing	No flow	Two weeks typical tides, w/ annual high tide	3.3 ft
	12	Full Breach	No flow	Two weeks typical tides, w/ annual high tide	3.3 ft

Sediment Dynamics Analysis

Sedimentation and erosion in a stream channel can impact the flood conveyance capacity of the channel. Sediment analyses were used to evaluate the potential impact of sedimentation and/or erosion on flooding under the proposed program. This section describes the sediment dynamics analysis, including geomorphic analyses. The results of these analyses are presented in the Sediment Dynamics Analysis prepared for the program by ESA in January 2020 and in Appendix I. This analysis focuses on the Central Area, which due to its potential future connection to the San Gabriel River, is most at risk for scour and deposition. The culvert connections to Callaway Marsh, Zedler Marsh, and the South Area protect these habitats from any tidal scour by muting the tides, which limits tidal velocities. Similarly, the culverts limit how much sediment can enter the wetlands, so deposition is limited.

Sediment Dynamics Terminology

Certain terminology is used in sediment dynamics analyses to describe and illustrate the nature, extent, and movement of sediment. Key terms are presented below.

- *Shear stress*—the force that causes materials (such as water and sediment) to slide upon each other in opposite directions.

Geomorphic Analyses

A geomorphic analysis was performed to assess how the site would develop and evolve over time in response to the proposed program and physical processes. Flood events, tidal action, and coastal sediment transport processes were examined as part of this analysis.

Flood Events

The HEC RAS 2D modeling described above evaluated the potential for erosion and deposition within the San Gabriel River channel, as well as scour and deposition on the marsh. Maps of hydraulic shear stress during the peak of the 100-year storm event were exported from HEC RAS to analyze potential marshplain erosion. Mathematical equations relating shear stress to erosion were used to develop a map of potential erosion during the 100-year storm event and to estimate erosion volumes. The inputs to the equations, including critical shear stress, were chosen based on the most conservative values (the values resulting in the highest erosion) found in the literature, in order to evaluate the greatest possible impacts of the proposed program. For this reason, the marsh erosion volumes are likely a conservative overestimate.

To analyze deposition in the marsh, it was assumed that most of the sediment that enters the wetland system would be brought in during storm events, and in areas experiencing velocities slower than the settling velocity of the sediment, the sediment is expected to drop out of solution and settle or deposit onto the marsh. Cahoon et al. (1996) estimated that 0.64 percent of sediment yield was deposited on the marsh during storm events for creek mouth tidal wetlands. To roughly approximate the amount of sediment being deposited at different locations in the Central Area, the estimate of 0.64 percent was applied to the total sediment load (from the sediment transport model) to estimate the volume of deposition. The total was then divided among the different slow-flowing marsh areas. This is likely a low estimate of marsh accretion, but was used to conservatively estimate the amount of sediment leaving the system with the Project.

Tidal Action

Tidal channels deposit or scour in response to the size of the tidal prism that the channels convey. Tidal hydraulic geometry relationships can provide an estimate of the equilibrium channel size (cross-section dimensions) in relationship to the tidal prism (the volume of water between MLLW and MHHW) or marsh area. These relationships were used to predict the equilibrium channel size under existing conditions and with the proposed program.

Coastal Sediment Transport

Analysis of the coastal sediment transport was conducted through literature review. The Long Beach Detached Breakwater protects most of the coast from ocean waves, resulting in relatively little longshore transport in the vicinity of the site (USACE 1986). Due to jetties at the mouth of

the San Gabriel River and the program site's inland location, coastal sediment transport is not expected to have a substantial impact on the sediment dynamics at the LCW.

As stated in Chapter 1, *Introduction*, on March 8, 2019, the Los Cerritos Wetlands Authority sent a Notice of Preparation to responsible, trustee, and federal agencies, as well as to organizations, and individuals potentially interested in the proposed program to identify the relevant environmental issues that should be addressed in the PEIR. Issues related to hydrology and water quality were identified.

3.8.5 Program Impacts and Mitigation Measures

Impact HYD-1: The proposed program would result in a significant impact if the proposed program would violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.

Construction

The proposed program would require ground disturbance, vegetation removal and/or grading to restore and enhance the wetlands, levee modifications, public access facilities, and infrastructure and utility modifications. Exposure and removal of topsoil and the underlying sub-soils during construction could generate sediment that, if mobilized by stormwater runoff or runoff from applied water during construction, could expose sediments to erosion and could potentially mobilize contaminated sediments that adversely affects water quality of receiving waters.

The construction activities for the proposed restoration activities would be required to comply with the Construction General Permit for the state and the County MS4 Permit required as part of the permitting process. The proposed program would be required to comply with the General Construction and MS4 Permits because greater than 1 acre of ground would be disturbed. For work in the channel, the proposed program also would be required to comply with a Section 401Water Quality Certification. Excavation of the channels in the Central and South Areas may extend below the water table and could require temporary dewatering. All excavation dewatering would be conducted in accordance with the General Construction Permit and Regional Water Board Order No. R8 2015-004, General Waste Discharge Requirements for Discharges to Surface Waters that Pose an Insignificant (De Minimis) Threat to Water Quality, which ensures discharge water would not be discharged in such a way as to result in direct or indirect degradation of surface water in the San Gabriel River, Los Cerritos Channel, or Alamitos Bay. Compliance with the General Construction Permit, MS4 Permit, and 401 Certification would ensure that the proposed activities would include adequate stormwater protection through BMPs and monitoring, to limit increased turbidity and decreased water quality from sediment and other pollutants leaving the construction site. As a result, impacts during construction would be less than significant.

Contaminated Water and Sediment from Upstream Sources Impacting the Existing Wetlands

No changes are proposed to the source of flows to the Isthmus Area, so no water quality impacts are expected in these habitats due to the proposed program. In the South Area, the proposed program would reconnect the marsh floodplain to the Haynes Cooling Channel, which would

improve water quality at the site by increasing tidal flushing and bringing in a cleaner source of water, when compared to the San Gabriel River. Historical and current water quality data indicates that flows from the Los Cerritos Channel and the San Gabriel River exceed water quality objectives. Since the proposed program will reconnect existing habitats in the North and Central Area to the flows in the Los Cerritos Channel and the San Gabriel River respectively, there is a potential for water quality impacts to the existing habitat in these areas.

However, work is being done in the watershed, outside of the proposed program, to improve the water quality in the Los Cerritos Channel and the San Gabriel River. TMDLs have been developed or are anticipated for the different constituents listed for these waterbodies. The LARWQCB has incorporated the TMDL waste load allocations and timelines into the reissued municipal separate storm sewer system (MS4) permit. Both Alamitos Bay and Los Cerritos Channel and the Lower San Gabriel River have Watershed Management Programs (WMP) which have identified watershed control measures (WCMs). The WCMs will help jurisdictions meet the MS4 permit requirements and improve water and sediment quality in the rivers and channels. The concentration and loading of the water quality constituents from the watershed will be reduced through compliance with the reissued MS4 Permit, TMDLs, and the WMPs. The potential for significant adverse impacts to the proposed program would, therefore, be significantly reduced.

In addition, the proposed program design allows for full tidal flows into the North and Central Area wetlands. Full tidal exchange creates favorable water quality conditions by limiting retention times of potentially impacted stormwater and non-storm flows and enhancing flushing of the wetlands with much higher quality ocean water.

Contaminated Water and Sediment from the Site Impacting the Local Water Bodies

The proposed program would further connect the Los Cerritos Channel and Steam Shovel Slough to the North Area, reconnect the San Gabriel River to the Central Area, connect the Haynes Cooling Channel to the South Area, and open up the North, Central, and South Areas to full tidal connections. Reconnection of the creek or channel to the floodplain and removal of the berms in the North Area and levees in the Central Area could cause erosion of the marsh during a large storm event, which could deliver sediment-laden runoff and associated constituents to the Los Cerritos Channel and San Gabriel River, respectively. (Storm erosion is not expected along the Haynes Cooling Channel due to the small watershed and storm flows.) Constituents associated with these sediments could then settle out into the channels at concentrations that may result in impairment for biological resources/beneficial uses. If this occurs, it would be a significant adverse impact.

Under tidal conditions, the program area is not expected to experience substantial erosion. In a stable estuary, mature marshes remain in a dynamic equilibrium between erosional and depositional processes. The marsh vegetation and its root structures help hold sediments in place. The appropriate sizing of tidal channels, as well as naturally recruited or planted vegetation, is expected to keep the marsh in a dynamic equilibrium, where any erosion during typical tides would be minor.

Under existing conditions, the existing marsh is not fully connected to the River, and sediment export from the marsh to the River during storm events is likely minimal. For storms less than the 10-year event (10 percent or greater chance of occurrence annually), no export from the marsh is expected. The sediment dynamics analysis showed that under full breach conditions, the 100-year event could export up to 10,000 cy of sediment (Appendix I). However, these events would occur infrequently with less than a 1 percent chance of occurrence every year. While the erosion could result in an increase in turbidity during storm events, it would be an infrequent, temporary impact, and one which is typical of natural systems and already occurs at the site. As a result, erosion could result in an infrequent, temporary impact relating to the contribution of constituents to the San Gabriel River; these inputs would not have a substantial impact on the beneficial uses of the system. Additionally, **Mitigation Measure HYD-1** has been developed to ensure monitoring and adaptive management is conducted to recognize and address any erosion, deposition, or sediment quality issues.

Groundwater Quality

The groundwater sampling conducted to date indicates that groundwater at the site has already been impacted by the historic site land uses. It is likely that sediment in certain areas of the site will require remediation before restoration, which would improve conditions and be a benefit to groundwater quality.

The shallow water table is under tidal influence meaning that groundwater elevations fluctuate in response to tidal cycles in the Los Cerritos Channel, the San Gabriel River, and the Haynes Cooling Channel. Generally, freshwater from the inland water table flows toward the coast and mixes with salty groundwater making groundwater that is brackish (a mixture of salty and fresh water); however, the program area is on the ocean side of the previously discussed Alamitos Barrier Project, a seawater intrusion barrier system located north, northeast, and east of the program area. Consequently, shallow groundwater beneath the site will remain saline to brackish. As all of the local groundwater is non-potable, there are no wells in the vicinity of the program area that draw groundwater from the shallow water table for domestic or municipal use. Although the proposed program would increase tidal inundation through the restored marsh and possibly result in some localized increase in salinity within the restoration area, the change to water quality would not be considered to have an adverse impact on water resources because the groundwater in this area is all brackish to saline and is not used for domestic or municipal supply. Furthermore, the groundwater elevations below the site correspond to the tidally influenced river and channel elevations and, therefore, are also likely tidally influenced. It is not likely the site's groundwater will be used for direct potable use due to the tidal connection and salt water intrusion. Impacts would be less than significant.

Ocean Water Quality

The proposed program would excavate sediments in certain areas to reach marshplain elevations. Excavated sediment would be used on site to the extent feasible, but any remaining sediment may be designated for placement in an off-site landfill or in ocean disposal sites at either the Los Angeles (LA-2) or Newport Bay (LA-3) sites. The suitability of on-site excavated sediment for placement at a designated ocean dredged material disposal site would require a Tier III evaluation

in accordance with Evaluation of Dredged Material Proposed for Ocean Disposal – Testing Manual (OTM; USEPA/USACE 1991). The testing results to date do not preclude this alternative, but require further biological testing to meet the applicable guidelines. The Tier III evaluation contains sediment quality standards which are set based on water quality criteria and protection of water quality. Sediment would be placed in an ocean disposal site only if it met the standards of the OTM, therefore, there would be no adverse impact as a result of ocean disposal. If the material is determined to be suitable for this placement alternative, specific permitting for ocean disposal or open-water placement would be required for the designated site. Impacts would be less than significant.

Mitigation Measure

Mitigation Measure HYD-1: A Monitoring and Adaptive Management Plan (MAMP) shall be prepared and implemented prior to commencement of construction or restoration activities. The MAMP shall provide a framework for monitoring site conditions in response to the program implementation. The monitoring shall focus on sediment quality in areas subject to the greatest deposition from storm events and that are also not subject to regular tidal flushing, (e.g., the southwestern corner of the Long Beach City Property site). The sediment quality monitoring shall be performed at a frequency that would capture the potential build-up of contaminants in the deposited sediment before concentration are reached that would impact benthic macro-invertebrates and other sensitive species. The findings of the monitoring efforts shall be used to identify any source of impairment, and if discovered, provide measures for remediation of the sediment source area(s).

The MAMP shall be submitted for review and approval to permitting agencies prior to commencement of construction or restoration activities.

Significance after Mitigation

Less than Significant with Mitigation

Impact HYD-2: The proposed program would result in a significant impact if the proposed program would substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the proposed program may impede sustainable groundwater management of the basin.

Construction of the proposed program facilities could involve activities that require the use of water, such as concrete mixing and dust control during earthwork activities. The local water supply is served by the City of Seal Beach and the Long Beach Water District (LBWD), which both receive a mix of groundwater, imported water, and recycled water (LBWD only) (see Section 3.16, *Utilities and Service Systems*, of this PEIR, for more details on program area water supply and program demand). Therefore, construction water demand could include use of groundwater supplies, however, construction water supply needs would be temporary and are unlikely to be substantial. In addition, as discussed in Section 3.16, *Utilities and Service Systems*, of this PEIR, the City of Seal Beach and LBWD water supplies are projected to exceed demand

through 2040, even in dry years. Therefore, construction associated with program activities would not adversely affect groundwater supplies or sustainable groundwater management of the basin.

During operation of the proposed program, water supply needs would be necessary for elements including Visitor Centers or other public access amenities, and potentially some maintenance activities. As noted above, both the City of Seal Beach and LBWD water supplies exceed projected demand through 2040 even in future dry years. Therefore, considering the different sources of water supply and the projected demands, the proposed program would not substantially decrease groundwater supplies or impede sustainable groundwater management of the basin.

Some elements of the proposed program could also potentially increase impervious surfaces such as public access elements, Visitor Centers, and parking areas. However, as noted above, shallow groundwater beneath the study area is brackish and not a source of public water supply. In addition, the proposed program would largely remain pervious with restoration and provide large areas of groundwater recharge. Other than the public access elements, Visitor Center, and parking area, the restoration would not increase or decrease recharge to the groundwater basin because no substantial areas of pervious surface are being added or removed. Therefore, the proposed program would not interfere with groundwater recharge such that it would interfere with sustainable management of the basin.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

Impact HYD-3a: The proposed program would result in a significant impact if the proposed program would substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site.

Construction

The proposed program would require ground disturbance, vegetation removal, and/or grading to restore and enhance the wetlands, and build levees and berms around the Central and South Areas. Exposure and removal of topsoil and the underlying sub-soils during construction could generate sediment that, if mobilized by stormwater runoff or runoff from applied water during construction, could deliver sediment-laden runoff to the San Gabriel River or adjacent sites, including the beach, which could result in localized and downstream siltation.

The construction activities for the proposed restoration would be required to comply with the Construction General Permit for the state and the County MS4 Permit required as part of the permitting process. The proposed program would be required to comply with the General Construction and MS4 Permits, because more than 1 acre of ground would be disturbed. For work

in the San Gabriel River, the proposed program would be required to comply with a Section 401 Water Quality Certification. Breaching and lowering of the levee may extend below the water table and could require temporary dewatering. All excavation dewatering would be conducted in accordance with the General Construction Permit, which ensures discharge water would not be discharged in such a way as to result in direct or indirect degradation of surface water in the San Gabriel River or Alamitos Bay. Compliance with the General Construction Permit, MS4 Permit, and 401 Certification would ensure that the proposed activities would include adequate stormwater protection through BMPs and monitoring, to limit increased turbidity and decreased water quality from sediment and other pollutants leaving the construction site.

Operation

Post-construction, the proposed program would reconnect the San Gabriel River to the Central Area and open up the Central Area to full tidal connection with the river. Reconnection of the river to the floodplain and removal of the levees could cause erosion of the marsh during a large storm event, which could deliver sediment-laden runoff further down the river or to the ocean. If this sediment deposited in the San Gabriel River or the entrance of Alamitos Bay, it could impact flood management or navigation.

As discussed above for Impact HYD-1, under tidal conditions, the Central Area is not expected to experience substantial erosion. The appropriate sizing of the channels, as well as naturally recruited or planted vegetation, is expected to keep the marsh in a dynamic equilibrium, where any erosion during typical tides would be minor.

The volume of sediment transported through the system may still increase as a result of the proposed program, but, as discussed for Impact HYD-1 above, the volumes of additional sediment is typical for this type of system. However, the additional sediment could increase flooding if it deposited downstream and reduced drainage capacity. During a storm event, velocities in the river channel increase and would erode any temporarily deposited material. Additionally, the amount of sediment that could potential erode from the marsh (10,000 cy) is an order of magnitude less than the amount of sediment coming from the watershed (Appendix I).

The increased volume of sediment transported through the system also could increase the amount of sedimentation at the entrance to Alamitos Bay. However, the existing jetties at the entrance, are expected to limit sediment transported from the San Gabriel River from settling in the marina entrance.

During large storm events, the increased export from the San Gabriel River could increase the deposition of fine sediments on the beach. However, this would be considered merely a temporary nuisance condition and wave action would wash fines out to the ocean.

The proposed program design may also include armoring which would decrease channel bank erosion. Additionally, Mitigation Measure HYD-1 would ensure monitoring and adaptive management is conducted to recognize and address any erosion or sediment quality issues. The MAMP will include sediment erosion and deposition monitoring post large storm events to evaluate whether erosion from the marsh is depositing in the San Gabriel River and increasing the

flood risk. The monitoring will also determine if the marsh habitats are being impacted by erosion and provide measures for addressing the impacts.

Mitigation Measure

Mitigation Measure HYD-1.

Significance after Mitigation

Less than Significant

Impact HYD-3b: The proposed program would result in a significant impact if the proposed program would substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.

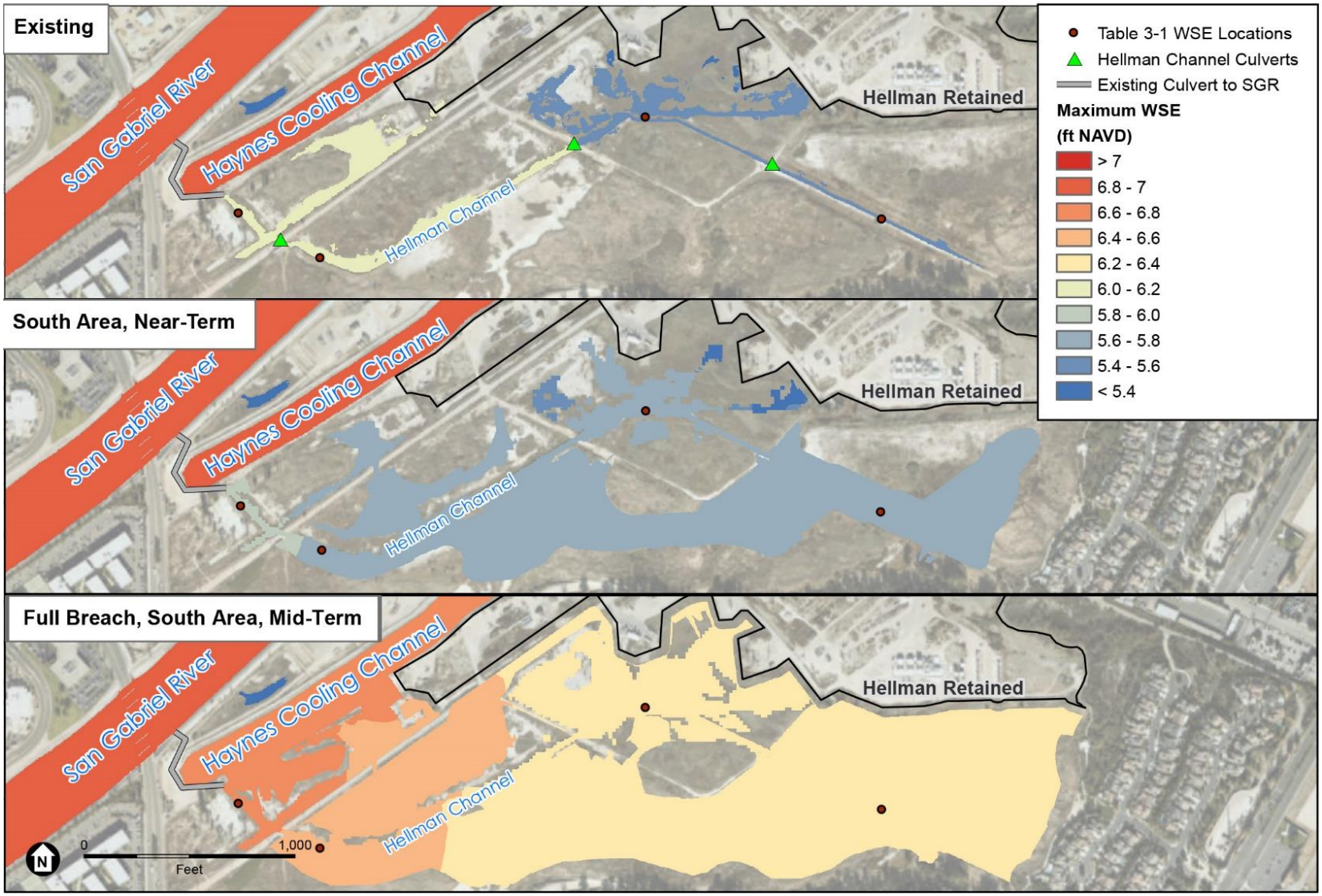
The proposed program would involve altered drainage patterns compared with the existing sites. This would include levees around the Central Area, which would reduce the stormwater retention volume available for surrounding areas. As discussed above for Impact HYD-1, stormwater drainage control requirements would require operational BMPs in accordance with the reissued MS4 Permit, TMDLs, and the WMPs, including bioswales along the edge of the Central Area. Through the retention and infiltration of stormwater runoff, the bioswales would accommodate the stormwater from Shopkeeper Road and 2nd Street and would result in a less-than-significant impact.

South Area

In the South Area, the proposed program would open or remove the gate on the culvert from the San Gabriel River to the Hellman Channel in the near-term, which could increase flooding at the site. In the mid-term, the South Area would be connected to the Haynes Cooling Channel, which could also increase flooding at the site.

Under the proposed program, the model results showed that water levels would decrease within the South Area by 0 to 0.8 feet during the 100-year riverine flood event in the near-term (**Figure 3.8-2**, *Modeled Water Levels during a 100-Year Event in the South Area*). This is because the grading of the site under the near-term restoration creates a much larger space for water to flow, but the culvert to the San Gabriel River still limits the amount of water that can enter the site. With the removal of the culverts within the middle of the marsh, the available water spreads more evenly across the site and water levels at the back of the site are higher than existing conditions, but the water levels near the mouth of the Hellman Channel are lower.

In the mid-term, the South Area would be connected to the Haynes Cooling Channel. Because of the Haynes Cooling Channel's small watershed, water levels in the channel are not expected to increase substantially during a 100-year rainfall event. The model results show that the water levels at the mouth of Hellman Channel reach an elevation of 6.8 feet NAVD, 0.5 feet lower than under existing conditions, which is due to the volume of water that leaves the marsh from the connection to the Haynes Cooling Channel.



SOURCE: ESRI, LCWA

NOTE: WSE = Water Surface Elevation

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 3.8-2
Modeled Water Levels during a 100-Year Riverine Event in the South Area

Additionally, the proposed program would construct a berm along the Hellman Property site, resulting in a freeboard of 3.5 feet between the mid-term, 100-year riverine water levels and the top of the berm. Under existing conditions, the model results showed that water levels from the South LCWA site extend onto the Hellman Property site, so since flood protection for the Hellman Property site would increase with the proposed program, this would be a beneficial effect.

The model results showed that the South Area is driven more by coastal water levels rather than the San Gabriel River water levels. Under a coastal 100-year event (i.e., 100-year high tide), the model showed the program would increase water levels in the South Area compared to existing conditions, but that the berm would have over a foot of freeboard under program conditions.

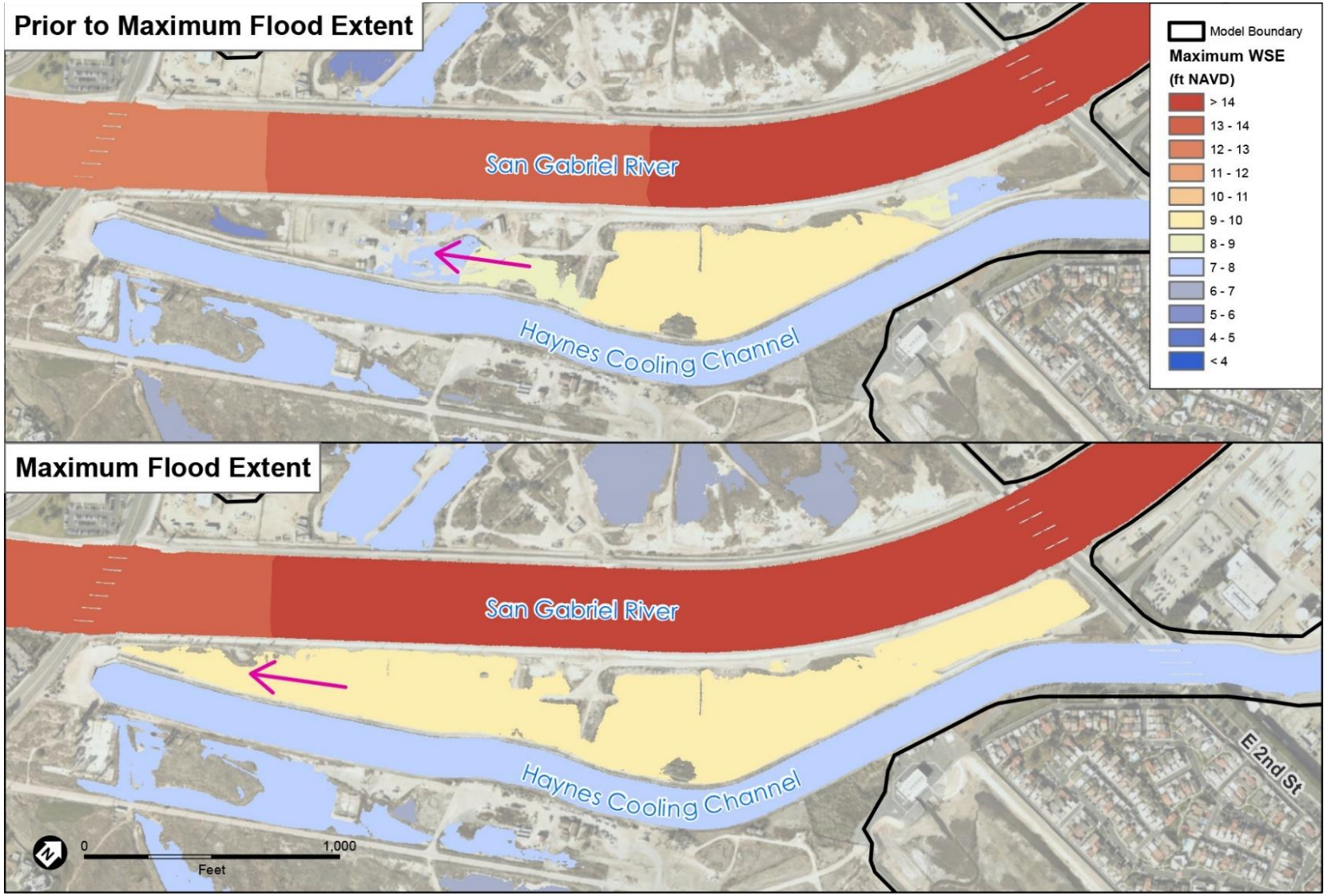
Isthmus Area

In the Isthmus Area, the proposed program would improve the culvert connection between Zedler Marsh and the Isthmus Bryant site in the near-term, which could increase flooding in the site during a storm event. The results of the hydrodynamic modeling for existing conditions showed that during the 100-year storm, the entire Isthmus Area is inundated to similar elevations. Since the culvert connection improvements under restoration would just improve the connection from Zedler Marsh to the Isthmus Bryant site, and both sites already flood during existing conditions, the proposed program is not expected to increase flooding at Zedler Marsh or the Isthmus Bryant site.

The proposed program would open or remove the gate on the culvert from the San Gabriel River to Callaway Marsh in the mid-term, which could increase flooding at the site. The hydrodynamic modeling results for existing conditions showed that flooding during the 100-year event occurs through the culvert to Zedler Marsh, and waters flow both northeast and southwest to inundate the Isthmus Area (**Figure 3.8-3**, *Modeled Water Levels during a 100-Year Event in the Isthmus Area, Existing Conditions*). Flooding from the Callaway Marsh under existing conditions is minimal, based on the model results. However, when the gate on the culvert is removed as part of the mid-term restoration, the model results shows water from the Callaway Marsh culvert would flow northeast onto the Isthmus LCWA site before waters from the Zedler Marsh culvert reach the far side of the site. This indicates that removing the gate increases flooding of the Isthmus LCWA site.

Central Area and San Gabriel River

The proposed program would reconnect the San Gabriel River to the restored wetland floodplain by grading the Central Area to marshplain elevations and removing the levees along the river. The expansion of the floodplain could increase water levels upstream, downstream, and at the site during storm events, thereby increasing off-site flooding.



SOURCE: ESRI, LCWA

NOTE: WSE = Water Surface Elevation

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 3.8-3
Modeled Water Levels during a 100-Year Event in the Isthmus Area, Existing Conditions

As described in Section 3.8.4.2, *Methodology*, above, hydraulic modeling evaluated any changes to flood water elevations that would result due to the proposed program. Modeling was conducted for both existing and program conditions (full breach model scenario). Under existing conditions, model results indicate that the 100-year storm flow is contained within the San Gabriel River channel with 2 to 3 feet of freeboard to the top of the levees. Within the proposed program, the expansion of flow into the Central Area and South Area provides additional flood storage, which reduces water levels upstream as much as 0.3 feet compared to existing conditions (**Figure 3.8-4**, *Modeled Water Levels during a 100-Year Event along the San Gabriel River*). In the vicinity of the Central Area, the model shows that water levels are reduced by 0.3 feet compared to existing conditions. Additionally, the proposed program would construct new levees up to an elevation of 24 feet NAVD in the Central Area, which would result in a levee freeboard of 9.4 feet, an increase of 6 to 7 feet from existing conditions. Below the Central and South Areas, the water levels in the channel are reduced by up to 0.1 feet compared to existing conditions. The model results indicate that the proposed program actually decreases flood water levels in the San Gabriel River, which would be a beneficial effect.

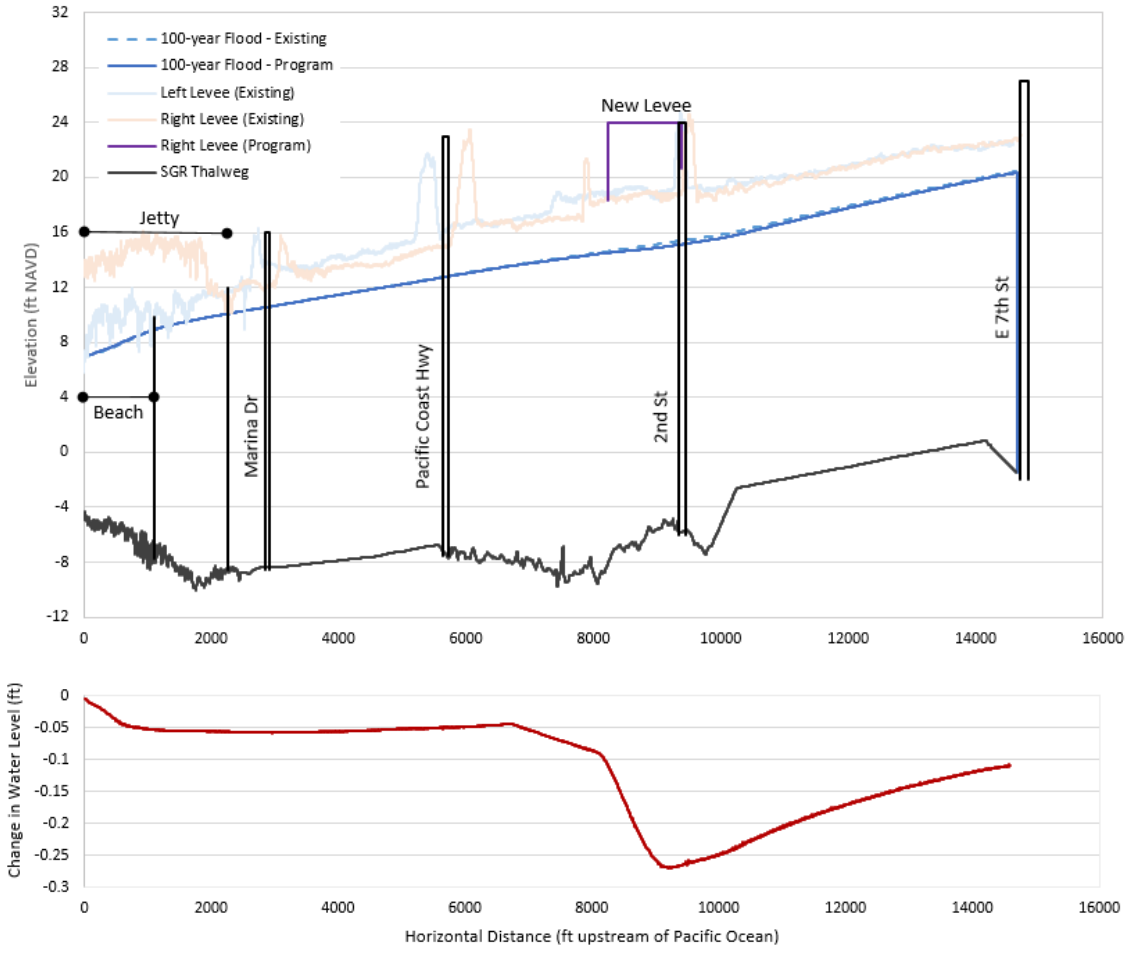
Under the proposed program, the model results show that water levels would increase within the Central Area by up to 7.1 feet during the 100-year event. Because the proposed program allows flows to expand over the floodplain in the Central Area through a levee breach rather than the existing perched culvert, water levels increase as designed (**Figure 3.8-5**, *Modeled Water Levels during a 100-Year Event in the Central Area*). Additionally, the proposed program would increase levee elevations compared to existing conditions, resulting in a freeboard of 9.4 feet. **Table 3.8-8**, *Levee Freeboard during the 100-Year Storm Event*, shows the freeboards under existing conditions and the proposed program. Since freeboard would increase with the program, this would be a beneficial effect.

TABLE 3.8-8
LEVEE FREEBOARD DURING THE 100-YEAR STORM EVENT

	Levee Freeboard in the Vicinity of the Central Area (feet)
Existing Conditions[a]	2–3
Program[b]	~9

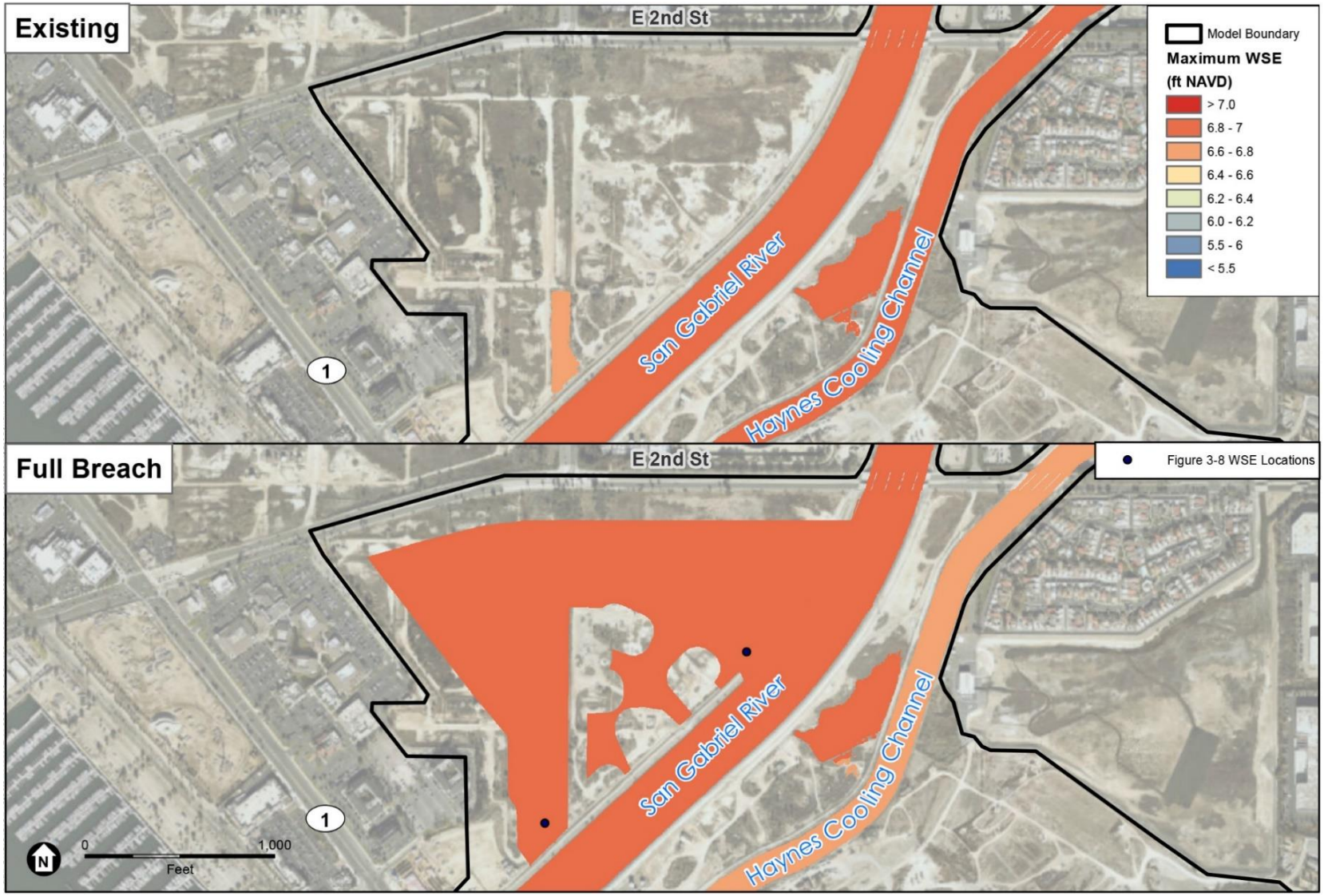
[a] Freeboard to existing levee
[b] Freeboard to proposed Perimeter Levee

Additionally, further modeling is required to receive a 408 permit and that modeling will determine the elevation of the levee that is required to maintain the existing level of flood protection as part of the next phase of design. Since the proposed program would raise the existing levee if that future modeling for the 408 permit determines the proposed program is raising flood levels at the site, there would be no increased flood risk at the site.



SOURCE: ESA, 2019 Los Cerritos Wetlands Restoration Plan Draft Program EIR
NOTE: SGR = San Gabriel River

Revised Figure 3.8-4
Modeled Water Levels during a 100-Year Storm Event along the San Gabriel River



SOURCE: ESRI, LCWA

NOTE: WSE = Water Surface Elevation

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 3.8-5
Modeled Water Levels during a 100-Year Event in the Central Area

Flooding from Sea-Level Rise

The proposed program would reconnect the San Gabriel River to the restored wetland floodplain by grading the Central Area to marshplain elevations and removing the levees along the river. Additionally, the proposed program would connect the South Area to the Haynes Cooling Channel in the mid-term. These program features could result in an increase of flooding under sea-level rise conditions compared to no project conditions.

Under 1.7 feet of sea-level rise, the model results show that tidal water levels in the South Area would be 1.6 to 2.2 feet higher than under no project conditions. However, there would still be 1.8 feet of freeboard along the berm. This would increase flood protection for the Hellman Property site, which would be a beneficial effect.

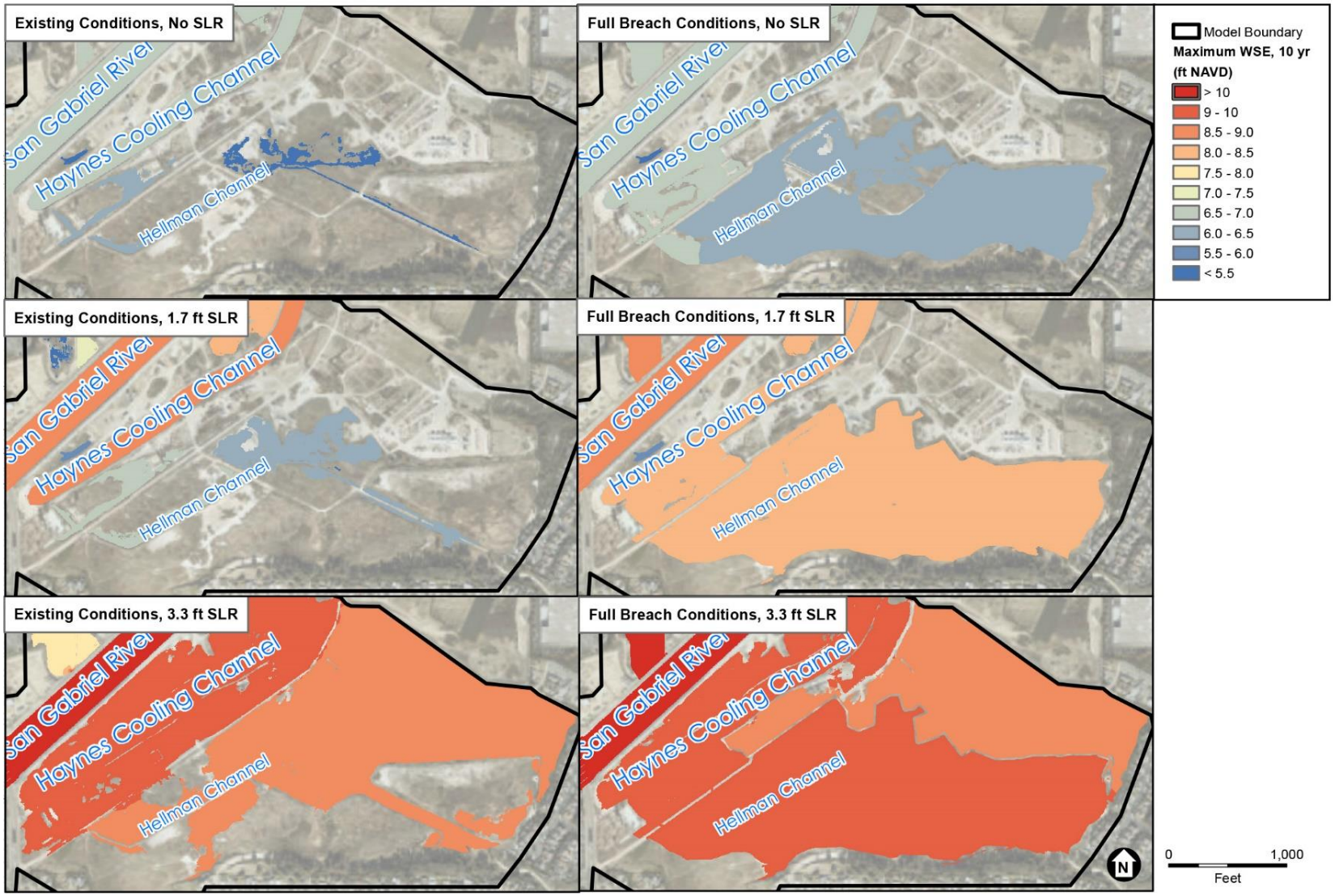
Under 3.3 feet of sea-level rise, the model results show that tidal water levels in the South Area would be 0.1 to 0.8 feet higher than no project conditions. With 3.3 feet of sea-level rise, the annual high tide will overtop the berm along the Haynes Cooling Channel and flood both the South LCWA site and the Hellman Property site, even without the proposed program (**Figure 3.8-6**, *Modeled Extent of Inundation during an Annual High Tide in the South Area, with Sea-Level Rise*). However, there would still be 0.4 feet of freeboard along the berm.

In the Central Area under no project conditions, the model results show that the tidal water levels in the site increase as the water levels in the San Gabriel River rise, because the perched culvert becomes less perched, and water can flow into the site more frequently and for longer portions of the tidal cycle (**Figure 3.8-7**, Modeled Extent of Inundation during an Annual High Tide in the Central Area, with Sea-Level Rise). With 3.3 feet of sea-level rise, the annual high tide water level is less than 2 feet below 2nd Street at the Studebaker Road intersection.

In the Central Area under long-term restoration with 1.7 feet of sea-level rise, the model results show that the tidal water levels in the site are 1.2 feet higher than no project conditions. With 3.3 feet of sea-level rise, the proposed program water levels would be 2.4 feet higher than no project conditions. However, construction of the Perimeter Levee around the site would provide increased flood protection, with up to 14 feet of freeboard.

Mitigation Measure

No mitigation is required.

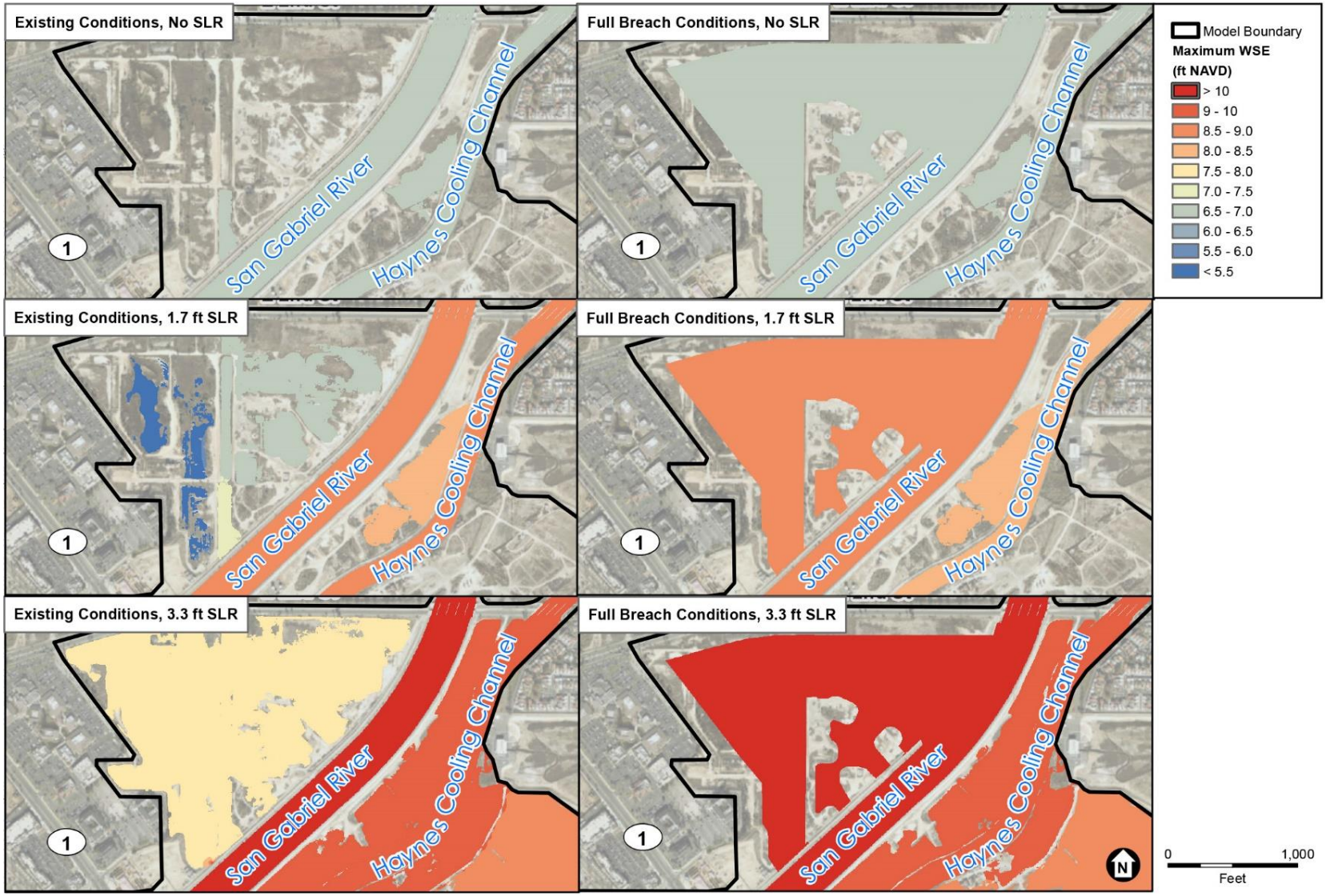


SOURCE: ESRI, LCWA

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NOTES: WSE = Water Surface Elevation; SLR = Sea-Level Rise

Figure 3.8-6
Modeled Extent of Inundation during an Annual High Tide in the South Area, with Sea-Level Rise



SOURCE: ESRI, LCWA

NOTE: WSE = Water Surface Elevation

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 3.8-7
Modeled Extent of Inundation during a 10-Year High Tide in the Central Area, with Sea-Level Rise

Significance after Mitigation

Less than Significant

Impact HYD-3c: The proposed program would result in a significant impact if the proposed program would substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

Replacement stormwater storage volume would be provided by creating low areas (e.g., basins or swales) between the roads and the proposed levee in the Central Area. These infiltration basins or bioswales would be sized to accommodate the local area drainage. These basins would also function as water quality treatment measures for a portion of the runoff from the existing paved areas. All drainage features throughout the program area would be designed in accordance with NPDES MS4 permit requirements. The potential impacts would be less than significant.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

Impact HYD-3d: The proposed program would result in a significant impact if the proposed program would substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows.

As noted above, by design, the proposed program would alter existing drainage patterns of the site to allow for increased flooding within the targeted restoration areas in pursuit of mimicking pre-development conditions, while also providing flood protection of off-site properties through the construction of levees, berms, or flood walls. The levees, berms, or flood walls would be constructed in accordance with 33 U.S.C. Section 408 permit requirements. Above ground structures including the Visitor Centers and other above ground improvements would be constructed in accordance with flood control requirements and with the expanded floodplain habitat created by the proposed program, they would not impede or redirect flood flows. Therefore, the proposed program would alter drainage patterns and areas that would be susceptible to flooding but would not impede or redirect flood flows to off-site areas. As a result, the potential impact related to altered drainage patterns and flood flows would be less than significant.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

Impact HYD-4: The proposed program would result in a significant impact if the proposed program would be in a flood hazard, tsunami, or seiche zone, and risk release of pollutants due to program inundation.

The entire program area is located in a tsunami inundation zone. Over the course of the proposed program, existing industrial facilities would be removed and replaced with largely restored native habitat areas. Improvements associated with the proposed program would include public access features, such as access roads and visitor centers, but with the removal of existing industrial activities and operations as well as the completion of any remediation of existing contamination, the proposed program would reduce the potential for release of pollutants presently on site.

In addition, the County of Los Angeles is working on becoming a Tsunami Ready community that would implement measures to avoid or lessen potential tsunami impacts to structures and persons. The Pacific Coast Highway could be used to bring in emergency personnel and supplies to the program area in the event of a tsunami. Further, the proposed program would restore areas to wetland habitat. Wetlands provide protection from tsunamis and tidal surges and would thus help mitigate potential damage from a tsunami event.

As discussed above, the proposed program would include flood protection measures that would be designed to limit flooding to the intended habitat areas consistent with pre-development conditions and provide sufficient protection to off-site areas. The berms or flood walls would be constructed in accordance with 33 U.S.C. Section 408 permit requirements which would minimize the potential for activities associated with the proposed program to cause flooding off site or release pollutants from inundation. In addition, there would not be any storage of substantive quantities of hazardous materials anywhere within the program area such that there would be risk of release from program inundation.

Otherwise, the program area is not located adjacent to an enclosed or semi-enclosed water body such that there would be no risk of seiche waves that could affect the site.

Impacts would be less than significant.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

Impact HYD-5: The proposed program would result in a significant impact if the proposed program would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

The Los Cerritos Channel and San Gabriel River are both listed as impaired waterbodies for a number of constituents through the 303(d) and TMDL programs as identified in the Basin Plan. The main constituents of concern for the two primary channels are metals (copper, lead, zinc, mercury, nickel), diazinon, coliform bacteria, pH, toxicity, bis(2ethylhexyl)phthalate, and trash. Water quality concerns within the San Gabriel River and Alamitos Bay/Los Cerritos Channel are being addressed through the watershed management plans (WMPs) and TMDLs. The WMPs contain specific numeric goals and watershed control measures (WCMs) that will improve water quality within the drainage areas. Los Cerritos Channel and Alamitos Bay is also part of the Long Beach Estuary Monitoring Plan which will provide more specific monitoring data and allow for appropriate WCMs.

Implementation of the proposed program would allow for tidal flows into the program area, creating favorable water quality conditions by limiting retention time and enhancing tidal exchange. This flushing would also minimize the impacts of sediment accumulation with high levels of constituents deposited on the restored program area during high storm flow events. As a result, the proposed program would not conflict or obstruct implementation of the water quality control plan but would actually be a benefit to the plan.

The Water Replenishment District of Southern California (WRD), in coordination with other basin stakeholders, has developed a Groundwater Basins Master Plan (GBMP) to manage the West Coast and Central groundwater basins (WRD 2016). The intent of the plan is to provide a single reference document for parties operating within and maintaining the West Coast and Central groundwater basins. This plan is intended to help guide the stakeholders develop and assess initial concepts for additional recharge and pumping from these basins to utilize the basins fully and reduce dependence on imported water. Some proposals to meet the plan goals include increasing groundwater pumping up to the allowed limits, use of additional stormwater and recycled water, expansion of the Edward C. Little Water Reclamation Facility, and various recharge programs. Implementation of the proposed program, would require water supplies for proposed program elements such as visitor centers, but otherwise would have relatively low water supply needs and would not otherwise interfere with the aforementioned goals of the WRD GBMP.

Therefore, the proposed program would have a less than significant impact related to water quality control plans or sustainable groundwater management plans.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

3.8.6 Cumulative Impacts

The geographical context for evaluating cumulative impacts is the San Gabriel River watershed. Cumulative impacts could occur during and following restoration under the proposed program if the effects of the proposed program were to combine with past, present, or foreseeable future projects within the watershed to become cumulatively considerable. The greatest potential for cumulative impacts with respect to water quality would occur if land disturbing activities either during restoration or post-restoration (long-term) of cumulative projects were to happen concurrently. However, the operation and maintenance phases of potential cumulative projects also are included in the temporal scope of cumulative impacts because minor alterations in topography and the addition/reduction of impervious surfaces could combine with the incremental restoration and post-restoration impacts of the proposed program to produce cumulative impacts related to erosion and sedimentation.

The existing conditions described in the setting above, reflect the effects, including water quality impairments, of past and existing land uses. It is within the context of these conditions that potential cumulative impacts to water resources are considered.

During construction and operation of the cumulative projects, it is anticipated that fuels, antifreeze, paints, oils, greases, and other lubricants, and various other potential water quality pollutants, similar to those discussed for proposed program impacts, would be stored or utilized on each site, in support of construction and operation period activities. Handling of such materials for all cumulative projects would be regulated under applicable federal, state, and local requirements, as discussed for the proposed program above. Adherence to these requirements, including SWPPPs and/or BMP Plans and erosion control practices, would ensure that water quality impacts of accidental releases of hazardous chemicals would be minimized. Minimal residual impacts on water quality could occur; however, they would be expected to be discrete in nature, associated with isolated incidents (e.g., accidental spills), and generally of low occurrence due to the nature of projects anticipated, and therefore, do not represent major hazardous materials users or manufacturers. Therefore, the proposed program's incremental impacts would not combine to cause or contribute to a significant cumulative impact.

As also discussed above, the impaired water bodies within the San Gabriel River watershed are being addressed through adherence to the Clean Water Act and the TMDLs that have been developed for the watershed. While the timing of completion for these TMDLs and WLAs can only be estimated at this time, they are anticipated to be completed at some time in the future. In addition, the proposed program would be associated with a change in land uses and required remediation of contaminated areas such that environmental conditions of water quality would be anticipated to be improved with time. As a result, implementation of the proposed program would not contribute to cumulatively considerable impacts related to hydrology and water quality.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

3.8.7 References

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SECTION 3.9
Land Use and Planning

3.9.1 Introduction

This section evaluates the potential for the proposed program to result in adverse impacts related to land use and planning. The analysis is based on review of applicable state, regional, and local land use plans and policies, the relevant regulatory ordinances, and a discussion of the methodology and thresholds used to determine whether the proposed program would result in significant impacts. This section analyzes the potential for both program-level and cumulative environmental impacts.

Data used in this section includes information obtained from the California Coastal Act of 1976 (CCA), the Southern California Association of Governments (SCAG) *2016–2040 Regional Transportation Plan and Sustainable Communities Strategy* (RTP/SCS), the *City of Seal Beach General Plan*, Seal Beach Municipal Code, *City of Long Beach General Plan*, and the City of Long Beach ~~Zoning~~ Municipal Code. All information sources used are included as citations within the text; sources are listed in Section 3.9.7, *References*.

3.9.2 Environmental Setting

3.9.2.1 Surrounding Land Uses

The proposed program is located within the cities of Seal Beach and Long Beach. The City of Seal Beach is within the northwestern portion of Orange County, California. The City of Long Beach is within the southeastern portion of Los Angeles County, California.

The City of Seal Beach is bounded by the City of Long Beach to the west; the City of Los Alamitos and the neighborhood of Rossmoor to the north; and the cities of Huntington Beach, Westminster and Garden Grove to the east. The Pacific Ocean borders the City of Seal Beach to the south. The U.S. Navy Naval Weapons Station Seal Beach is located within Seal Beach city boundaries to the southeast of the program area.

The City of Long Beach is bounded by the cities of Carson and Los Angeles, the neighborhood of Wilmington, and the Port of Los Angeles to the west; the cities of Compton, Paramount, and Lakewood to the north; and the cities of Hawaiian Gardens, Cypress, Los Alamitos, and Seal Beach to the east. The Pacific Ocean borders the City of Long Beach to the south.

The portions of the proposed program located within the City of Seal Beach are subject to the Hellman Ranch Specific Plan.

The portions of the proposed program located within the City of Long Beach are subject to the South East Area Development and Improvement Plan (SEADIP). The City of Long Beach is in the process of replacing the SEADIP with the Southeast Area Specific Plan (SEASP) 2060, which would change the zoning of the site and introduce new development standards (setbacks, densities, heights, buffers, etc.) and design guidelines. Note that at the time of writing this PEIR, the California Coastal Commission (CCC) has yet to certify the proposed SEASP 2060; however, it is anticipated that the SEASP 2060 will be completed and issued in its final form within the lifetime of the proposed program. The adopted SEADIP and proposed SEASP 2060 area is in the southeast corner of the City of Long Beach. It borders the County of Orange to the east and south and the Pacific Ocean to the southwest. The area encompasses 1,472 acres and consists of land south of 7th Street, east of Bellflower Boulevard, east of the Long Beach Marine Stadium and Alamitos Bay docks, south of Colorado Street, and north and west of the City of Long Beach's southern boundary.

The proposed program is located entirely within the California Coastal Zone,[1] which means it is subject to the California Coastal Act and portions of the proposed program are subject to the City of Long Beach Local Coastal Program (LCP), adopted in 1980. As such, the proposed program is subject to the CCC's permitting authority and the City of Long Beach's permitting authority (for those areas in the proposed program within the City of Long Beach subject to the City of Long Beach's LCP).

3.9.2.2 Program Area Land Uses

The following provides a summary of the existing land uses on the South Area, Isthmus Area, Central Area, and North Area that make up the program area. These individual areas are discussed in further detail in Chapter 2, *Project Description*, of this Program Environmental Impact Report (PEIR).

South Area

The South Area includes the following individual sites: Haynes Cooling Channel, State Lands Parcel, South LCWA, Hellman Retained, Los Alamitos Pump Station, and Los Alamitos Retarding Basin. The Haynes Cooling Channel is a waterway used by the Haynes Generating Station located north of the program area to bring in water from the Pacific Ocean via 7 culverts in the Alamitos Bay Marina to cool the power plant through a method called once-through cooling. The State Lands Parcel site contains the remnant building foundation of what was once a music venue called the Airport Club and Marina Palace. The South LCWA site contains multiple former sumps, landfills, and contaminated areas from prior oil operations, and is currently owned and maintained by the LCWA. The Hellman Channel runs through the South LCWA site. The Hellman Retained site is an active oil field with substantial oil operation infrastructure (pipelines,

[1] "Coastal zone" means that land and water area of the State of California extending seaward to the state's outer limit of jurisdiction, including all offshore islands, and extending inland generally 1,000 yards from the mean high tide line of the sea. In significant coastal estuarine, habitat, and recreational areas, it extends inland to the first major ridgeline paralleling the sea or 5 miles from the mean high tide line of the sea, whichever is less, and in developed urban areas the zone generally extends inland less than 1,000 yards. The coastal zone does not include the area of jurisdiction of the San Francisco Bay Conservation and Development Commission nor any area contiguous thereto, including any river, tributary, creek, or flood control or drainage channel flowing into such area (PRC Section 30103).

pumps, tanks, and roadways). There are 43 active oil wells and 11 idle oil wells on the Hellman Retained site. The Los Alamitos Retarding Basin site is a 30-acre depressed basin surrounded by an earthen berm and access road that receives stormwater runoff and other drainage from a 3,600-acre area in Seal Beach. The Los Alamitos Pump Station moves the stormwater runoff from the Los Alamitos Retarding Basin, under the San Gabriel River Levee and Hayes Cooling Channel, and into the San Gabriel River.

Isthmus Area

The Isthmus Area includes the following individual sites: Callaway Marsh, DWP, Zedler Marsh, Isthmus LCWA, and Isthmus Bryant. The Callaway Marsh site is a vacant site with a heavily degraded perched salt marsh, tidally connected to the San Gabriel River by a three-foot-wide culvert, which mutes the water levels reaching the site. The DWP site is a vacant site that contains upland wetland habitat types. The Zedler Marsh site is a 12-acre restoration site operated and managed by the LCWA, and is currently being enhanced and restored as part of the LCWA Stewardship Program. The Isthmus LCWA site is an active oil field with disturbed habitat and oil operation infrastructure, including four active oil wells, one well for water injection, and one idle oil well.

Central Area

The Central Area includes the following individual sites: Pumpkin Patch, Long Beach City Property, Central LCWA, Central Bryant, and the San Gabriel River. The Pumpkin Patch site is an active oil field with an oil well and associated pipeline. There is one active oil well and one plugged oil well on-site. The Long Beach City Property site is an active oil field with oil storage tanks and associated oil production infrastructure, such as pipelines and tanks. There are 11 active oil wells and 2 idle oil wells on-site. Aboveground pipelines and dirt access roads traverse the site. The Central LCWA site is an active oil field with oil operation infrastructure (roadways, wells, power lines, pipelines, and pumps), which severely fragment the site ecologically and hydrologically. The oil wells are accessed via raised dirt roads that vary from 10-30 feet in width. There are 7 active oil wells on-site. The Central Bryant site is a vacant site not currently in use by oil operators.

North Area

The North Area includes the following individual sites: Northern Synergy Oil Field, Southern Synergy Oil Field, and Alamitos Bay Partners. The Northern Synergy Oil Field site is an undeveloped, vacant site with no active oil operations. The Northern Synergy Oil Field site contains Steamshovel Slough, an area of tidally influenced salt marsh, tidal channels, and mudflats, located in the central portion of the site. The Southern Synergy Oil Field site is an active oil field with oil production and wells, tank farms, and a network of roads, pipelines, and other oil field-related amenities including the Bixby Ranch Field Office. There are 22 active oil wells and 17 idle oil wells on-site. The Alamitos Bay Partners site is an active oil field with oil wells and associated oil production infrastructure, such as pipelines and tanks. There are three active oil wells and one idle oil well on-site. Dirt access roads traverse the site.

3.9.2.3 Land Use and Zoning Designations

The Seal Beach General Plan designates the portion of the program area within Seal Beach city boundaries as Community Facilities, Industrial – Oil Extraction, Open Space, and Commercial Service. According to the Seal Beach zoning map, the properties within Seal Beach are zoned as Specific Plan Regulation, Open Space Natural, and Oil Extraction.

The properties within the City of Seal Beach subject to the Hellman Ranch Specific Plan are included in Conservation Planning Area Nos. 1 (land use designation Saltwater Wetlands), 2 (land use designation Freshwater Wetlands), 4 (land use designation Hellman Ranch Reserve Gold Course), and 5 (land use designation Los Alamitos Retarding Basin), and within Development Planning Areas No. 6 (land use designation Recreation Serving Commercial) and 9 (land use designation Mineral/Production Future Development).

The properties within the City of Long Beach are not assigned a specific General Plan Land Use District, with the exception of the Alamitos Bay Partners site and Pumpkin Patch site, and portions of the Northern Synergy Oil Field, Long Beach City Property, and Callaway Marsh sites which have a designation of Land Use District No. 7, Mixed Uses. The City of Long Beach recently adopted ~~the~~ an updated General Plan Land Use Element on December 2019. The land use designations under the updated General Plan Land Use Element for the program area are Open Space (OS) PlaceType with a Specific Plan Overlay, with the exception of the Pumpkin Patch site and a portion of the Long Beach City Property site, which have a Regional-Serving Facility (RSF) PlaceType with a Specific Plan Overlay. The City of Long Beach is currently in the process of obtaining CCC certification of the coastal portions of the updated General Plan Land Use Element. Once the City obtains certification, the updated General Plan land uses designations will go into effect.

The individual sites within the City of Long Beach subject to the adopted SEADIP are zoned as Planned Development District 1 (PD-1). Under the proposed SEASP 2060, properties would be zoned as Coastal Habitat/Wetlands/Recreation (CHWR), Public, and Dedicated Right of Way (not built).

Refer to Figure 2-9, *General Plan Land Use Designations*, and Figure 2-10, *Zoning Districts*, within Chapter 2, *Project Description*, of this PEIR, for further information regarding the land uses and zoning designations of the program area.

3.9.3 Regulatory Framework

3.9.3.1 Federal

Federal Coastal Zone Management Act of 1972

The Coastal Zone Management Act of 1972 (CZMA), administered by National Oceanic and Atmospheric Administration's (NOAA) Office of Ocean and Coastal Resource Management, provides for management of the nation's coastal resources, including the Great Lakes, and balances economic development with environmental conservation. The CZMA is intended to encourage coastal states, Great Lake States, and United States territories and commonwealths to

develop comprehensive programs to manage and balance competing uses of and impacts to coastal resources. The CZMA emphasizes the primacy of state decision-making regarding the coastal zone. CZMA Section 307 (16 USC Section 1456), called the federal consistency provision, is a major incentive for states to join the national coastal management program and is a tool that states use to manage coastal uses and resources and to facilitate cooperation and coordination with federal agencies. The CCA, discussed below, constitutes California's coastal zone management program for the purposes of the CZMA.

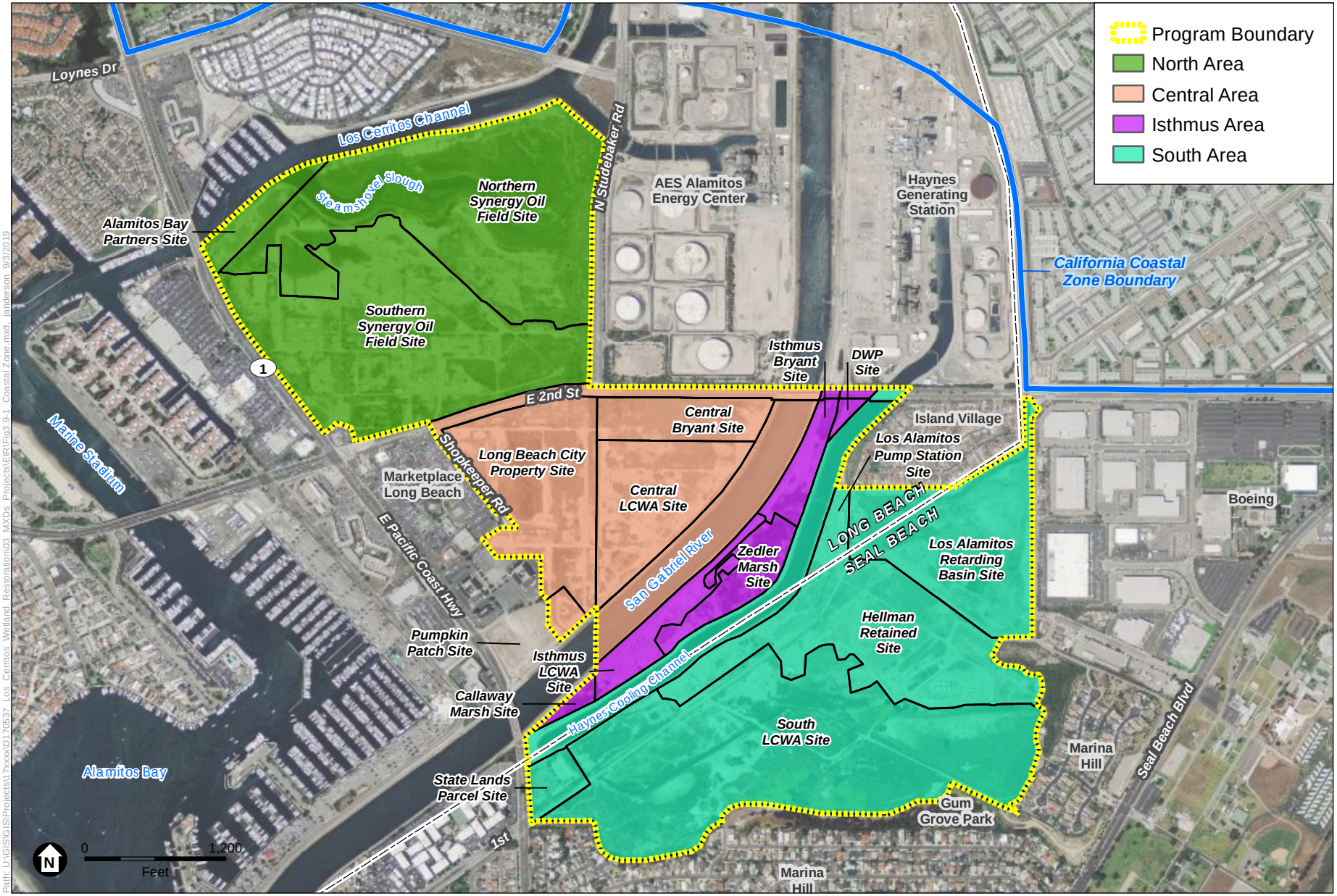
3.9.3.2 State

California Coastal Act of 1976

The CCA was enacted in 1976 in response to public concern that private development was restricting public access to the shore. The CCA permanently established the CCC as the governing body to oversee land use and planning decisions within the coastal zone. The CCA provides for the long-term management of lands within California's coastal zone boundary, as established by the Legislature and defined in the CCA (Section 30103). The width of the coastal zone varies across the state, extending inland a couple hundred feet in some locations to 5 miles in others, and offshore out to 3 miles. A map of the coastal zone in the program vicinity is shown in **Figure 3.9-1**, *California Coast Zone Boundary*.

The CCA created a unique partnership between the state (acting through the CCC) and local government entities (15 coastal counties and 61 coastal cities) to manage the conservation and development of coastal resources through a comprehensive planning and regulatory program. This is accomplished primarily through the preparation of sets of policies and regulations adopted by coastal local governments to carry out CCA policies at the local level, known as Local Coastal Programs (LCPs). Upon CCC certification of an LCP, authority for issuance of Coastal Development Permits is transferred from the state (via the CCC) to the certified local government. Until such time, responsibility for issuance of Coastal Development Permits remains with the CCC. The agency also retains jurisdiction over certain coastal areas, such as tidelands and public trust lands. (Note that the City of Seal Beach has not adopted an LCP as of the writing of this PEIR. The City of Long Beach LCP policies applicable to the proposed program are discussed below.)

The CCA includes specific policies for management of natural resources and public access within the coastal zone (see Public Resources Code [PRC] Division 20). Of primary relevance to land use and recreation are CCA policies concerning coastal public access and recreational opportunities, and locating new development near existing development. A preliminary assessment of consistency with these priorities is provided later in this section. Final determinations regarding consistency are reserved for the CCC.



SOURCE: Mapbox, LCWA, California Coastal Commission

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 3.9-1

California Coastal Zone Boundary

ESA

The City of Long Beach's LCP includes a land use plan defining land use classifications, types and densities of allowable development, and goals and policies concerning development within the coastal zone. The LCPs are the implementation tool for the broader CCA policies, which seek to:

- Protect and expand public shoreline access and recreational opportunities;
- Protect and restore sensitive habitats, including nearshore waters, wetlands, riparian habitat, and habitat for rare and endangered species;
- Protect farmlands, natural landforms, commercial fisheries, special communities, and archaeological resources;
- Protect scenic landscapes and views of the sea; and
- Establish stable urban-rural boundaries and guide new development into areas with adequate services.

The proposed program is located within the coastal zone, but only a portion of the proposed program is covered under the City of Long Beach's LCP. In particular, only the Pumpkin Patch site, Long Beach City Property site, and Northern and Southern Synergy Oil Field sites, are located within the City of Long Beach's LCP. For the individual sites not located within the City of Long Beach's LCP, the jurisdiction under the CCA rests with the CCC. In addition, as the City of Seal Beach does not have an adopted LCP, the individual sites that make up the South Area that are located within the City of Seal Beach would also be under the jurisdiction of the CCC.

3.9.3.3 Regional

Southern California Association of Governments: 2016–2040 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS)

SCAG is the designated metropolitan planning organization (MPO) for six Southern California counties, including the County of Los Angeles. As such, SCAG develops long-range Regional Transportation Plans (RTPs), including Sustainable Communities Strategy (SCS) and growth forecast components, regional transportation improvement programs, regional housing needs allocations, and a portion of South Coast Air Quality Management District (SCAQMP) plans.

The RTP is a long-range transportation plan that is developed and updated by SCAG every 4 years. The RTP provides a vision for transportation investments throughout the region, and uses growth forecasts and economic trends that project out over a 20-year period to identify regional transportation strategies to address mobility needs. The SCS is a required element of the RTP and integrates land use and transportation strategies that will achieve emissions reductions targets.

The 2016–2040 RTP/SCS was adopted on April 7, 2016 by the SCAG Regional Council with the primary goal of reducing emissions from transportation sources to comply with Senate Bill (SB) 375, improve public health and meet the National Ambient Air Quality Standards (NAAQS) as set forth by the federal Clean Air Act. The 2016–2040 RTP/SCS contains a regional commitment for the broad deployment of zero- and near-zero emission transportation technologies and establishes clear steps to achieve this objective. The 2016–2040 RTP/SCS builds off of the 2012–2035 RTP/SCS and continues the vision for creating more livable communities within Southern

California. The 2016–2040 RTP/SCS establishes goals, objectives and policies with regard to High Quality Transit Areas, Livable Corridors, and Neighborhood Mobility Areas. These key features would create communities in which people benefit from increased mobility, more active lifestyles, increased economic opportunities and overall higher quality of life (SCAG 2016).

The proposed program is considered a project of region-wide significance pursuant to the criteria outlined in *CEQA Guidelines* Section 15206(4)(C), which is applicable to projects located within the California Coastal Zone. Given this designation, this section addresses the proposed program's consistency with the applicable SCAG regional planning guidelines and policies.

3.9.3.4 Local

City of Seal Beach General Plan

The General Plan is a comprehensive planning document which serves as the officially adopted statement of local policy regarding each individual community's development, pursuant to California Government Code Section 65300, for all cities and counties within the state of California. The General Plan serves as a blueprint for development and land use activities within the City of Seal Beach and establishes goals, policies, and land use designations that are intended to facilitate orderly and planned growth and other development related issues with the City of Seal Beach. The City of Seal Beach's General Plan was first adopted in 1973, with the latest General Plan adopted in 2003. It contains the goals, policies, and directions that guide the City of Seal Beach in managing its future. The General Plans consists of eight elements: Land Use, Circulation, Open/Space/Recreation/Conservation, Safety, Housing, Noise, Cultural Resources, and Growth Management.

The Seal Beach General Plan designates the portion of the program area within Seal Beach city boundaries as Community Facilities, Industrial – Oil Extraction, Open Space, and Commercial Service.

Seal Beach Municipal Code

The City of Seal Beach Municipal Code regulates development in the City of Seal Beach through zoning designations and development standards. As discussed above and as illustrated in Figure 2-10, *Zoning Districts*, within Chapter 2, *Project Description*, of this PEIR, the properties within Seal Beach are zoned as Specific Plan Regulation (SPR), Open Space Natural [OS-N (SPR)], and Oil Extraction [OE (SPR)]. In particular, the State Lands Parcel site within the South Area is zoned SPR. As stated in the Seal Beach Municipal Code, all property in the SPR Zone shall only be used for the purposes permitted by the general plan and specific plan adopted for such property. In this case, the State Lands Parcel site would be governed by the Hellman Ranch Specific Plan. The Hellman Ranch Specific Plan designates this parcel as Development Planning Area No. 6 (land use designation Recreation Serving Commercial). The South LCWA site and the Los Alamitos Retarding Basin site are both designated OS-N (SPR) and the Seal Beach Municipal Code limits permitted uses to those that maintain the property in its natural state. The intent of this zoning designation is to preserve publicly owned parklands, environmentally sensitive lands and habitats in their natural state. Finally, the Hellman Retained site is zoned OE (SPR), which allows for the oil extraction and related production storage and processing,

maintenance facilities, and related operational and maintenance facilities, as described further in the Seal Beach Municipal Code. As the SPR zone is also provided on the individual sites zoned OS-N and OE, according to the Seal Beach Municipal Code, the more restrictive provisions shall control, unless otherwise specified.

Hellman Ranch Specific Plan

The Hellman Ranch Specific Plan is one of the five specific plans that govern various portions of the City of Seal Beach. The Hellman Ranch Specific Plan was first adopted by the City of Seal Beach City Council on June 19, 1981, with the latest updated specific plan adopted in 1996. The Hellman Ranch Specific Plan complies with the California Government Code 65500-65507 and Articles 17 and 29.5 of the Seal Beach Municipal Code and the regulations are pursuant to Article 8, Authority and Scope of Specific Plans for the Planning and Zoning Law of the Government Code. The Hellman Ranch Specific Plan covers a 231-acre area located in the City of Seal Beach and divides the specific plan area by five conservation planning areas and 5 development planning areas. One of the mail goals of the Hellman Ranch Specific Plan is to preserve open space and achieve wetlands restoration and flood control.

Proposed Seal Beach Local Coastal Program

As discussed above in Section 3.9.3.2, *State*, to manage the conservation and development of coastal resources, LCPs are adopted at a local level and include a set of policies and regulations to carry out CCA policies. The City of Seal Beach prepared an LCP in 2003, and again in 2008. The 2008 LCP as was prepared by the City of Seal Beach staff and submitted to the CCC for review. However, City of Seal Beach staff were unable to attain certification due to limited staff time and resources. The City of Seal Beach has reinitiated preparation of an LCP and finished the last of three community workshops on August, 21, 2019. At this time, the City of Seal Beach is currently conducting a Sea Level Rise Vulnerability Assessment, in accordance with the 2015 California Coastal Commission Sea Level Rise Policy. It is unknown at this time when the City of Seal Beach LCP will be certified. However, at the time the Seal Beach LCP is certified by the CCC, this document will be applicable to the portions of the proposed program within the City of Seal Beach.

City of Long Beach General Plan

The General Plan is a comprehensive planning document which serves as the officially adopted statement of local policy regarding each individual community's development, pursuant to California Government Code Section 65300, for all cities and counties within the state of California. The General Plan serves as a blueprint for development and land use activities within the City of Long Beach and establishes goals, policies, and land use designations that are intended to facilitate orderly and planned growth and other development related issues with the City. Adopted in 1973, the City of Long Beach General Plan contains the goals, policies, and directions that guide the City in managing its future. The General Plans consists of 12 elements: Air Quality, Conservation, Historic Preservation, Housing, Land Use, Mobility, Noise, Open Space and Recreation, Public Safety, Seismic Safety, Scenic Routes, ~~Seismic Safety,~~ and LCP (described in more detail below).

The properties within the City of Long Beach are not assigned a specific General Plan Land Use District, with the exception of the Alamitos Bay Partners site and Pumpkin Patch site, and portions of the Northern Synergy Oil Field, Long Beach City Property, and Callaway Marsh sites which have a designation of Land Use District No. 7, Mixed Uses. The City of Long Beach recently adopted an updated ~~the~~ General Plan Land Use Element on December 2019. The land use designations under the updated General Plan Land Use Element for the program area to are Open Space (OS) PlaceType with a Specific Plan Overlay, with the exception of the Pumpkin Patch site and a portion of the Long Beach City Property site, which have a Regional-Serving Facility (RSF) PlaceType with a Specific Plan Overlay. The City of Long Beach is currently in the process of obtaining CCC certification of the coastal portions of the updated General Plan Land Use Element. Once the City obtains certification, the updated General Plan land uses designations will go into effect.

City of Long Beach Municipal Code

The City of Long Beach Municipal Code regulates development in the City of Long Beach through zoning designations and development standards. As discussed above and as illustrated in Figure 2-10, *Zoning Districts*, within Chapter 2, *Project Description*, of this PEIR, the properties within the City of Long Beach are zoned as PD-1. The proposed SEASP 2060 would change the zoning designation of the properties within the City of Long Beach to Coastal Habitat/Wetlands/Recreation (CHWR), Public, and Dedicated Right of Way (not built). Further discussion of both the adopted SEADIP and proposed SEASP 2060 is provided below.

Adopted Southeast Area Development and Improvement Plan and Proposed Southeast Area Specific Plan

Adopted Southeast Area Development and Improvement Plan

Development Districts in the City of Long Beach are special districts that have more comprehensive land use regulations than conventional zoning and are intended to achieve a specific outcome in a geographic area, similar to a Specific Plan. Approved in 1977, the SEADIP was the first PD-1 district in the City of Long Beach and also provided zoning for the covered properties. The SEADIP document is intended to guide land use and development in an area that was experiencing a period of rapid growth at the time of adoption.

The SEADIP includes 1,381 acres and seeks to guide new development in a community of residential, business, and light industrial uses integrated by an extensive system of parks, open space, and trails. The guiding principles of the plan are based on a 15- to 20-year vision and include restoration and maintenance of wetlands, bike and pedestrian connectivity, linear park and landscaped setbacks, creating a village atmosphere with varied heights, green building practices, traffic mitigation, and gateway signage. The SEADIP provides development and use standards (e.g., density, setbacks, and height limitations), establishes a mechanism for infrastructure improvements, and protects views, open space, and wetlands. The SEADIP also establishes the requirements and responsibility for the construction and maintenance of wetland and buffers. As discussed above, the properties within the city of Long Beach are subject to the

SEADIP and are zoned as PD-1. Subareas within PD-1 define the allowable uses that are permitted to be development on each site, and include the following:

- **Subarea 11A (Southern Synergy Oil Field Site)**—Residential, maximum density of approximately 15.3 units per acre, 764 units;
- **Subarea 11B (Alamitos Bay Partners Site)**—Residential, maximum density of 8.4 units per acre;
- **Subarea 25 (Long Beach City Property Site and Pumpkin Patch Site)**—Business Park (Office Commercial and Light Industrial); restaurants, and hotel;
- **Subarea 26A and 26B (Central LCWA Site and Central Bryant Site)**—Business Park (Office Commercial and Light Industrial);
- **Subarea 27 (Callaway Marsh Site, Zelder Marsh Site, Isthmus Bryant Site, DPW Site, Haynes Cooling Channel, and Los Alamitos Pump Station Site)**—wetlands restoration;
- **Subarea 28 (Los Alamitos Retarding Basin Site)**—retention basin utilized by Orange County; and
- **Subarea 33 (portions of the Northern and Southern Synergy Oil Field sites)**—Wetland (96.1 acres have been designated entirely for wetland purposes. An additional 2 acres shall be devoted as least tern nesting site).

Proposed South East Area Specific Plan 2060

The City is in the process of replacing the existing PD-1 with the proposed SEASP 2060, a new specific plan. The proposed SEASP 2060 area consists of 1,472 acres and includes 1,381 acres currently zoned PD-1 (SEADIP), 94 acres of the San Gabriel River and Los Cerritos Channel, and 6 acres along the southeast edge of the current PD-1 (SEADIP) boundary.

The proposed SEASP 2060 guiding principles and development standards include the following:

- Implement projects within the SEASP that give equal consideration to planning, environmental and economic feasibility;
- Balance responsible growth with resource perseveration through a flexible land use plant that provides a greater mix of uses and through an implementation strategy that is tailored to the local economy;
- Provide clear standards and guidelines to encourage future development that respects the wetlands, protects views, and creates a sense of place through thoughtful building placement, form, and architectural design;
- Expand multi-modal transportation options through enhanced pedestrian and bicycle connectivity without compromising vehicular traffic flow;
- Provide options to increase public connectivity to open space, including the marina, other waterways, the wetlands, and parks; and
- Identify and plan for enhanced gateway and landmark locations that define the entrance to the City of Long Beach and contribute to a sense of place for the area.

Under the proposed SEASP 2060, a majority of the individual sites would have a land use designation of Coastal Habitat, Wetlands, and Recreation (CHWR). In addition, the Los Alamitos

Pump Station site and the portion of the Los Alamitos Retarding Basin site within the City of Long Beach would have a land use designation of Public. Furthermore, a portion of the Long Beach Property site is designated as Dedicated Right of Way (not built). The CHWR land use designation provides for coastal restoration, access, visitor-serving recreation (boating, public launching, kayaking, paddle boarding, etc.), and biological reserves. Public access to coastal water is encouraged and uses such as interpretive centers and public parking associated with coastal resources are permitted. The Public land use designation provides more public and institutional uses such as elementary schools, museums, and interpretive centers, parking, water tanks and retention basis. Uses in this designation shall comply with provisions of Long Beach Municipal Code Chapter 21.34, Institutional Districts. The Dedicated Right of Way (not built) designation is intended for the extension of Shopkeeper Road which currently dead-ends into the Pumpkin Patch site in the Central Area. The proposed SEASP 2060 indicates that the ultimate alignment of Shopkeeper Road shall be designed to avoid impacting a delineated wetland.

To ensure that new development within the proposed SEASP 2060 supports the guiding principles, a set of development standards has been established in the proposed SEASP 2060. For development within the CHWR land use designation, the following development standards apply:[2]

Coastal Habitat, Wetlands, and Recreation (CHWR)

a. Building Setbacks

- Building setbacks shall be measured from ultimate right-of-way (back of ultimate sidewalk).
- Buildings shall build up to the required ultimate sidewalk shown on the street sections in Chapter 6, Mobility.
- Additional setbacks for entry plazas, courtyards or outdoor dining patios may be permitted subject to the discretion of the Site Plan Review Committee.
- Developer shall be responsible for adjacent impacts to right-of-way and constructing street segments to match cross-sections as provided in the SEASP.

b. Height

- The intent of providing for two-story buildings is to allow for buildings that support coastal recreation uses or uses that are ancillary to the wetlands (interpretive center). For instance, two-story uses would allow for ground floor coastal recreation related uses (kayak rental, etc.) and the upper floor may be a small ancillary office or storage use to support the ground floor use. Office uses must be related to the primary use or use on ground floor; standalone office uses are not permitted in this category.

Given that the SEASP 2060 has not been adopted, the consistency analysis below focuses on the proposed program's consistency with the adopted SEADIP. Note that at the time of writing this PEIR, the California Coastal Commission has yet to certify the proposed SEASP 2060; however, it is anticipated that the SEASP 2060 will be completed and issued in its final form within the

[2] No specific development standards are established for the Public designation and Dedicated Right of Way (not built) designation.

lifetime of the proposed program. As such, a consistency analysis is also provided for the proposed SEASP 2060, for informational purposes.

City of Long Beach Local Coastal Program

LCPs are basic planning tools used by local governments to guide development in the coastal zone, in partnership with the CCC. LCPs contain the ground rules for future development and protection of coastal resources in coastal cities and counties, and specify the appropriate location, type, and scale of new or changed uses of land and water. Each LCP includes a land use plan and measures to implement the plan (such as zoning ordinances) (CCC 2017). As described further below, the proposed program falls into the Los Cerritos Wetlands portion of the City of Long Beach's LCP; however, a majority of the individual sites under the proposed program were not included in the adopted LCP, and are considered areas of deferred certification and permitting, with the exception of the Pumpkin Patch site, Long Beach City Property site, and Northern and Southern Synergy Oil Field sites, which do fall under the jurisdiction of the City of Long Beach's LCP.

The City of Long Beach's LCP provides policies regarding public access, recreation, marine environment, land resources, development, and industrial development. It specifies the appropriate location, type, and scale of new or changed uses of land and water and includes a land use plan and measures to implement the plan.

The City of Long Beach adopted its LCP on February 12, 1980, and it was certified by the CCC on July 22, 1980. For each of its five subareas, the City of Long Beach's LCP provides a description, policy plan, and implementation plan. Because the program area is included as part of the SEADIP subarea and the SEADIP was adopted in April 1977, prior to the commencement of work on the City of Long Beach's LCP, the adopted SEADIP was approved as a whole by the LCP Advisory Committee for inclusion in the LCP. The adopted SEADIP and development ordinance were adopted by reference in the LCP and function as the current zoning for the program area. Portions of the Long Beach Municipal Code and City of Long Beach General Plan, including the Mobility Element, Open Space and Recreation Element, and Scenic Routes Element, in whole or in part, part of the Long Beach LCP.

Prior to adoption, the unincorporated areas within the adopted SEADIP—Subareas 11A, 11B, 25, 26a, 26b, 27, 28, 30, and 33—were deleted from the LCP. These areas represent wetland areas, existing oil operations, and the Los Alamitos Retaining Basin southeast of the San Gabriel River. As such, all individual sites within the City of Long Beach, with the exception of the Pumpkin Patch site, Long Beach City Property site, and Northern and Southern Synergy Oil Field sites, have been deleted from the LCP and are not subject to its goals and policies.

Airport Environs Land Use Plan for the Joint Forces Training Base at Los Alamitos

The Orange County Airport Land Use Commission (OCALUC) is responsible for reviewing projects near airports or related to air facilities to make sure they are consistent with approved compatibility plans. To provide guidance for land use recommendations, an airport land use compatibility plan was developed to promote compatibility between air facilities and the land

uses that surround them. The plan includes policies by which the OCALUC operates and conducts compatibility reviews of proposed development actions, describes the overall context of airport land use compatibility planning in general and for airports in Orange County in particular, and defines the procedures that the OCALUC would follow in making compatibility determinations. The nearest public use airport is the Long Beach Airport, located approximately 4.45 miles northwest of the program area, at 4100 Douglas Drive in Long Beach; however, the proposed program is located within the Airport Environs Land Use Plan (AELUP) area for the Joint Forces Base Los Alamitos, which is a federally owned and operated airport facility (OCALUC 2002).

The AELUP for the Joint Forces Base Los Alamitos intends to safeguard the general welfare of the inhabitants within the vicinity of the airport and to protect the public from the adverse effects of aircraft noise, to ensure that people and facilities are not concentrated in areas susceptible to aircraft accidents, and to ensure that no structures or activities adversely affect navigable airspace. Proposed development projects over 200 feet (above ground level) would be required to undergo Federal Aviation Administration (FAA) and ALUC review.

3.9.4 Significance Thresholds and Methodology

3.9.4.1 Significance Thresholds

For the purposes of this PEIR and consistency with Appendix G of the *CEQA Guidelines*, the proposed program would have a significant impact on land use and planning if it would:

a) Physically divide an established community; or

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

As detailed in the NOP/IS (refer to Appendix A of this PEIR), the proposed program would result in less than significant impacts to threshold "a." Although not required, evaluation of the proposed program's impact to threshold "a" is conducted in this section.

3.9.4.2 Methodology

The land use and planning analysis describes existing General Plan land use designations as well as regional and local land use plans and policies, and is intended to fulfill the requirements of *CEQA Guidelines* Section 15125(d). The emphasis of the analysis is on potential plan inconsistencies and/or conflicts between a project and existing land use plans and policies. A project is considered consistent with the provisions of the identified regional and local plans if it meets the general intent of the applicable land use plans. A given project need not be in perfect conformity with each and every policy nor does state law require precise conformity of a project with every policy or land use designation for a site. It follows that it is nearly, if not absolutely, impossible for a project to be in perfect conformity with every policy set forth in the applicable plan. If a project is determined to be inconsistent with specific individual objectives or policies of an applicable plan, but is largely consistent with the land use or the other goals and policies of that overall plan and would not preclude the attainment of the primary intent of the land use plan,

a project would not be considered inconsistent with the plan. Furthermore, any such inconsistency would also have to result in a physical change in the environment, not analyzed in the other resource sections of this PEIR, to result in a significant environmental impact. The analyses below provide a brief overview of the most relevant policies and development standards from the various planning documents; however, the consistency conclusions are based upon the planning documents as a whole.

As stated in Chapter 1, *Introduction*, of this PEIR, on March 8, 2019, the Los Cerritos Wetlands Authority sent the Notice of Preparation to responsible, trustee, and federal agencies, as well as to organizations and individuals potentially interested in the program to identify the relevant environmental issues that should be addressed in the PEIR. The CCC requested that the PEIR include all relevant CCA and LCP policies, an analysis of the proposed program's conformity with the identified policies, and any identification of mitigation measures necessary to bring the proposed program into conformity with the CCA and LCP; include a thorough discussion of the regulatory jurisdictions of the various program sites and components and include a list of permits required by federal, state, and local agencies to implement the proposed program; and clarify how the evaluation and possible approval of the proposed program fits in with the City of Long Beach's ongoing efforts to update and certify SEAPSP 2060.

3.9.5 Program Impacts and Mitigation Measures

Impact LU-1: The proposed program would result in a significant impact if the proposed program would physically divide an established community.

The program area contains large expanses of open space, oil operations and associated facilities and infrastructure, a large stormwater basin and pump station, roads and overhead utilities, and waterways. The program is located in a largely urbanized and generally built out area with a fully developed roadway system, surrounded by the Los Cerritos Channel, the AES Alamitos Energy Center and Haynes Generation Station to the north, Pacific Coast Highway and commercial-retail strip mall to the west, residential development to the south, and residential and industrial development to the east, including a Boeing office complex. The San Gabriel River bisects the program area. The proposed program would restore wetlands within the program area and construct new public access opportunities that would increase access through/along the program area. Also refer to Impact LU-2, below, which includes a discussion of the proposed program's relationship to adjacent existing uses. As the proposed program restore existing wetlands in the program area, the proposed program would not physically divide an established community.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

Impact LU-2: The proposed program would result in a significant impact if the proposed program would cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

As described in Section 3.9.3, *Regulatory Framework*, applicable local plans that direct or regulate development on the program site include the City of Seal Beach General Plan and associated elements and the Hellman Ranch Specific Plan for those portions of the program area that are located in the jurisdiction of the City of Seal Beach. In addition, applicable local plans that direct or regulate development on the program area within the City of Long Beach include the City of Long Beach General Plan and associated elements, the adopted SEADIP, the proposed SEASP 2060 (included for informational purposes), and City of Long Beach LCP. Applicable regional and state plans that direct or regulate development include SCAG's 2016–2040 RTP/SCS and the CCA. The following analysis provides a brief overview of the proposed program's consistency with these planning documents, and **Table 3.9-1**, *Consistency Analysis with Local Land Use Plans*, below, includes a discussion of consistency with specific applicable goals and policies that apply to the proposed program. For goals and policies from the City of Long Beach Air Quality Element, refer to Section 3.2, *Air Quality*. For goals and policies from the City of Seal Beach Safety Element and the City of Long Beach Seismic Safety Element, refer to Section 3.5, *Geology, Soils, and Paleontological Resources*. For a discussion on the City of Seal Beach Noise Element and the City of Long Beach Noise Element and LCP measures related to noise, refer to Section 3.11, *Noise*.

Consistency with the Seal Beach General Plan

A majority of the South Area is the only area on the program area that falls under the jurisdiction of the City of Seal Beach. As previously discussed, the Seal Beach General Plan designates the portion of the program area within Seal Beach city boundaries as Community Facilities, Industrial – Oil Extraction, Open Space, and Commercial Service. A discussion of consistency with the City of Seal Beach General Plan and its elements is included in Table 3.9-1, below. Based on the analysis provided therein, the proposed program within the jurisdiction of the City of Seal Beach would not conflict with the City of Seal Beach's General Plan. Impacts would be less than significant.

Consistency with the Seal Beach Municipal Code

According to the Seal Beach zoning map, the properties within Seal Beach are zoned as Specific Plan Regulation (SPR), Open Space Natural [OS-N (SPR)], and Oil Extraction [OE (SPR)]. As discussed above, all property in the SPR Zone shall only be used for the purposes permitted by the general plan and specific plan adopted for such property. The Hellman Ranch Specific Plan designates this parcel as Development Planning Areas No. 6 (land use designation Recreation Serving Commercial). In addition, the intent of the OS-N zoning designation is to preserve publicly owned parklands, environmentally sensitive lands and habitats in their natural state. Finally, the OE zone allows for the oil extraction and related production storage and processing, maintenance facilities, and related operational and maintenance facilities. As the SPR zone is also provided on the individual sites zoned OS-N and OE, according to the Seal Beach Municipal

Code, the more restrictive provisions shall control, unless otherwise specified. A more detailed discussion regarding consistency with the Hellman Ranch Specific Plan is provided below.

As described in Chapter 2, *Project Description*, of this PEIR, the South Area would include ecosystem restoration that would occur in three phases based on land and oil lease ownership. The near- and mid-term phases of the proposed program in the South Area would be mostly focused on the South LCWA and State Lands Parcel sites and would provide the conditions necessary for the expansion of coastal salt marsh habitat and associated hydrologic, biogeochemical, and habitat functions, on the South LCWA site, and the development of a visitor center, on the State Lands Parcel site. Long-term phases of the proposed program would be focused on the Hellman Retained site which includes activities for habitat restoration, including phasing out or consolidation of oil operations, grading, and a new tidal excavation. The operations on the Los Alamitos Retarding Basin would be modified in the mid-term and no changes are proposed for the Los Alamitos Pump Station site, which was formerly restored as part of mitigation for a different project. Based on these activities proposed for the South Area, they would be allowed by the Seal Beach Municipal Code and thus consistent. Impacts would be less than significant.

Consistency with the Hellman Ranch Specific Plan

The properties within the City of Seal Beach subject to the Hellman Ranch Specific Plan are included in Conservation Planning Area Nos. 1 (land use designation Saltwater Wetlands), 2 (land use designation Freshwater Wetlands), 4 (land use designation Hellman Ranch Reserve Gold Course), and 5 (land use designation Los Alamitos Retarding Basin), and within Development Planning Areas No. 6 (land use designation Recreation Serving Commercial) and No. 9 (land use designation Mineral/Production Future Development). One of the mail goals of the Hellman Ranch Specific Plan is to preserve open space and achieve wetlands restoration and flood control.

The Hellman Ranch Specific Plan provides development regulations and site development standards that the proposed program would have to comply with. The purpose of the Conservation Planning Area No. 1, which would apply to portions of the State Lands Parcel site and South LCWA site, is intended for restoration/creation of a fully functioning salt marsh wetlands environment. As previously discussed, the South LCWA and State Lands Parcel sites would provide the conditions necessary for the expansion of coastal salt marsh habitat and associated hydrologic, biogeochemical, and habitat functions, which would be consistent with the purpose of the Conservation Planning Area No. 1 under the Hellman Ranch Specific Plan.

Conservation Planning Area No. 2 is intended for restoration/creation of a freshwater wetlands environment, while Conservation Planning Area No. 4 is designated for the Hellman Ranch Reserve Golf Course. These areas are found on portions of the South LCWA site and Hellman Retained site. The South LCWA site and Hellman Retained site would include restoration, as described further in Chapter 2, *Project Description*, of this PEIR, and would be consistent with the purpose of Conservation Planning Area No. 2. However, while the proposed activities on these individual sites would not include development of a golf course, the proposed activities would still be consistent with the permitted uses in this area.

Conservation Planning Area No. 5 is intended for the regional drainage control of the watershed and applies to the Los Alamitos Retarding Basin. As part of the proposed program, the operations in the Los Alamitos Retarding Basin would be modified to enhance the habitat value in the basin (e.g., change pumping operations to maintain ponding for shorter or longer time). These activities would be consistent with the purpose identified in the Hellman Ranch Specific Plan.

Conservation Planning Area No. 6 is intended for public benefit and visitor serving commercial uses and applies to the State Lands Parcel site. As part of the proposed program, the State Lands Parcel site would include the construction of a Seal Beach Visitor Center and associated parking facilities. This would serve to fulfill the purpose of the Conservation Planning Area No. 6 under the Hellman Ranch Specific Plan. The proposed building would be consistent with the development regulations and site development standards outlined in the Hellman Ranch Specific Plan, which includes details for maximum buildings heights and setbacks.

Conservation Planning Area No. 9, which applies to the Hellman Retained site, includes the provision of mineral production as an interim use. As part of the proposed program, the Hellman Retained site would either phase out the existing oil operations or consolidate the operations in order to allow for restoration of the site. This would be a long-term activity and would be consistent with the provisions of the Conservation Planning Area No. 9 as part of the Hellman Ranch Specific Plan.

Based on the analysis provided above, the proposed program within the jurisdiction of the City of Seal Beach would not conflict with the Hellman Ranch Specific Plan. Impacts would be less than significant.

Consistency with the Long Beach General Plan

A portion of the of the South Area, including the Haynes Cooling Channel, the Los Alamitos Pump Station site and a portion of the Los Alamitos Retarding Basin site, the Isthmus Area, Central Area, and North Area fall under the jurisdiction of the City of Long Beach.

The properties within the City of Long Beach are not assigned a specific General Plan Land Use District, with the exception of the Alamitos Bay Partners site and Pumpkin Patch site, and portions of the Northern Synergy Oil Field, Long Beach City Property, and Callaway Marsh sites which have a designation of Land Use District No. 7, Mixed Uses. The City of Long Beach recently adopted ~~the~~ an updated General Plan Land Use Element on December 2019. The land use designations under the updated General Plan Land Use Element for the program area are Open Space (OS) PlaceType with a Specific Plan Overlay, with the exception of the Pumpkin Patch site and a portion of the Long Beach City Property site, which have a Regional-Serving Facility (RSF) PlaceType with a Specific Plan Overlay. The City of Long Beach is currently in the process of obtaining CCC certification of the coastal portions of the updated General Plan Land Use Element. Once the City obtains certification, the updated General Plan land uses designations will go into effect.

General Plan Land Use Designations

Isthmus Area

A small area within the western portion of the Callaway Marsh site within the Isthmus Area is designated by the City of Long Beach General Plan as Land Use District No. 7, Mixed Uses. This general plan land use designation allows uses such as retail, offices, medical facilities, higher density residences, visitor-serving facilities, personal and professional services, and recreational facilities (City of Long Beach 1989, 65). Not intended for inclusion within this general plan designation are uses which may have a detrimental effect on the ambiance, environment, or social well-being of area. As part of the proposed program, the Callaway Marsh site would include invasive vegetation removal and native vegetation restoration in the wetlands and transition zone along the edges of the site and modifications to the existing water-control structure (e.g., removing the existing tide gate) to increase the tidal flow to the Callaway Marsh site. Some grading in areas of ruderal upland around the perimeter of the Callaway Marsh site would be conducted to expand the marsh and increase areas that would be inundated by tidal waters, while maintaining transitional and upland habitat. The Land Use District No. 7, Mixed Uses designation does not preclude the assignment of this district designation to areas for ecosystem restoration. In addition, the restoration of wetland uses would also not have a detrimental effect on the environment of the area, and would instead enhance the environment. Therefore, wetland restoration on this site would not conflict with the City of Long Beach General Plan. Impacts would be less than significant.

Central Area

A small area within the western portion of the Long Beach City Property site as well as the Pumpkin Patch site are designated by the City of Long Beach General Plan as Land Use District No. 7, Mixed Uses. This general plan land use designation allows uses such as retail, offices, medical facilities, higher density residences, visitor-serving facilities, personal and professional services, and recreational facilities (City of Long Beach 1989, 65). Not intended for inclusion within this general plan designation are uses which may have a detrimental effect on the ambiance, environment, or social well-being of area. As part of the proposed program, in the long-term, the Long Beach City Property site would include grading of the site to support habitat restoration, construction of earthen levee to protect 2nd street and Shopkeeper Road, excavation of a tidal channel, and construction of public trails and viewpoints. In addition, long-term activities on the Pumpkin Patch site would also include the construction of earthen levee to protect the western portion of the Pumpkin Patch site.

The Land Use District No. 7, Mixed Uses designation does not preclude the assignment of this district designation to areas for ecosystem restoration. In addition, the restoration of wetland uses would also not have a detrimental effect on the environment of the area, and would instead enhance the environment. Furthermore, as the Long Beach City Property site also include public trails and viewpoints, proposed uses on the site could be considered recreation facilities, which are allowed under this general plan land use designation.

Based on the above, wetland restoration on these sites would not conflict with the City of Long Beach General Plan. Impacts would be less than significant.

North Area

Alamitos Bay Partners site and the northern and eastern portion of the Northern Synergy Oil Field site are all designated by the City of Long Beach General Plan as Land Use District No. 7, Mixed Uses. This general plan land use designation allows uses such as retail, offices, medical facilities, higher density residences, visitor-serving facilities, personal and professional services, and recreational facilities (City of Long Beach 1989, 65). Not intended for inclusion within this general plan designation are uses which may have a detrimental effect on the ambiance, environment, or social well-being of area. No activities are proposed on the Northern Synergy Oil Field site under the proposed program. On the Alamitos Bay Partners site long-term activities include remediation of soils and relocation of oil infrastructure as well as grading to support habitat restoration. The Land Use District No. 7, Mixed Uses designation is does not preclude the assignment of this district designation to areas for ecosystem restoration. In addition, the restoration of wetland uses would also not have a detrimental effect on the environment of the area, and would instead enhance the environment. Therefore, wetland restoration on this site would not conflict with the City of Long Beach General Plan. Impacts would be less than significant.

Updated General Plan Land Use Element

The Open Space (OS) PlaceType, as defined in the Land Use Element of the City of Long Beach General Plan, encompasses uses including parks, beaches, golf courses, marinas, flood control channels and basins, rivers, utility rights-of-way, oil islands, inland bodies of water, nature preserves, marine habitats, estuaries, wetlands, lagoons, and limited commercial recreation uses that supplement recreation services and complement existing programming and facilities. A majority of the program area is designated under the Open Space (OS) PlaceType. Activities included under the proposed program within this general plan land use designation include grading to support habitat restoration, invasive vegetation removal and native vegetation restoration in the wetlands and transition zone along the edges of the site and modifications to the existing water-control structure (e.g., removing the existing tide gate), and remediation of soils and relocation of oil infrastructure as well as grading. These activities would serve to enhance the existing wetlands on the program area, which are allowed uses under the Open Space (OS) PlaceType designation. The uses on the program area are not proposed to be altered under this proposed program.

As noted above, the Pumpkin Patch site and a portion of the Long Beach City Property site have a Regional-Serving Facility (RSF) PlaceType. The Regional-Serving Facility (RSF) PlaceType, as defined by the Land Use Element of the City of Long Beach General Plan, allows for uses including medical centers, higher education campus, Port of Long Beach, Long Beach Airport and surrounding areas, public utility facilities (e.g., water, energy), and destination retail centers and similar uses. As part of the proposed program, in the long-term, the Long Beach City Property site would include grading of the site to support habitat restoration, construction of earthen levee to protect 2nd street and Shopkeeper Road, excavation of a tidal channel, and construction of public trails and viewpoints. In addition, long-term activities on the Pumpkin Patch site would also include the construction of earthen levee to protect the western portion of the Pumpkin Patch site. The Regional-Serving Facility (RSF) PlaceType designation does not

preclude ecosystem restoration. In addition, the restoration of wetland uses would not have a detrimental effect on the environment of the area, and would instead enhance the environment.

An analysis of the consistency with the adopted SEADIP that currently governs the program area and of the proposed SEASP, which is anticipated to be completed and issued in its final form within the lifetime of the proposed program, is provided below.

Based on the above, wetland restoration on these sites would not conflict with the City of Long Beach General Plan. Impacts would be less than significant.

Consistency with the Long Beach Municipal Code

As previously discussed, the individual sites within the City of Long Beach subject to the adopted SEADIP are zoned as Planned Development District 1 (PD-1). Under proposed SEASP 2060, which would replace the adopted PD-1 (SEADIP), zones the properties would be zoned as Coastal Habitat/Wetlands/Recreation (CHWR), Public, and Dedicated Right of Way (not built). Based on the analysis below, the proposed program would be consistent with the policies within the adopted SEADIP, and the proposed SEASP 2060, which is included for informational purposes. Impacts would be less than significant.

Consistency with the adopted SEADIP

As previously discussed, the properties within the City of Long Beach are zoned as PD-1 (SEADIP). In particular, portions of the proposed program fall in several subareas, including, Subarea 11A (Southern Synergy Oil Field site); Subarea 11B (Alamitos Bay Partners site); Subarea 25 (Long Beach City Property site and Pumpkin Patch site); Subarea 26A and 26B (Central LCWA site and Central Bryant site); Subarea 27 (Callaway Marsh site, Zelder Marsh site, Isthmus Bryant site, DPW site, Haynes Cooling Channel, and Los Alamitos Pump Station site); Subarea 28 (Los Alamitos Retarding Basin site); and Subarea 33 (portions of the Northern and Southern Synergy Oil Field sites). Table 3.9-1 provides a consistency analyses of the proposed program with the applicable polies of the adopted SEADIP. In addition, a discussion of each subarea within the adopted SEADIP that falls within the proposed program boundaries is provided below.

Subarea 11A allows residential uses. In addition, Subarea 33 allows for wetland uses, including 2 acres dedicated to least tern nesting. The Northern and Southern Synergy Oil Field sites fall under these two subareas of the adopted SEADIP and were analyzed as part of the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse Number 2016041083). As part of the proposed program, while no activities are proposed on the Northern Synergy Oil Field site, the Southern Synergy Oil Field site would include grading to support habitat restoration, construction of earthen levee or flood wall, and excavation of a tidal channel. These activities would also be consistent with the amendments proposed in the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse Number 2016041083) and would not conflict with the existing PD-1 designation.

Subarea 11B also allows residential uses. The Alamitos Bay Partners site, which falls under this subarea, would include phasing out oil production in the long-term. Wells would be plugged and

abandoned to allow for ecosystem restoration of the site. As the oil extraction operations on the site predate the adoption of the SEADIP's PD-1 designation, the current operation of oil extraction facilities is allowed to continue under this zoning.

Both the Long Beach City Property and Pumpkin Patch site fall under Subarea 25, which allows, business parks, restaurants, and hotels. As part of the proposed program, the activities on the Long Beach City Property include grading to support habitat restoration, construction of earthen levee, excavation of a tidal channel, and construction of public trails and viewpoints. Activities on the Pumpkin Patch site also include construction of earthen levee. These activities would not conflict with the existing PD-1 designation.

Subarea 26A and 26B also allows business park uses (including office, commercial, and light industrial) and the Central LCWA site and Central Bryant site fall under this subarea. Both sites include remediation of soils relocation or modifying oil infrastructure as well as grading to support habitat restoration. These two sites would also support construction of levees, trails, and viewpoints. As the oil extraction operations on the site predate the adoption of the SEADIP's PD-1 designation, the current operation of oil extraction facilities is allowed to continue under this zoning.

The Callaway Marsh site, Zelder Marsh site, Isthmus Bryant site, DPW site, Haynes Cooling Channel, and Los Alamitos Pump Station site all fall under Subarea 27, which allows for wetlands. The Zedler Marsh site was previously restored as part of the Stewardship Vision Plan and is consistent with the subarea. In addition, as part of the proposed program, the other sites would include grading, removal of invasive species, and removal of access roads to support wetland restoration, consistent with the allowed uses under this subarea. As such, these portions of the proposed program would not conflict with the existing PD-1 designation.

Subarea 28 allows for the Los Alamitos Retarding Basin. The proposed program does not include any significant changes to the uses on this site aside from operation modification to enhance habitat surrounding the retarding basin. As such, these portions of the proposed program would not conflict with the existing PD-1 designation.

Based on the above consistency analysis with the adopted SEADIP, the proposed program would not conflict with any of the applicable policies of the adopted SEADIP. Impacts would be less than significant.

Consistency with proposed SEASP 2060

The proposed SEASP 2060 will replace the PD-1 (SEADIP) zoning in its entirety. The following analysis of the proposed SEASP 2060 is provided for informational purposes. Overall, the proposed SEASP 2060 would support the goals of the City of Long Beach's LCP by directing development away from the wetlands, parks, and open space areas in the coastal zone and towards the urban core where development is currently present. The proposed SEASP 2060 also encourages public access to the coastal zone by creating view corridors, pedestrian walkways to the wetlands and the marina, and bicycle access opportunities. As a part of the proposed program, public access and visitor amenities would be provided through the construction of new pedestrian trails, elevated perimeter pedestrian walkways, educational or interpretive features, viewing areas

with overlooks, new and improved parking facilities, and visitor center. Table 3.9-1 provides a consistency analyses of the proposed program with the applicable polies of the proposed SEASP 2060. As analyzed therein, the proposed program would be consistent with the policies within the proposed SEASP 2060. Impacts would be less than significant.

As previously discussed, under the proposed SEASP 2060, a majority of the individual sites have a land use designation of CHWR. In addition, the portion of the Los Alamitos Pump Station and Los Alamitos Retarding Station (that is within the City of Long Beach) sites have a Public designation. Furthermore, a portion of the Long Beach Property site is designated as Dedicated Right of Way (not built). A discussion of each area within the proposed SEASP 2060 that falls within the proposed program boundaries is provided below.

South Area

The Los Alamitos Pump Station site and the portion of the Los Alamitos Retarding Basin site that is located in the City of Long Beach fall under the Public designation within the proposed SEASP 2060. As described in the proposed SEASP 2060, the Public designation provides for public and institutional uses, such as elementary schools, museums and interpretive centers, parking, water tanks, and retention basins. Under the proposed program, to changes to the uses on these sites would occur, with the exception of some of the operations on the Los Alamitos Retarding Basin site that would be modified to enhance habitat within the site. Therefore, the portions of the South Area within the City of Long Beach would be consistent with the proposed SEASP 2060 designations. Impacts would be less than significant.

Isthmus Area

All individual sites within the Isthmus Area (including the Zedler Marsh site, Isthmus Bryant site, DWP site, Callaway Marsh site, and Isthmus LCWA), are designated CHWR within the proposed SEASP 2060. The CHWR designation provides for coastal restoration, access, visitor-serving recreation and biological reserves. As discussed in Chapter 2, *Project Description*, of this PEIR, the proposed program includes activities that would support habitat restoration such as removal of invasive species, grading, and removal of access roads to reduce habitat fragmentation. As the uses on the Isthmus Area involve habitat restoration, the proposed program would be consistent with the provisions of the proposed SEASP 2060 CHWR designation. Impacts would be less than significant.

Central Area

Most individual sites within the Central Area (including the Central LCWA site, Central Bryant site, Pumpkin Patch site, and a portion of the Long Beach City Property site) are within the CHWR designation of the proposed SEASP 2060. The western portion of the Long Beach City Property site is also designated as Dedicated Right of Way (not built). Uses on these individual sites within the CHWR designation include grading and remediation activities to support habitat restoration, construction of public trails and viewpoints, construction of levees, and breaching the existing San Gabriel Levee and reconnecting the river to the restored marsh. As discussed above, permitted uses under the CHWR designation include coastal restoration, access, visitor-serving recreation and biological reserves. Thus, the habitat restoration activities and construction of

public trials and view point proposed under the proposed program would be in line with the provisions under this land use designation.

With regard to the portion of the Long Beach City Property site designated as Dedicated Right of Way (not built), it is noted in the proposed SEASP 2060 that the ultimate alignment of Shopkeeper Road shall be designed so that it will not impact a delineated wetland. While the proposed program does not propose alignment of Shopkeeper Road, the proposed activities on the Long Beach City Property site would not preclude the eventual alignment of Shopkeeper Road, as envisioned by the proposed SEASP 2060.

North Area

All individual sites within the North Area (including the Northern and Southern Synergy Oil Field sites and the Alamitos Bay Partners site), are designated CHWR within the proposed SEASP 2060. The CHWR designation provides for coastal restoration, access, visitor-serving recreation and biological reserves. As discussed in Chapter 2, *Project Description*, of this PEIR, the proposed program includes activities that would support habitat restoration such as grading to support habitat restoration, construction of earthen levee or flood wall, and excavation of a tidal channel. As the uses on the North Area involve habitat restoration, the proposed program would be consistent with the provisions of the proposed SEASP 2060 CHWR designation. Impacts would be less than significant.

Consistency with the AELUP

As described above, the proposed program is located within the AELUP area for the Joint Forces Base Los Alamitos, which is a federally owned and operated airport facility (OCALUC 2002). The AELUP for the Joint Forces Base Los Alamitos intends to safeguard the general welfare of the inhabitants within the vicinity of the airport and to protect the public from the adverse effects of aircraft noise, to ensure that people and facilities are not concentrated in areas susceptible to aircraft accidents, and to ensure that no structures or activities adversely affect navigable airspace. Adverse effects of aircraft noise are discussed in Section 3.11, *Noise*, and a discussion of safety hazards is discussed in Section 3.7, *Hazards and Hazardous Materials*, of this PEIR. The program area is approximately 2.7 miles southeast of the Los Alamitos Joint Forces Base. According to the AELUP, notice to the FAA is required for any proposed structure more than 200 feet above ground level of its site within any jurisdiction. Given that proposed buildings under the proposed program would be constructed to a maximum height of 35 feet on the State Lands Parcel site, it would not adversely affect navigable airspace or require review by the FAA or OCALUC. Therefore, the proposed program would be consistent with the AELUP. Impacts would be less than significant.

Consistency with SCAG Policies

As described above, SCAG's 2016–2040 RTP/SCS builds off of the 2012–2035 RTP/SCS and continues the vision for creating more livable communities within Southern California. The 2016–2040 RTP/SCS establishes goals, objectives and policies with regard to High Quality Transit Areas, Livable Corridors, and Neighborhood Mobility Areas. Table 3.9-1 includes a discussion of the proposed program's consistency with the applicable goals of the SCAG 2016–

2040 RTP/SCS. As discussed in the table, the proposed program would be consistent with SCAG's goals to maximize mobility and accessibility and to protect the environment and health of residents by improving air quality and encouraging active transportation. Therefore, the proposed program would be consistent with the SCAG 2016–2040 RTP/SCS. Impacts would be less than significant.

Consistency with California Coastal ~~Plan~~ Act and Long Beach Local Coastal Program

As previously described, the unincorporated areas within the adopted SEADIP—Subareas 11A, 11B, 25, 26a, 26b, 27, 28, 30, and 33—were deleted from the LCP. These areas represent wetland areas, existing oil operations, and the Los Alamitos Retaining Basin southeast of the San Gabriel River. As such, all individual sites within the City of Long Beach, with the exception of the Pumpkin Patch site, Long Beach City Property site, and Northern and Southern Synergy Oil Field sites, have been deleted from the City of Long Beach's LCP and are not subject to its goals and policies. As most individual sites within the program area are not covered by the City of Long Beach LCP, proposed development would be reviewed for consistency with the Chapter 3 policies of the CCA, PRC Sections 30210–30265.5. As analyzed in further detail in Table 3.9-1, the uses and activities proposed within the individual sites within the South Area, Isthmus Area, Central Area, and North Area of the proposed program would be consistent with the overall goals and policies for the CCA to provide public access and recreational opportunities within the coastal zone. Note that the Long Beach LCP will also provide guidance in the CCC's review of those projects located in the City of Long Beach but deleted from the LCP.

A consistency analysis with the Long Beach LCP and the activities on the Pumpkin Patch site, Long Beach City Property site, and Northern and Southern Synergy Oil Field sites, is provided in Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse Number 2016041083). As discussed therein, development on the Pumpkin Patch site, Long Beach City Property site, and Northern and Southern Synergy Oil Field sites, would be consistent with the City of Long Beach's LCP.

Based on the above, impacts would be less than significant.

TABLE 3.9-1
CONSISTENCY ANALYSIS WITH LOCAL LAND USE PLANS

Goals and Policies	Consistency Determination	Consistency Analysis
CITY OF SEAL BEACH GENERAL PLAN		
Land Use Element		
Hellman Ranch Specific Plan: Maintain significant acreage for restoration/creation of wetlands and plan for long-term retention of viable wildlife habitat.	Consistent	The majority of the South Area would fall under the jurisdiction of the City of Seal Beach. As part of the proposed program in the South Area, wetland acreage would increase from 49.7 acres in the existing condition to 146.3 acres with implementation of the proposed program. This would be consistent with this goal of the Land Use Element to maintain significant acreage for restoration and creation of wetlands as well as the long term retention of viable wildlife habitat.

TABLE 3.9-1
CONSISTENCY ANALYSIS WITH LOCAL LAND USE PLANS

Goals and Policies	Consistency Determination	Consistency Analysis
Create/restore a wetlands and environmental ecosystem that provides a meaningful contribution to the regional system of coastal wetlands and open space along the Pacific Flyway.	Consistent	As discussed above, as part of the proposed program in the South Area, wetland acreage would increase from 49.7 acres in the existing condition to 146.3 acres with implementation of the proposed program. Components of habitat restoration on the South Area include restoration of a 10-acre grassland, raptor foraging habitat and connecting the Haynes Cooling Channel to the South Area to increase tide range and tidal flows. These restoration activities would provide for a meaningful long term contribution to the coastal wetlands system and open space along the Pacific Flyway, consistent with this goal of the Land Use Element.
Protect and improve water quality of the wetlands by redirecting existing urban runoff.	Consistent	As described in Chapter 2, *Project Description*, of this PEIR, new stormwater basin or bioswales would be constructed to function as a water quality treatment measure for the stormwater runoff from the new Seal Beach Visitor Center and associated parking, consistent with this goal of the Land Use Element to protect and improve water quality of the wetlands.
Develop a plan utilizing the potential of re-directing water stored in the Los Alamitos Retention Basin through the restored wetland area as a filtration system to provide additional water quality improvements.	Consistent	The proposed program would not include any changes to the Los Alamitos Retarding Basin site that would fulfill this policy in the Hellman Ranch Specific Plan. As such, the proposed program does not preclude the City of Seal Beach from developing a plan to potentially re-direct water stored in the Los Alamitos Retention Basin.
Respect the property's physical constraints.	Consistent	Consistent with this goal to respect the property's physical constraints, the proposed program in the South Area would include activities that would be within the boundaries of the Hellman Ranch Specific Plan. The proposed program in the South Area includes excavating tidal channels to connect the Haynes Cooling Channel to the South LCWA and Hellman Retained sites. These efforts would serve to restore the wetlands within the South Area while respecting the property's physical constraints. In addition, the proposed program within the South Area would also be designed to be consistent with easements held by the City of Seal Beach.
Preserve and enhance the open space and create public access opportunities. Provide visitor-serving recreational opportunities within the coastal zone that will contribute to the economic base of the City of Seal Beach. Create an effective system of open space, trails, and parks.	Consistent	The development in the South Area includes the development of a new Seal Beach Visitor Center and associated parking and would include trail connections to the Callaway and Zedler Marshes to the north, and to Gum Grove Park and the Hellman Ranch Trail to the east. In addition, a new restricted trail would be constructed through the raptor habitat on the South LCWA site in the near-term. The trail would connect Gum Grove Park to the existing San Gabriel River Trail, fishing area, and trails on the Isthmus Area. A viewpoint would be constructed in the raptor habitat area.
Allow for the continued operation of oil extraction facilities on the property until such production ceases and the terms of the existing deed restriction are implemented.	Consistent	As part of the activities envisioned under the proposed program, oil operations in the Hellman Retained site for the long-term (greater than 20 years) would either be phased out or consolidated to provide for restoration once land and oil lease ownerships allow for this activity, consistent with the goal of the Land Use Element to allow for the continued operation of oil extraction until such production ceases and the terms of the existing deed restriction are implemented.

TABLE 3.9-1
CONSISTENCY ANALYSIS WITH LOCAL LAND USE PLANS

Goals and Policies	Consistency Determination	Consistency Analysis
Circulation Element		
Goal: Provide a citywide system of safe, efficient, and attractive bicycle and pedestrian routes for commuter, school, and recreational use.	Consistent	As part of the proposed program in the South Area, the Seal Beach Visitor Center would serve as the main access point to the Isthmus and South Areas, with trail connections to Callaway and Zedler Marshes to the north, and to Gum Grove Park and the Hellman Ranch Trail to the east. A new restricted trail would also be constructed through the raptor habitat on the South LCWA site in the near-term. The trail would connect Gum Grove Park to the existing San Gabriel River Trail, fishing area, and trails on the Isthmus Area. This trail would not be open to the public; it would be restricted to docent-led tours. This would serve to further the City of Seal Beach's goal to provide attractive pedestrian routes for recreational use.
Open Space Element		
Water Quality. The goal is to protect and enhance the quality of water in local rivers and wetlands from "non-point" source pollutants in order to maintain and enhance the quality of life valued by residents and visitors to the City.	Consistent	As described in Chapter 2, *Project Description*, of this PEIR, new stormwater basin or bioswales would be constructed to function as a water quality treatment measure for the stormwater runoff from the new Seal Beach Visitor Center and associated parking. These water quality treatment measures would serve to protect and enhance the quality of water in wetlands consistent with this goal of the Open Space Element.
Minerals. If oil extraction activities are proposed under the City's jurisdiction, existing ordinances would regulate the operations to ensure compatibility with other types of surrounding land uses.	Consistent	Oil production facilities currently operate on the Hellman Retained site and are located away from residential uses. Surrounding uses are compatible with the oil operations on the Hellman Retained site. During operation of the proposed program, oil operations would either be phased out or consolidated to allow for restoration. No new oil extraction activates are proposed. As such, the surrounding uses would continue to be compatible with the surrounding land uses under the proposed program, consistent with this goal of the Open Space Element.
Wetlands. It is the intent and goal of the City to address future uses for these areas and cooperate with the property owner, state, local, and private agencies, as well as the community, to provide the means to accomplish this goal.	Consistent	Under the proposed program, wetland acreage in the South Area would be restored and would increase from 49.7-acres in the existing condition to 146.3-acres. The restored areas would be planted or seeded after earthmoving finishes. Vegetation maintenance, irrigation, and weeding would be required for all habitats after restoration. Removal of invasive species would occur on site in perpetuity through the combination of a volunteer program and long-term management of the site using methods similar to those used during implementation. This would be accomplished through cooperation with property owners, state, local, and private agencies, consistent with this goal of the Open Space Element.

TABLE 3.9-1
CONSISTENCY ANALYSIS WITH LOCAL LAND USE PLANS

Goals and Policies	Consistency Determination	Consistency Analysis
CITY OF LONG BEACH GENERAL PLAN		
1973 Conservation Element		
Overall Goals of the City – Goal 3: To revitalize and enhance areas where inadequate conservation measure occurred in the past.	Consistent	As part of the proposed program, subtidal channels, intertidal salt marsh, salt marsh-upland transition zone, brackish marsh, native grassland, coastal sage scrub, and riparian scrub would be restored or enhanced within the program area, which under the existing conditions includes several active oil fields. As such, implementation of the proposed program would revitalize and enhance oil fields consistent with this goal of the Conservation Element.
Water Resource Management Goals - Goal 7: To preserve and enhance the open space opportunities offered by inland waterways of the City through improved access and beautification.	Consistent	The proposed program would restore or enhance subtidal channels, intertidal salt marsh, salt marsh-upland transition zone, brackish marsh, native grassland, coastal sage scrub, and riparian scrub and would improve public access and provide visitor amenities through the construction of new pedestrian trails, elevated perimeter pedestrian walkways, educational or interpretive features, viewing areas with overlooks, new and improved parking facilities, and visitor center. As such, ecosystem restoration and the provision of improved public access and visitor amenities would be consistent with this goal of the Conservation Element.
Wildlife Management Goals – Goal 1: To promote measure and plans which protect and preserve distinctive types of wildlife including mammals, birds, marine organisms, and especially endangered species.	Consistent	As previously discussed, the proposed program would restore or enhance subtidal channels, intertidal salt marsh, salt marsh-upland transition zone, brackish marsh, native grassland, coastal sage scrub, and riparian scrub. Restoration of these habitats would serve to support important life history phases for species of special concern (e.g., federal and state listed species), essential fish habitat, and migratory birds, as appropriate. As such, ecosystem restoration would be consistent with this goal of the Conservation Element.
2013 Mobility Element		
MOP Policy 1-3: Improve auto-oriented streets (such as Pacific Coast Highway and Lakewood Boulevard) so pedestrians using the stores or services can walk comfortably and feel safer navigating the busy thoroughfare, regardless of their point of origin—from the surrounding neighborhoods or via transit.	Consistent	As a part of the proposed program, sidewalk improvements could be implemented in the Central Area and would be consistent with the City of Long Beach standards along the south side of 2nd Street, improving public access around the perimeter below the levee or flood wall. In addition, the North Area could include sidewalk enhancements within the Southern Synergy Oil Field site. With implementation of these improvements, public access and safety would be enhanced. As such, the proposed program would be consistent with this policy of the Mobility Element.
MOP Policy 2-13: Continue to use innovative designs to expand and enhance the bikeway network and increase public safety.	Consistent	As a part of the proposed program, sidewalk improvements could be implemented in the Central Area and would be consistent with the City of Long Beach standards along the south side of 2nd Street, improving public access around the perimeter below the levee or flood wall. In addition, the North Area could include sidewalk enhancements within the Southern Synergy Oil Field site. Implementation of these improvements would improve public safety. As such, the proposed program would be consistent with this policy of the Mobility Element.

TABLE 3.9-1
CONSISTENCY ANALYSIS WITH LOCAL LAND USE PLANS

Goals and Policies	Consistency Determination	Consistency Analysis
2002 Open Space and Recreation Element		
Issue 1.1: Preservation and rehabilitation of the Los Cerritos Wetlands	Consistent	The proposed program would restore or enhance subtidal channels, intertidal salt marsh, salt marsh-upland transition zone, brackish marsh, native grassland, coastal sage scrub, and riparian scrub and would improve public access and provide visitor amenities within the Los Cerritos Wetlands Complex. Specifically, within the Isthmus Area, wetland acreage would increase from 10.5-acres to 13.5-acres. In addition, as part of the proposed program within in the Central Area, wetlands would increase from 68.6-acres to 76.5 acres and managed habitats would also increase from zero to 4.9 acres. Furthermore, within the North Area, wetlands would be increased by 40.2-acres to 67.1-acres and managed habitats would increase from zero to 11.1-acres. As part of the long term efforts of ecosystem restoration within the Los Cerritos Wetlands, oil operations on the Isthmus LCWA site within the Isthmus Area would be phased out or consolidated off-site to allow for restoration under the proposed program. Given the reduction in oil production facilities and the rehabilitation of historic wetlands, the proposed program would be consistent with this issue of the Open Space and Recreation Element.
Goals/Objectives 1.1: Develop well-managed, viable ecosystems that support the preservation and enhancement of natural and wildlife habitats.	Consistent	As previously discussed, the proposed program would restore or enhance subtidal channels, intertidal salt marsh, salt marsh-upland transition zone, brackish marsh, native grassland, coastal sage scrub, and riparian scrub. Restoration of these habitats would serve to support important life history phases for species of special concern (e.g., federal and state listed species), essential fish habitat, and migratory birds, as appropriate. As such, ecosystem restoration would be consistent with this goal/objective of the Open Space and Recreation Element.
Goals/Objectives 1.3: Improve appropriate access to natural environments.	Consistent	The proposed program would improve public access and provide visitor amenities through the construction of new pedestrian trails, elevated perimeter pedestrian walkways, educational or interpretive features, viewing areas with overlooks, new and improved parking facilities, and visitor center. As such, the provision of improved public access and visitor amenities would be consistent with this goal/objective of the Open Space and Recreation Element.
Goals/Objectives 1.5: Remediate contaminated sites.	Consistent	As part of the efforts for ecosystem restoration, the proposed program would include remediation of contaminated soil and groundwater on oil field sites. As such, these proposed remediation activities would be consistent with this goal/objective of the Open Space and Recreation Element.
Policy 1.1: Promote the creation of new and reestablished natural habitats and ecological preserves including wetlands, woodlands, native plant communities, and artificial reefs.	Consistent	As previously discussed, the proposed program would restore or enhance subtidal channels, intertidal salt marsh, salt marsh-upland transition zone, brackish marsh, native grassland, coastal sage scrub, and riparian scrub. As such, ecosystem restoration would be consistent with this policy of the Open Space and Recreation Element.

TABLE 3.9-1
CONSISTENCY ANALYSIS WITH LOCAL LAND USE PLANS

Goals and Policies	Consistency Determination	Consistency Analysis
Policy 1.2: Protect and improve the community's natural resources, amenities and scenic values including nature centers, beaches, bluffs, wetlands and water bodies.	Consistent	The proposed program would restore or enhance subtidal channels, intertidal salt marsh, salt marsh-upland transition zone, brackish marsh, native grassland, coastal sage scrub, and riparian scrub, and would improve public access and provide visitor amenities through the construction of new pedestrian trails, elevated perimeter pedestrian walkways, educational or interpretive features, viewing areas with overlooks, new and improved parking facilities, and visitor center. As such, ecosystem restoration and the provision of improved public access and visitor amenities would be consistent with this policy of the Open Space and Recreation Element.
Policy 1.4: Promote and assist with the remediation of contaminated sites.	Consistent	As described above, the proposed program would include remediation of contaminated soil and groundwater on oil field sites. As such, these proposed remediation activities would be consistent with this policy of the Open Space and Recreation Element.
Program 1.3: Work to acquire and restore the Los Cerritos Wetlands.	Consistent	As described above, the proposed program would restore or enhance subtidal channels, intertidal salt marsh, salt marsh-upland transition zone, brackish marsh, native grassland, coastal sage scrub, and riparian scrub and would improve public access and provide visitor amenities within the Los Cerritos Wetlands Complex. The proposed program provides for the phasing out of several oil operations to allow for the restoration of the wetlands ecosystem. As such, the proposed program would be consistent with this program of the Open Space and Recreation Element.
Program 1.4: Work to acquire and restore lands along the San Gabriel and Los Angeles Rivers, and wetland habitats and greenways.	Consistent	As described above, the proposed program would restore or enhance subtidal channels, intertidal salt marsh, salt marsh-upland transition zone, brackish marsh, native grassland, coastal sage scrub, and riparian scrub and would improve public access and provide visitor amenities within the Los Cerritos Wetlands Complex. As part of the long term efforts of ecosystem restoration within the Los Cerritos Wetlands, oil operations on the Isthmus LCWA site within the Isthmus Area would be phased out or consolidated off-site to allow for restoration under the proposed program. These sites are both adjacent to the San Gabriel River. Given this location and restoration activities, the proposed program would be consistent with this program of the Open Space and Recreation Element.
Program 1.7: Clean up contaminated sites and brownfields.	Consistent	As described above, the proposed program would include remediation of contaminated soil and groundwater on oil field sites. As such, these proposed remediation activities would be consistent with this program of the Open Space and Recreation Element.

TABLE 3.9-1
CONSISTENCY ANALYSIS WITH LOCAL LAND USE PLANS

Goals and Policies	Consistency Determination	Consistency Analysis
Issue 4.9: Recreation open spaces are not will linked; i.e., recreation trails are weak.	Consistent	As described further in Chapter 2, *Project Description*, of this PEIR, the Isthmus Area includes improvements for public access. In particular, public access could be improved in the near-term by opening the gate along the San Gabriel Trail, and scheduling docent-led tours or walks at Zedler Marsh. Once the Seal Beach Visitor Center and parking lot are constructed as part of restoration of the South Area, the existing road that connects Zedler Marsh to Callaway Marsh and the Pacific Coast Highway (PCH) would provide a trail connection between the Seal Beach Visitor Center and Zedler Marsh. As such, the improvement and connectivity of the trails in the Isthmus Area would be consistent with this issue of the Open Space and Recreation Element.
1975 Scenic Vistas Element		
Goal: Preserve and enhance natural and man-made aesthetic resources within and visible from scenic corridors.	Consistent	An evaluation of visual quality impacts is contained in Section 3.1, *Aesthetics*, of this PEIR. As described therein, development of the proposed program would change views from public viewpoints; however, a majority of the viewpoints would be enhanced by the proposed program, and scenic quality would increase with the phasing out of oil production facilities and non-native, invasive palm trees and the restoration of native vegetation and wetland habitat. All other viewpoints would not substantially obstruct, alter, or degrade the quality of any scenic vistas. Therefore, the proposed program would be consistent with this goal of the Scenic Vistas Element.
SOUTH AREA DEVELOPMENT AND IMPROVEMENT PLAN		
Provisions Applying to All Areas		
Provision 1. Homes and offices shall be oriented toward open space, green belts and water wherever possible. Vehicular access shall generally be provided from the side opposite these natural amenities.	Consistent	Vehicular access would be provided from major arterials opposite open space areas. The main parking for the Central Area would be existing on-street parking along Shopkeeper Road. The parking areas would be appropriately sited and include attractive landscaping. Additionally, to minimize disturbance of habitat areas, new development would be oriented towards major arterials and buffered from habitat areas. As such, the proposed program would be consistent with this provision of the adopted SEADIP.
Provision 3. Prior to issuance of a building permit, all infrastructure, including street improvements, fire hydrants, water lines, storm drains, and sanitary sewers shall be constructed on a block basis in accordance with the approved plans. Such improvements, including engineering plans, shall be financed by subdivider(s) or by an assessment district or both.	N/A	The proposed program does not propose any infrastructure improvements within the City of Long Beach. As the proposed program does not propose any infrastructure improvements, this provision would not be applicable and is not addressed.

TABLE 3.9-1
CONSISTENCY ANALYSIS WITH LOCAL LAND USE PLANS

Goals and Policies	Consistency Determination	Consistency Analysis
Provision 4. A minimum of 30 percent of the site shall be developed and maintained as usable open space (building footprint, streets, parking areas, and sidewalks adjacent to streets shall not be considered usable open space. Bicycle and pedestrian trails not included within the public right-of-way may be considered usable open space). All buildings shall be set back a minimum of 20 feet from all public streets and a wider setback may be required by individual subarea. Within this minimum twenty-foot setback area, a strip having a minimum width of 10 feet and abutting the street shall be attractively landscaped. Zoning Code Section 21.15.3160 defines "usable open space" as "*any space on a lot not enclosed within a building which is designed for specific recreational purposes, including active and passive recreational activities. Usable open space includes yards (except the required front yard setback), courtyards, balconies, decks, porches, roof decks, and patios. Usable open space does not include driveways, aisles, parking spaces or side or rear yards less than 8 feet in width or front yards unless permitted by the provisions of Section 21.31.242.*"	Consistent	Consistent with this provision, a minimum of 65 acres across portions of the Isthmus Area, Central Area, and North Area would be provided as natural open space which would be made available to the public. In particular, the Isthmus Area would include opening the gate alone the San Gabriel Trail and scheduling docent-led tours or walked at Zedler Marsh. Within the Central Area, trails and overlooks would be provided in and around the proposed levees. All development would be set back a minimum of 20 feet from all existing public streets, and landscaping within the setback would be provided by the proposed program. As such, the proposed program would be consistent with this provision of the adopted SEADIP.
Provision 5. The maximum height of buildings shall be 30 feet for residential and 35 feet for non-residential uses, unless otherwise provided herein.	Consistent	The Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse Number 2016041083) amended the SEADIP to exclude oil production and oil storage facilities from the overall height restrictions. As part of the proposed program, no buildings are proposed within the City of Long Beach. As such, the proposed program would be consistent with this provision of the adopted SEADIP.
Provision 6. Minimum parking for each residential unit shall be the same as required Citywide by the zoning regulations; except that, in that part of SEADIP within the coastal zone, coastal zone standards shall apply. Minimum parking for commercial and industrial uses shall be provided in accordance with parking standards as specified in the zoning regulations.	Consistent	Main parking for the Central Area would be existing on-street parking along Shopkeeper Road. The proposed parking area would be compliant with City standards. As such, the proposed program would be consistent with this provision of the adopted SEADIP.
Provision 7. Navigable waterways shall not be extended unless it can be demonstrated that such extension will not have an adverse impact on water quality and boat traffic.	Consistent	The proposed program includes the creation of tidal channels increasing tidal flow as part of the wetlands restoration within the Isthmus Area, Central Area, and North Area. No adverse impacts to water quality or recreational opportunities would be anticipated. This discussion is included in both Section 3.3, *Biological Resources*, and Section 3.8, *Hydrology and Water Quality*, of this PEIR. The proposed program would be consistent with this provision of the adopted SEADIP.

TABLE 3.9-1
CONSISTENCY ANALYSIS WITH LOCAL LAND USE PLANS

Goals and Policies	Consistency Determination	Consistency Analysis
Provision 8. All developments shall be open and inviting to the public; the public shall not be excluded from use of private streets and bicycle and pedestrian trails, although the public may be excluded from private yard areas, from private recreation areas designed for the use of residents of the development, and from private drives serving parking lots and garage structures reserved for residents and their guests.	Consistent	The proposed program includes public access improvement and providing visitor amenities through the construction of new pedestrian trails, elevated perimeter pedestrian walkways, educational or interpretive features, viewing areas with overlooks, and new and improved parking facilities. The remainder of the individual sites that make up the proposed program would not be open to the public for safety reasons. The proposed program would be consistent with this provision of the adopted SEADIP.
Provision 9. All development shall be designed and constructed to be in harmony with the character and quality of surrounding development so as to create community unity within the entire area.	Consistent	The proposed program would restore or enhance subtidal channels, intertidal salt marsh, salt marsh-upland transition zone, brackish marsh, native grassland, coastal sage scrub, and riparian scrub and would improve public access and provide visitor amenities through the construction of new pedestrian trails, elevated perimeter pedestrian walkways, educational or interpretive features, viewing areas with overlooks, and new and improved parking facilities. This would be consistent with the goals of the City of Long Beach to promote restoration of the Los Cerritos Wetlands Complex. New structures proposed within the program area would be consistent with the city of Long Beach's existing height and setback requirements and would be compatible with the existing commercial and retail areas within the vicinity of the program area. The proposed program would be consistent with this provision of the adopted SEADIP.
Provision 10. Developers shall construct public open space, trails, pathways and bicycle trails for each development in such a manner that they will be generally accessible to the public and that they will interconnect with similar facilities in adjacent developments so as to form an integrated system of open space and trails connecting major points of destination.	Consistent	The proposed program includes public access improvement and providing visitor amenities through the construction of new pedestrian trails, elevated perimeter pedestrian walkways, educational or interpretive features, viewing areas with overlooks, and new and improved parking facilities. The proposed program would be consistent with this provision of the adopted SEADIP.
Provision 11. Public access shall be provided to and along the boundaries of all public waterways as provided for in the wetlands restoration plan.	Consistent	The existing San Gabriel River Bike Trail and existing restricted access trails which are adjacent to San Gabriel River would be maintained. In addition, a new restricted access trail (guided) would be provided along the San Gabriel River as well. The proposed program would be consistent with this provision of the adopted SEADIP.
Provision 12. Public views to water areas and public open spaces shall be maintained and enhanced to the maximum extent possible, consistent with the wetlands restoration plan.	Consistent	There are no current public views or open space on the program area. However, activities under the proposed program would create public views to both open space and water areas by constructing a new pedestrian trails, elevated perimeter pedestrian walkways, educational or interpretive features, and viewing areas with overlooks within and along restored wetlands habitats and the San Gabriel River. The proposed program would be consistent with this provision of the adopted SEADIP.
Provision 13. Adequate landscaping and required irrigation shall be provided to create a park-like setting for the entire area. A landscaped parkway area shall be provided along all developments fronting on Pacific Coast Highway, Westminster Avenue, Studebaker Road, Seventh Street and Loynes Drive	Consistent	The proposed program would include new landscaping along all setbacks of new development within the Alamitos Bay Partners site, Southern Synergy Oil Field site, Long Beach City Property site, Central Bryant site, Pumpkin Patch site, Isthmus Bryant site, and DWP site, fronting Studebaker Road, Westminster Avenue, and PCH, as necessary. The proposed program would be consistent with this provision of the adopted SEADIP.

TABLE 3.9-1
CONSISTENCY ANALYSIS WITH LOCAL LAND USE PLANS

Goals and Policies	Consistency Determination	Consistency Analysis
Provision 14. No additional curb cuts shall be permitted on Pacific Coast Highway, Westminster Avenue, Studebaker Road, or Seventh Street, unless it can be shown that inadequate access exists from local streets or unless specifically permitted by Subarea regulations provided herein. This restriction shall not preclude the provision of emergency access from these streets as may be required by the City.	N/A	No curb cuts are necessary under the development of the proposed program. As the proposed program does not propose any curb cuts, this provision would not be applicable and is not addressed.
Provision 15. All utility lines shall be placed underground and utility easements shall be provided as required unless waived by the Commission on the advice of the Director of Public Works.	Consistent	The proposed program would not include the construction of new utility poles, and where geotechnically feasible, required utility lines would be placed underground. The proposed program would be consistent with this provision of the adopted SEADIP.
Provision 16. Developers shall construct, in accordance with plans approved by the Director of Public Works, all necessary sanitary sewers to connect with existing public sewers, and shall provide easements to permit continued maintenance of these sewers by the City where the City accepts responsibility for such maintenance.	N/A	No sanitary sewers are necessary under the development of the proposed program. As the proposed program does not propose any sanitary sewers, this provision would not be applicable and is not addressed.
Provision 17. Developers shall construct, in accordance with plans approved by the Director of Public Works, all new streets and ways within the area. All streets and ways will include: a. Roadway pavement, curbs and sidewalks approved by the Director of Public Works. The sidewalk requirement may be waived or the sidewalk may be combined with an enlarged bicycle trail in such cases where the Commission and the Director of Public Works determine that an independent sidewalk is not required for pedestrian convenience and safety. b. Water lines approved by the General Manager of the Water Department. c. Fire hydrants approved by the Fire Chief and the General Manager of the Water Department. d. Street lighting using low energy luminaries as approved by the Director of Public Works. e. Storm drainage approved by the Director of Public Works. f. Street trees approved by the Manager of the Park Bureau. g. Street signs and pavement traffic markings approved by the Director of Public Works. h. All traffic control devices required by the Director of Public Works.	Consistent	The proposed program includes public access improvement and providing visitor amenities through the construction of new pedestrian trails, elevated perimeter pedestrian walkways, educational or interpretive features, viewing areas with overlooks, and new and improved parking facilities. Utilities, such as street lights, would be installed per approval by the City of Long Beach. The proposed program would be consistent with this provision of the adopted SEADIP.

TABLE 3.9-1
CONSISTENCY ANALYSIS WITH LOCAL LAND USE PLANS

Goals and Policies	Consistency Determination	Consistency Analysis
Provision 18. Developers shall improve and dedicate to the City certain streets, recreation areas and other public facilities necessary to support the proposed private development, as specified by area in subsequent paragraphs. If any such required improvements are found by the Commission to be infeasible or undesirable for engineering, legal or other reasons, the Commission may accept alternative improvements proposed by the developer so long as they meet the intent of the original requirements and are consistent with the overall goals and objectives of the adopted Specific Plan. Developers shall make such improvements or furnish security in connection with such improvements prior to commencement of construction of adjacent areas, which the improvements are designed to support; improvements may be phased with the phased construction of such adjacent areas. In those cases where the developer is to dedicate land area for subsequent improvement by the City, the developer shall not be required to convey such area until the City has budgeted funds for the improvements.	Consistent	The proposed program includes public access improvement and providing visitor amenities through the construction of new pedestrian trails, elevated perimeter pedestrian walkways, educational or interpretive features, viewing areas with overlooks, and new and improved parking facilities. The proposed program would be consistent with this provision of the adopted SEADIP.
Provision 19. Developers shall make provision for the continued private maintenance of all common areas that are not to be dedicated and accepted by the City, and of all ways not to be dedicated and accepted by the City, including maintenance of street lighting, walks, curbs, storm drainage, water lines, fire hydrants, and street trees. Such provisions shall be perpetuated by their inclusion in the covenants, conditions, and restrictions of the property owners.	N/A	No common areas are proposed under the proposed program. As the proposed program does not propose any common areas, this provision would not be applicable and is not addressed.
Responsibility for Construction and Maintenance of Wetlands and Buffers		
The Wetlands		
Policy 1. The wetlands and associated habitats, and all fresh, brackish and tidal water supply and control systems, shall be constructed at the expense of the developers of Areas 11a, 25 and 26, unless otherwise provided for by agreements between land owners and the managing agency. The developer(s) of Areas 11a and 25 shall be responsible for wetlands development of Areas 23 and 33. The developer(s) of Area 26 shall be responsible for wetlands development of Area 27.	Consistent	The proposed program would restore or enhance subtidal channels, intertidal salt marsh, salt marsh-upland transition zone, brackish marsh, native grassland, coastal sage scrub, and riparian scrub and would improve public access and provide visitor amenities through the construction of new pedestrian trails, elevated perimeter pedestrian walkways, educational or interpretive features, viewing areas with overlooks, and new and improved parking facilities. Development on Subareas 11A (Southern Synergy Oil Field site) and Subarea 26A and 26B (Central LCWA and Central Bryant site) would not include any urban development. Subarea 25 (Long Beach City Property site) would continue to be operated for oil production. Subarea 25 (Pumpkin Patch site) would also be protected. The proposed program includes restoration of the wetlands in portions of Subarea 27 (Callaway Marsh site, Zedler Marsh site, Isthmus Bryant site, and DPW site) and Subarea 33 (portions of the Northern

TABLE 3.9-1
CONSISTENCY ANALYSIS WITH LOCAL LAND USE PLANS

Goals and Policies	Consistency Determination	Consistency Analysis
		and Southern Synergy Oil Field site). The Haynes Cooling Channel (within Subarea 27) would be decommissioned and the Los Alamitos Pump Station site (within Subarea 27) was previously restored and would not include any activities under this proposed program. Overall, the proposed program would include limited development and substantial restoration activities funded by the Applicant. The proposed program would be consistent with this policy of the adopted SEADIP.
Policy 2. Owing to the need to make connections with the existing tidal marsh, the major wetlands restoration project between Los Cerritos Channel and Westminster Boulevard shall be accomplished at one time. Restoration of wetlands north of the Los Cerritos Channel and south of the San Gabriel River need not be accomplished concurrently with the major restoration project, or with each other. Prior to the issuance of permits for residential, commercial or industrial development, each applicant shall develop a detailed phasing plan that assures that restoration of wetlands will be completed prior to or concurrently with the completion of urban development on related parcels as specified above. Said detailed phasing plans shall be submitted for approval to the agency responsible for granting the coastal permit.	Consistent	The proposed program would restore or enhance subtidal channels, intertidal salt marsh, salt marsh-upland transition zone, brackish marsh, native grassland, coastal sage scrub, and riparian scrub and would improve public access and provide visitor amenities through the construction of new pedestrian trails, elevated perimeter pedestrian walkways, educational or interpretive features, viewing areas with overlooks, and new and improved parking facilities. A phasing plan for the restoration activities would be included as part of this proposed program. The proposed program would be consistent with this policy of the adopted SEADIP.
Policy 3. The standard of wetlands restoration is that it shall be completed prior to or concurrently with upland development on related areas. This standard may be satisfied by using one of the following options: a. Percentage Option. Whenever part of the development acreage is built upon, an equal percentage of the future wetland acreage will be developed as wetlands; and b. Acre-for-Acre Option. For every acre of wetland identified for fill and/or consolidation under the Local Coastal Plan that will be covered by the development, the developer shall improve 1 acre of wetland.	N/A	No development on existing wetlands is proposed under the proposed program. As the proposed program does not propose any development on the existing wetlands, this policy would not be applicable and is not addressed.
Policy 6. Overall custodial and interpretive management and financial responsibility for maintenance of Los Cerritos Wetlands shall be vested in an appropriate governmental agency or private non-profit corporation upon the initiation of the first wetlands restoration project. Prior to issuance of any permits for any projects related to wetlands construction, nomination of the managing agency shall be made by the City of Long Beach with the concurrence of the State Department of Fish and Game.	Consistent	The restored wetlands would be managed and owned by the LCWA, which would also have the right to obtain title to some of the individual sites within the proposed program. The proposed program would be consistent with this policy of the adopted SEADIP.

TABLE 3.9-1
CONSISTENCY ANALYSIS WITH LOCAL LAND USE PLANS

Goals and Policies	Consistency Determination	Consistency Analysis
The Buffers		
Policy 1. The wetlands are to be separated from urban developments by "buffers". In the context of this LCP, the buffers are treated as a part of the adjacent urban developments, as they will form a part of the amenities. Construction and maintenance of the buffers, therefore, falls entirely on the developers and their successors in interest. The reader should note that buffers are constructed only north of Westminster Boulevard. The restored wetlands south of Westminster Boulevard will have no buffers, owing to the fact that they will be separated from other uses by natural barriers.	Consistent	As part of the proposed program, native upland vegetation buffers between habitat areas and human development would be incorporated to mitigate urban impacts. The proposed program would be consistent with this policy of the adopted SEADIP.
Policy 2. Buffers between Subareas 11a and 33 shall be created by developer(s) of Subarea 11a prior to or concurrently with development of upland areas. The berm between wetlands and development shall be created as a part of the grading operation of the wetland. If build out is phased over a period longer than two years, then the landscaping and irrigation system for the buffer can be phased with each phase of landscaping for the development with this exception; that at the beginning of each phase, prior to finish grading for that phase, a row of shrubs shall be planted at the top of the berm to offer protection during construction. Provisions must be made to deny public access to all portions of areas not included in the current building program. Design of the buffers must conform to the standards set forth in the certified Local Coastal Plan for the Los Cerritos Wetlands.	N/A	No development would occur on Subarea 11a under the proposed program. As the proposed program does not propose any development on Subarea 11a, this policy would not be applicable and is not addressed.
Policy 3. If urban developments remain the property of landowners and/or developers, they shall be responsible for continuous maintenance of the buffers. This responsibility shall run with the land. If urban developments become condominiums, the buffers shall become a part of the area held in common, and continuous maintenance shall be the responsibility of the property owner's association(s). The agency in charge of the management of the restored wetlands may provide comments and recommendations to those responsible for maintenance of the buffers if lack of proper maintenance is causing the buffers to fail in their primary mission to prevent visual and physical access to the wetlands habitats. Breeches in the buffer which seriously threaten habitat values in the wetlands, and which have been reported by the wetlands management agency and have not been repaired in a timely fashion by the	N/A	The proposed program does not propose any urban development. As the proposed program does not propose any urban development, this policy would not be applicable and is not addressed.

TABLE 3.9-1
CONSISTENCY ANALYSIS WITH LOCAL LAND USE PLANS

Goals and Policies	Consistency Determination	Consistency Analysis
individual or agency responsible for maintenance, may be repaired by the wetlands management agency. Costs for such repairs shall be collected from the property owner's association.		
Policy 5. The primary mission of the buffer is to prevent physical access into the wetlands and to prevent visual disturbances of wetland wildlife. The buffer, as shown in the Local Coastal Plan, consists of a berm of mounded soil, a fence, and plant material. Plant material will be chosen to be (in descending order of priority): a. of a growth form that supports the primary mission (i.e., of assistance in preventing access and/or screening development from the wetlands); b. compatible with soil, water and climate conditions of the immediate site; c. fast growing; d. compatible with adjacent development; e. low maintenance; and f. of wildlife food and/or cover value.	Consistent	Wetland restoration throughout the proposed program would include various features that would serve to prevent physical access into the wetlands and to prevent visual disturbances of the wetland wildlife. As discussed in Chapter 2, *Project Description*, of this PEIR, gently sloped transition zone and low-lying upland habitats adjacent to today's salt marsh, which would be included as part of the proposed program, could support intertidal communities in the longer term. Potential disturbances to sensitive habitats and species during operation of the proposed program would be minimized through effective design of public access areas to keep people on trails and out of habitat areas. Furthermore, the proposed program would include earthen levees and berms, and walls, which would also serve to physically protect wetlands. The proposed program would be consistent with this policy of the adopted SEADIP.
Specific Development Standards: Subarea 11A (Southern Synergy Oil Field Site)		
Policies 11 (a) a–j.	N/A	These policies assumed residential development on Subarea 11A. No residential uses are proposed under the proposed program. As the proposed program does not propose any residential development on this site, the polices would not be applicable and are not addressed.
Specific Development Standards: Subarea 11B (Alamitos Bay Partners Site)		
Policies 11 (b) a–e.	N/A	These policies assumed residential development on Subarea 11B. As the proposed program does not propose any residential development on this site, the polices would not be applicable and are not addressed.
Specific Development Standards: Subarea 25 (Long Beach City Property Site and Pumpkin Patch Site) and Subareas 26A and 26B (Central LCWA Site and Central Bryant Site)		
Policy 25/26.a. Use: (Area 25) Business Park (Office Commercial and light Industrial); restaurants and hotel. Commercial / Self-storage (defined by 21.15.570) is a prohibited land use.	N/A	Subarea 25 includes the Long Beach City Property site and the Pumpkin Patch site. Under the proposed program, the Long Beach City Property site in the long-term would include grading to support habitat restoration, the construction of an earthen levee to protect 2nd Street and Shopkeeper Road, the excavation of a tidal channel, construction of public trails on levees, accessible ramps, and stairs, and the construction of viewpoints. On the Pumpkin Patch site, an earthen levee would be constructed to protect the western portion of the Pumpkin Patch site. The proposed program does not propose any business park development on these sites; as such, most of the policies would not be applicable to the Long Beach City Property site and Pumpkin Patch site and are not addressed. Subarea 26 includes the Central LCWA site and Central Bryant site, which include remediation of soils and relocation or modification of oil infrastructure,
Policy 25/26.b. Use of Area 26		
Policy 25/26.c: Noise/Odors. The City Planning Commission shall approve development of specific office commercial and light industrial uses which will not emit noise, odor, or air pollutants beyond the boundaries of their parcels.		
Policy 25/26.d: Performance Standards. The Commission may adopt specific performance standards or a specific list of permitted uses to guide developers and the Commission.		

TABLE 3.9-1
CONSISTENCY ANALYSIS WITH LOCAL LAND USE PLANS

Goals and Policies	Consistency Determination	Consistency Analysis
Policy 25/26.e: Outdoor Storage. No outdoor storage of materials and equipment shall be permitted. Loading and service areas shall not be permitted within required yard setback areas and all such loading and service areas shall be enclosed or screened so as not to be visible from the street.		construction of an earthen levee, raising existing wells, breaching the San Gabriel River Levee and reconnecting the river to the restored marsh, construction of trails on levees and viewpoints. The proposed program does not propose any business park development on these sites; as such, most of the policies would not be applicable to the Central LCWA site and Central Bryant site and are not addressed. As the Central LCWA site and Central Bryant site do not front Studebaker Road, Policy 25/26.r would not be applicable to the proposed program. As part of the proposed program, the Long Beach City Property site would include transitional habitat along the base of the levee that would run from Westminster Avenue to the San Gabriel River along Shopkeeper Drive. The transitional habitat would be consistent with Policy 25/26.s.
Policy 25/26.f: Floor Area. No more than 40,000 square feet of floor area for medical/dental offices, and no more than 16,000–20,000 square feet of floor area shall be restaurant use.		
Policy 25/26.g: Density. The business park shall be predominantly office commercial uses, and no less than 75 percent of the area shall be devoted to office commercial use. No light industrial uses shall front on Pacific Coast Highway or Westminster Avenue.		
Policy 25/26.h: Lot Coverage. Not more than 35 percent of the area of each office commercial lot shall be occupied by a building or buildings and not more than 50 percent of the area of each light industrial use shall be occupied by a building or buildings.		
Policy 25/26.i: Landscaping. All improved building sites shall have a minimum landscaped coverage of 15 percent of the area of each lot and shall be provided with an irrigation system. Boundary landscaping shall be provided on all internal property lines. Parking areas shall be landscaped with a minimum of one tree per each five parking stalls. The proposed retention basin in Area 25 shall be developed in a park like manner.		
Policy 25/26.j: Setbacks. Required yard areas: 30 feet front; 10 feet side (except 30 feet side when a side yard abuts a street and except that the internal side yard may be 0 feet provided the main building on the same lot line on the abutting lot is set back 0 feet and both lots are developed at the same time).		
Policy 25/26.k: San Gabriel River Setback. A 30-foot-wide landscaped setback shall also be required along the San Gabriel River Channel property line to create a park-like setting for the bicycle trail along the river bank. (This substitutes for the park in the former Area 30).		

TABLE 3.9-1
CONSISTENCY ANALYSIS WITH LOCAL LAND USE PLANS

Goals and Policies	Consistency Determination	Consistency Analysis
Policy 25/26.l: PCH Curb Cuts. One access from Westminster Avenue shall be allowed to Area 26; no additional curb cuts shall be permitted on Westminster Avenue or Pacific Coast Highway. All other vehicular access shall be from Studebaker Road or Shopkeeper Drive.		
Policy 25/26.m. The developer of Area 25 shall construct a widening of Pacific Coast Highway in accordance with a plan approved by the Director of Public Works, an extension of Studebaker Road, and dedicate the same to the City.		
Policy 25/26.n. The developer of Area 25 shall construct, in accordance with plans approved by the Director of Public Works, a bicycle trail along the south side of Westminster Avenue and along the north side of Pacific Coast Highway, south of Studebaker Road. The developer shall dedicate the same to the City.		
Policy 25/26.o. The developers of Areas 25 and 26 shall provide for the construction of any improvements necessary to cross the San Gabriel River Regional Bikeway from the east levee to the west levee of the river at Westminster Avenue. These should be limited to on-street pavement markings.		
Policy 25/26.p. The developers shall participate in the cost of constructing the Studebaker Road extension between Westminster Avenue and Pacific Coast Highway, the amount of that participation to be calculated to be the length in feet of property fronting on each side of said roadway multiplied by the average cost per linear foot of constructing one lane of said roadway.		
Policy 25/26.q: San Gabriel River Improvements. The developers shall improve that portion of the San Gabriel River bank adjacent to their property with a pedestrian walk, bicycle trail and related landscaping, such development to continue one-half of the distance under the Pacific Coast Highway bridge to join with similar facilities in Area 29.		
Policy 25/26.r: The developer of Area 26 shall construction a bicycle trail along the east side of Studebaker Road for the entire frontage on said road.		

TABLE 3.9-1
CONSISTENCY ANALYSIS WITH LOCAL LAND USE PLANS

Goals and Policies	Consistency Determination	Consistency Analysis
Policy 25/26.s: A non-wetland habitat corridor shall be provided in Area 25 from Westminster Avenue to the San Gabriel River. Such corridor shall not be less than 400 feet in width (when measures from the existing buildings in Area 18, the Marketplace) and shall include Shopkeeper Drive. No building shall be allowed in this corridor except that no less than 70 feet from Shopkeeper Drive, single story (not to exceed 20 feet in height) commercial office or light industrial use building shall be allowed. The long axis of any buildings in the non-wetland habitat corridor shall be parallel to the long axis of the corridor.		
Specific Development Standards: Subarea 27 (Zedler Marsh Site, Isthmus Bryant Site, DPW Site, Haynes Cooling Channel, and Los Alamitos Pump Station Site)		
This area is to be utilized entirely in the wetlands restoration program.	Consistent	The Zedler Marsh site, Isthmus Bryant site, DPW site, Haynes Cooling Channel, and Los Alamitos Pump Station site all fall with Subarea 27. Consistent with the adopted SEADIP, the Zedler Marsh site and Los Alamitos Pump Station site were both previously restored. Under the proposed program, the Isthmus Bryant site would include grading to support habitat restoration and tidal connection. The DPW site would also be consistent with the provisions in the adopted SEADIP through the removal of invasive species, planting of native vegetation, and removal of the access road to reduce habitat fragmentation. In addition, the existing fishing area at the Haynes Cooling Channel would be retained under the proposed program.
Specific Development Standards: Subarea 28 (Los Alamitos Retarding Basin Site)		
This site is owned by Orange County and is utilized by the Orange County as a retention basin.	N/A	Under the proposed program, the Los Alamitos Retarding Basin site would continue its operation as a retention basin and would be owned and operated by Orange County.
Specific Development Standards: Subarea 33 (portions of the Northern and Southern Synergy Oil Field sites)		
a. This area has been expanded in area to 96.1 acres and shall be devoted entirely to wetland purposes. An additional 2.0 acres shall be devoted to Least Tern nesting site. See *Marine Environment* of the Local Coastal Plan for description. The developer shall dedicate this area to the Management Agency and restore the wetlands in accordance with plans approved by the State Coastal Commission for continued public use and maintenance. b. The recently established least tern site shall be designated as habitat area and preserved as such unless or until the Department of Fish and Game may determine that it is appropriate to experiment with enhancing least tern habitat and allow up to 2 acres within Parcel 33.	Consistent	As part of the proposed program, no development or activities are proposed on the Northern Synergy Oil Field site. The Southern Synergy Oil Field site includes grading to support habitat restoration, construction of earthen levee or flood wall to protect 2nd Street and PCH, and the excavation of a tidal channel from the Northern Synergy Oil Field site to the Southern Synergy Oil Field site. All of these activities would support wetland habitat restoration, consistent with the adopted SEADIP. Pursuant to Section 3.3, *Biological Resources*, of this PEIR, although the least tern has been observed foraging within Steamshovel Slough and there is a potential for the least tern to forage in the Central Area (San Gabriel River) and in the South Area (Haynes Cooling Channel), there are no other suitable breeding areas on any other sites within Subarea 33. The sites would be revegetated as oil facilities are removed.

TABLE 3.9-1
CONSISTENCY ANALYSIS WITH LOCAL LAND USE PLANS

Goals and Policies	Consistency Determination	Consistency Analysis
SOUTHEAST AREA SPECIFIC PLAN 2060 (PROPOSED)		
Priorities		
2. Wetland Enhancement. Improve accessibility and pursue opportunities to restore wetland viability.	Consistent	The proposed program goals and objectives include restoration of tidal wetlands, maximizing contiguous habitat areas and maximizing the buffer between habitat and sources of human disturbance, and striving for long-term restoration success. These goals and objectives are reflected in the activities proposed on the individual sites located within the City of Long Beach and subject to the proposed SEASP 2060. Generally, activities include grading, removal of invasive species, construction of earthen levee or flood walls, and construction of public trails and viewpoints. These activities serve to restore the wetlands on the program area as well as improve public accessibility, consistent with this priority of the proposed SEASP 2060.
3. View Preservation. Preserve Views of the hills and mountains and maintain the scenic environment through control of building placement and/or height. **8. Consolidate or Relocate Oil Operations.** Consolidate or relocate oil operations where possible to facilitate wetlands restoration and minimize visual impacts.	Consistent	Generally, the proposed program includes phasing out or consolidation of oil operations on a majority of the individual sites within the proposed SEASP 2060 area (including the Isthmus LCWA site, Central LCWA site, Central Bryant site, and the Alamitos Bay Partners site). Phasing out or consolidation of oil operations would support habitat restoration and would remove views of oil operations that would otherwise block views of the hills and mountains.
4. Bike and Pedestrian Transportation Options. Improve Pedestrian and bicycle connectivity by creating an active streetscape that promotes safe walking and cycling. **6. Public Access to Open Space.** Improve public access to the marina, waterways, wetlands, and parks.	Consistent	Several pedestrian trails are proposed under this proposed program. Within the Isthmus Area, the existing road that connects Zedler Marsh to Callaway Marsh and the PCH would provide a trail connection between the Seal Beach Visitor Center (within the South Area) and Zedler Marsh. As part of the Central Area, potential sidewalk improvements would be implemented in accordance with the City of Long Beach standards along the south side of 2nd Street. A crosswalk would be added at the intersection of Shopkeeper Road and 2nd Street to improve public access between the North Area, Long Beach Visitor Center, and Central Area. These proposed activities would support this priority of the proposed SEASP 2060 to improve pedestrian connectivity and public access to the wetlands.
Development Standards		
5.4 Coastal Habitat, Wetlands, and Recreation (CHWR) **a. Building Setbacks** • Building setbacks shall be measures from ultimate right-of-way (back of ultimate sidewalk). • Building shall be built up to the required ultimate sidewalk shown on Street Sections in Chapter 6, Mobility • Additional setbacks for entry plazas, courtyards, or outdoor dining patios, may be permitted subject to the discretion of the Site Plan Review Committee. • Developer shall be responsible for project impacts on adjacent rights-of-way and construction street segments to match cross sections as provided in the SEASP.	N/A	No buildings are proposed under the proposed program. As the proposed program does not propose the development of any buildings, the polices would not be applicable and are not addressed.

TABLE 3.9-1
CONSISTENCY ANALYSIS WITH LOCAL LAND USE PLANS

Goals and Policies	Consistency Determination	Consistency Analysis
b. Height The intent of providing 2-story buildings is to allow for buildings that support coastal recreation uses or uses that are ancillary to the wetlands (interpretive center). For instance, 2-story uses would allow for ground floor coastal recreation-related uses (kayak, rental, etc.) and the upper floor may be a small ancillary office or storage use to support the ground floor use. Office use must be related to the primary use or use on ground floor; stand-alone office uses are not permitted in this category.	Consistent	No buildings are proposed under the proposed program. As the proposed program does not propose the development of any buildings, the polices would not be applicable and are not addressed.
5.7 General Development Standards **d. Views** The scenic and visual qualities of coastal areas shall be considered and protected as resources of public important as specific in the California Coastal Act Section 30251. The policies below reflect this mutual objective of the Specific Plan and Coastal Act. • Public views to water areas and public open spaces shall be maintained and enhanced to the maximum extent possible. • Permitted development shall be sited and designed to protect views to (and along) the ocean and scenic coastal areas, to minimize the alteration of natural landforms to be visual compatible with the character of surrounding areas, and, where feasible to restore and enhance visual quality in visually degraded areas.		An evaluation of visual quality impacts is provided in Section 3.1, *Aesthetics*, of this PEIR. As described therein, development of the proposed program would change views from public viewpoints; however, a majority of the viewpoints would be enhanced by the proposed program, and scenic quality would increase with the phasing out of oil production facilities and non-native, invasive species, and the restoration of native vegetation and wetland habitat. The proposed program would not substantially obstruct, alter, or degrade the quality of any scenic vistas. Therefore, the proposed program would be consistent with the general development standard of the proposed SEASP 2060 related to views.
i. Public Access Public Access shall be provided to and along the boundaries of all public waterways and wetland areas.		As previously discussed, pedestrian trails are proposed under this proposed program. Within the Isthmus Area, the existing road that connects Zedler Marsh to Callaway Marsh and the PCH would provide a trail connection between the Seal Beach Visitor Center (within the South Area) and Zedler Marsh. As part of the Central Area, potential sidewalk improvements would be implemented in accordance with the City of Long Beach standards along the south side of 2nd Street. A crosswalk would be added at the intersection of Shopkeeper Road and 2nd Street to improve public access between the North Area, Long Beach Visitor Center, and Central Area. These proposed activities would support this development standard to provide public access along the boundaries of the wetland areas.
5.8 Wetland Delineations New projects within the Coastal Habitat, Wetlands, and Recreation designation require the preparation of a biological study to determine the location and extent of any wetlands resources on site, if any. When a wetland delineation is required by the City for a new development application or permit, one of two options may be provided by the applicant:	Consistent	Portions of the program area have formal jurisdictional delineation; however, consistent with this policy, Mitigation Measure BIO-10, requires a jurisdictional delineation and issuance of jurisdictional resources permits prior to construction. Refer to Section 3.3, *Biological Resources*, of this PEIR, for further discussion.

TABLE 3.9-1
CONSISTENCY ANALYSIS WITH LOCAL LAND USE PLANS

Goals and Policies	Consistency Determination	Consistency Analysis
1. A preliminary jurisdictional delineation approved by the U.S. Army Corps of Engineers showing the location and extent of wetlands or sensitive resources, or 2. A letter signed by a qualified biologist declaring that no wetlands or sensitive resources will be impacted by the proposed development.		
SCAG 2016–2040 RTP/SCS		
RTP/SCS G2: Maximize mobility and accessibility for all people and goods in the region.	Consistent	The proposed program would include public access improvements through the construction of new pedestrian trails, elevated perimeter pedestrian walkways, educational or interpretive features, and viewing areas with overlooks. Implementation of these improvements would expand and enhance the existing pedestrian network and improve public safety. Therefore, the proposed program would be consistent with this policy of the 2016-2040 RTP/SCS.
RTP/SCS G6: Protect the environment and health of our residents by improving air quality and encouraging active transportation (non-motorized transportation, such as bicycling and walking).	Consistent	The proposed program would include public access improvement through the construction of new pedestrian trails, elevated perimeter pedestrian walkways, educational or interpretive features, and viewing areas with overlooks. Implementation of these improvements would expand and enhance the existing pedestrian network and improve public safety. In addition, as part of the proposed program, several oil operations would be phased out or consolidated to allow for ecosystem restoration in the long-term, which would serve to reduce air emissions in the program area. Therefore, the proposed program would be consistent with this policy of the 2016-2040 RTP/SCS.
CALIFORNIA COASTAL ACT		
Public Resources Code 30000		
Section 30210: Access, recreational opportunities, posting	Consistent	The proposed program would improve public access and provide visitor amenities through the construction of new pedestrian trails, elevated perimeter pedestrian walkways, educational or interpretive features, viewing areas with overlooks, new and improved parking facilities, and visitor center and would include the appropriate posting, consistent with public safety needs. Therefore, the proposed program would be consistent with this policy of the CCA.
Section 30212: New Development Projects	Consistent	This section of the CCA requires that new development projects provide public access from the nearest public roadways, except where it is inconsistent with public safety, adequate access exists nearby, or agricultural would be adversely affected. As previously discussed, the proposed program would include public access through the construction of new pedestrian trails, elevated perimeter pedestrian walkways, educational or interpretive features, viewing areas with overlooks, new and improved parking facilities, and visitor center. These would be provided from roads in the vicinity of the program area (i.e., 2nd Street and PCH)

TABLE 3.9-1
CONSISTENCY ANALYSIS WITH LOCAL LAND USE PLANS

Goals and Policies	Consistency Determination	Consistency Analysis
		The remainder of the individual sites that make up the proposed program do not provide access to a shoreline or coast for safety reasons. Therefore, the proposed program would be consistent with this policy of the CCA.
Section 30212.5: Public Facilities; distribution	Consistent	As previously discussed, the proposed program would include public access through the construction of new pedestrian trails, elevated perimeter pedestrian walkways, educational or interpretive features, viewing areas with overlooks, new and improved parking facilities, and visitor center. These uses would be distributed throughout the South, Isthmus, Central, and North Areas. As such, there would be no overcrowding or overuse by the public given its proximity to other public facilities and land uses in the area. Therefore, the proposed program would be consistent with this policy of the CCA.
Section 30213: Lower Cost visitor and recreational facilities	Consistent	The proposed pedestrian trails, elevated perimeter pedestrian walkways, educational or interpretive features, viewing areas with overlooks, new and improved parking facilities, and visitor center would be free or low cost to access by the public. Therefore, the proposed program would be consistent with this policy of the CCA.
Section 30214: Public Access	Consistent	The proposed program would provide public access through the construction of new pedestrian trails, elevated perimeter pedestrian walkways, educational or interpretive features, viewing areas with overlooks, new and improved parking facilities, and visitor center. All other existing pedestrian and bike routes in the program area would be maintained. Therefore, the proposed program would be consistent with this policy of the CCA.
Section 30220: Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.		The proposed program includes the enhancement and expansion of existing public access amenities, including the construction of new pedestrian trails, elevated perimeter pedestrian walkways, educational or interpretive features, viewing areas with overlooks, new and improved parking facilities, and visitor center. The enhancement and expansion of these public access amenities furthers the protection of the existing water-oriented reactional activities presently on the program area. Therefore, the proposed program would be consistent with this policy of the CCA.
Section 30221: Oceanfront land; protection for recreational use and development	Consistent	The proposed program would be developed with recreational uses including the visitors center, overlook terrace, and various pedestrian within the State Lands Parcel site, South LCWA site, Central LCWA site, Central Bryant site, Long Beach City Property site, and Southern Synergy Oil Field site. The remainder of the individual sites that make up the proposed program do not provide access to a shoreline or coast for safety reasons; however, given the variety of recreational opportunities provided on various areas of the proposed program, the proposed program would be consistent with this policy of the CCA.

TABLE 3.9-1
CONSISTENCY ANALYSIS WITH LOCAL LAND USE PLANS

Goals and Policies	Consistency Determination	Consistency Analysis
Section 30222: Private lands; priority of development purposes	Consistent	The proposed program would develop private lands with both recreational opportunities and coastal dependent industry—oil production uses. Both the State Lands Parcel site and the Southern Synergy Oil Field site would be developed with recreational uses including a visitor center. Trails and overlooks would also be provided on the Southern Synergy Oil Field site as well as the South LCWA site, Zedler Marsh site, Central LCWA site, Central Bryant site, and Long Beach City Property site. The Hellman Retained site, Isthmus LCWA site, Central LCWA site, Central Bryant site, and Long Beach City Property site would be developed with oil production facilities, which is considered a coastal dependent industry. Therefore, the proposed program would be consistent with this policy of the CCA.
Section 30223: Upland Areas	Consistent	As discussed in Chapter 2, *Project Description*, of this PEIR, the proposed program would restore wetland, transition, and upland habitats throughout the program area. This would involve remediation of contaminated soil and groundwater, grading, revegetation, construction of new public access opportunities (including trails, visitor center, parking lots, and viewpoints), construction of flood management facilities (including earthen levees and berms, and walls), and modification of existing infrastructure and utilities. In addition, the proposed program would provide coastal recreation uses including the visitors center, overlook terrace, and pedestrians trails within upland areas. Therefore, the proposed program would be consistent with this policy of the CCA.
Section 30230: Marine Resources	Consistent	As part of the proposed program, subtidal channels, intertidal salt marsh, salt marsh-upland transition zone, brackish marsh, native grassland, coastal sage scrub, and riparian scrub would be restored or enhanced within the program area, which can be considered marine resources. As discussed in Section 3.3, *Biological Resources*, of this PEIR, with implementation of mitigation, the proposed program would not adversely impact any special-status species or habitat within the wetland areas. Therefore, the proposed program would be consistent with this policy of the CCA.
Section 30231: Biological Productivity	Consistent	As part of the proposed program, subtidal channels, intertidal salt marsh, salt marsh-upland transition zone, brackish marsh, native grassland, coastal sage scrub, and riparian scrub would be restored or enhanced within the program area, which could contribute to biological productivity. As discussed in Section 3.3, *Biological Resources*, of this PEIR, with implementation of mitigation, the proposed program would not adversely impact any special status species or habitat within the wetland areas. Furthermore, the proposed program would restore historic wetland areas, and address sea levels rise, which would improve the biological productivity and the quality of the area and could potentially contribute to the regeneration of marine organism populations in the program vicinity. Therefore, the proposed program would be consistent with this policy of the CCA.

TABLE 3.9-1
CONSISTENCY ANALYSIS WITH LOCAL LAND USE PLANS

Goals and Policies	Consistency Determination	Consistency Analysis
Section 30232: Oil and Hazardous Substance Spills	Consistent	During construction and operation, the proposed program would include the ongoing operation of oil production facilities and drilling of new oil production facilities within various sites of the program area. Given these uses, the proposed program would be required to comply with Title 12, Oil and Gas Production, of the Long Beach Municipal Code and Section 30262, Oil and Gas Development, of the CCA. In addition, as described in Section 3.7, *Hazards and Hazardous Materials*, of this PEIR, the construction, operation, and plugging and abandonment of oil production and injection wells are regulated by the California Geologic Energy Management Division (CalGEM). For the installation of wells, regulations include measures to prevent the release of oil through blow-outs, leakage from well casing and piping, and spillage from oil well sumps. For the plugging and abandonment of wells, regulations include measures to prevent the release of oil as the wells are plugged and abandoned, the removal of associated production infrastructure, and the periodic inspection of plugged and abandoned wells. Furthermore, by proposed program build-out, or within 40 years of the New Occupancy Date, several oil wells located on the proposed program would be removed. This would remove a hazard of legacy oil production facilities consisting of less-safe drilling equipment, tanks, etc., in a sensitive environment. Additionally, the utility corridor located on the Long Beach City Property site would be contained within an up to 18-inch earthen berm and would include fiber optic safety equipment that would detect leaks and shut down to prevent pressure surges. Therefore, impacts related to hazardous materials through routine use or accidental release during construction and operation are not anticipated. Therefore, the proposed program would be consistent with this policy of the CCA.
Section 30233: Diking, filling or dredging; continued movement of sediment and nutrients	Consistent	As part of the proposed program, subtidal channels, intertidal salt marsh, salt marsh-upland transition zone, brackish marsh, native grassland, coastal sage scrub, and riparian scrub would be restored or enhanced within the program area. The proposed program also includes individual sites where new coastal dependent industrial facilities (oil production/mineral extraction) are proposed, which is an allowed use in wetlands pursuant to this section. Therefore, the proposed program would be consistent with this policy of the CCA.
Section 30236: Water supply and flood control	Consistent	As it relates to water supply, in the South Area, the existing road (1st Street) through the marsh would be raised on a berm to move it out of the restored marsh floodplain in the near-term. The City of Seal Beach is planning to reline the existing water line within the road, which could be done at any time. Any future waterline projects, including this proposed reline, would be accommodated by the proposed program and would not affect water supply. In addition, as discussed in Section 3.16, *Utilities and Service Systems*, of this PEIR, given the proposed program's minimal water usage, the proposed program is expected to have sufficient water supply available during operation. The proposed program would also implement Mitigation Measure UTL-1, which would require obtaining a will serve letter prior to operation of the visitor center to verify that surrounding

TABLE 3.9-1
CONSISTENCY ANALYSIS WITH LOCAL LAND USE PLANS

Goals and Policies	Consistency Determination	Consistency Analysis
		water mains surrounding the program boundary have capacity to provide service to the visitor center. The proposed program would include the creation of channels and revegetation of native plants to support a diversity of marsh, transitional, and upland habitats. As described in Chapter 2, *Project Description*, of this PEIR, activities in the South Area would excavate new tidal channels off of the Hellman Channel on the South LCWA site to create a sinuous and branching network of tidal channels through the wetlands. The existing channel would connect to the existing culvert to the San Gabriel River and would continue to be subtidal. The smaller channels throughout the rest of the marsh would be intertidal and would drain at low tide. The larger channels would branch into smaller distributary channels. The South Area also includes excavating a channel connecting the Hellman Channel directly to the Haynes Cooling Channel, which would be decommissioned, and lowering the berm along the Haynes Cooling Channel. This would serve to increase a tidal range in the South LCWA site. As part of ecosystem restoration within the Central Area, the proposed program would restore connectivity of the San Gabriel River with a broader wetland floodplain across the Central LCWA, Central Bryant, and Long Beach City Property sites by removing segments of the existing levees on the north bank of the river and creating a tidal channel network. Sub-tidal and intertidal channels would extend from San Gabriel River into the vegetated tidal wetlands, providing habitat diversity and tidal circulation. Furthermore, within the South Area, tidal channels would be excavated between the northern and southern area in order to increase tidal exchange in the latter. The tidal channels would expand tidal influence and convert areas from non-tidal to tidal wetlands. Therefore, program activities, including creation and extension of channels for purposes of ecosystem restoration, would be consistent with this policy of the CCA.
Section 30240: Environmentally Sensitive Habitat	Consistent	As part of the proposed program, subtidal channels, intertidal salt marsh, salt marsh-upland transition zone, brackish marsh, native grassland, coastal sage scrub, and riparian scrub would be restored or enhanced within the program area, which would serve to restore and protect environmentally sensitive habitat areas. As discussed in Section 3.3, *Biological Resources*, with implementation of mitigation, the proposed program would not adversely impact any special status habitat within the wetland areas. Therefore, the proposed program would be consistent with this policy of the CCA.
Section 30244: Archaeological or Paleontological Resources	Consistent	The proposed program would include ground disturbing activities during construction, which would have the potential to disturb archaeological and paleontological resources. As described in Section 3.4, *Cultural Resources*, in order to reduce impacts to archaeological and paleontological resources, Mitigation Measures CUL-1, CUL-4, CUL- 5, CUL-6, CUL-7, CUL-8, CUL-9, CUL-10, CUL-11, CUL-12, CUL-13, CUL-14, and CUL-15 for archaeological resources and Mitigation Measures GEO-1 through GEO-7 for paleontological resources would be implemented, and would reduce impacts to less-than-significant levels. Also, consistent with state law, the City conducted tribal consultation

TABLE 3.9-1
CONSISTENCY ANALYSIS WITH LOCAL LAND USE PLANS

Goals and Policies	Consistency Determination	Consistency Analysis
		with Native American tribal representatives. Therefore, the proposed program would be consistent with this policy of the CCA.
Section 30250: Location within Existing Developed Area	Consistent	With regard to the South Area, oil operations on the Hellman Retained site would either be phased out or consolidated to allow for restoration. The consolidated oil operations would be within the same Hellman Retained site that had existing oil operations. In addition, the South Area also includes construction of the Seal Beach Visitor Center and associated parking facilities. These uses would be developed on an existing raised building pad on the State Lands Parcel site. With the Isthmus Area, oil operations on the Isthmus LCWA site would be phased out or consolidated off-site to allow for restoration. The proposed Long Beach Visitor Center, located in the North Area, would be within an area that has been previously disturbed as part of oil field development (i.e., it would be relocated to an area currently occupied by a tank farm). In addition, the proposed parking lot for the Long Beach Visitor Center would be constructed on already disturbed areas, and the public access trail would utilize to the extent feasible, existing oil roads. As proposed within the North Area, the Southern Synergy Oil site and Alamitos Bay Partners site also include the relocation of oil infrastructure, which would be relocated to areas where there are existing oil operations. Thus, the proposed program would be located within close proximity to existing developed areas that are able to accommodate additional development. Therefore, the proposed program would be consistent with this policy of the CCA.
Section 30251: Scenic and Visual Qualities	Consistent	An evaluation of visual quality impacts is contained in Section 3.1, *Aesthetics*, of this PEIR. As described therein, development of the proposed program would change views from public viewpoints; however, a majority of the viewpoints would be enhanced by the proposed program, and scenic quality would increase with the phasing out of oil production facilities and non-native, invasive species, and the restoration of native vegetation and wetland habitat. The proposed program would not substantially obstruct, alter, or degrade the quality of any scenic vistas. Therefore, the proposed program would be consistent with this policy of the CCA.
Section 30252: Maintenance and Enhancement of Public Access	Consistent	The proposed program would improve public access and provide visitor amenities through the construction of new pedestrian trails, elevated perimeter pedestrian walkways, educational or interpretive features, and viewing areas with overlooks, which would serve to provide nonautomotive circulation within the proposed program. In addition, the proposed program would provide adequate parking facilities including new and improved parking facilities within the South Area to accommodate guests going to the visitor center, and parking for the Central Area. Therefore, the proposed program would be consistent with this policy of the CCA.
Section 30253: Minimization of Adverse Impacts	Consistent	The proposed program would be consistent with this policy in that: a) Site preparation would address geologic conditions of the property designed to avoid flooding and fire hazards;

TABLE 3.9-1
CONSISTENCY ANALYSIS WITH LOCAL LAND USE PLANS

Goals and Policies	Consistency Determination	Consistency Analysis
		b) For the reasons discussed in Section 3.8, *Hydrology and Water Quality*, and Section 3.5, *Geology, Soils, and Paleontological Resources*, the proposed program would not contribute to erosion, geologic instability, or alternation of landforms within the program area; c) The proposed program would obtain permits from SCAQMD and comply with air quality requirements; d) The proposed program would provide access to the Los Cerritos wetlands with new visitors center and public access trail.
Section 30260: Location or Expansion	Consistent	The proposed program provides for the phasing out of oil facilities from wetlands areas that can be preserved and revitalized. The new production sites have been used for industrial activities, including oil production, and are adjacent to other existing industrial uses. Therefore, the proposed program would be consistent with this policy.
Section 30262: Oil and Gas Development	Consistent	Development of the proposed program would occur in accordance with the provisions set forth in CCA Section 30262, including: 1) The proposed activities would be addresses geologic conditions of the property designed to avoid flooding and fire hazards; 2) The proposed program would include consolidation of oil facilities and consolidation would not have an adverse environmental consequences or significantly reduce the number of producing wells, support facilities, or sites required to produce the reservoir; 5) The proposed program would not contribute to subsidence hazards as described in Section 3.5, *Geology, Soils, and Paleontological Resources*; 6) As a part of the proposed program, water extracted during the oil production process would be injected back into production zones.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

3.9.6 Cumulative Impacts

Cumulative impacts occur when effects of a project combine with similar effects from other past, present, or reasonably foreseeable projects in a similar geographic area to result in significant impacts. As described in Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*, the adopted growth projections used for the cumulative analysis in this PEIR are derived from the

SCAG Integrated Growth Forecast of the 2016–2040 RTP/SCS, for the cities of Seal Beach and Long Beach. As discussed above, the proposed program would be consistent with the applicable state, regional and local plans and policies, including the City of Seal Beach General Plan and City of Long Beach General Plan as described above, and, thus, is consistent with the SCAG Integrated Growth Forecast of the 2016–2040 RTP/SCS. Therefore, cumulative impacts with regard to land use would be less than significant.

3.9.7 References

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SECTION 3.13
Recreation

3.13.1 Introduction

This section evaluates the potential for the proposed program to increase the use of existing parks and recreational facilities such that (1) physical deterioration or degradation of the facilities would occur or be accelerated; or (2) the potential for the proposed program to include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment. The analysis is based on review of available information on the recreational facilities, the relevant regulatory ordinances, and a discussion of the methodology and thresholds used to determine whether the proposed program would result in significant impacts, as well as feasible mitigation measures that could reduce or avoid the identified impacts.

Data used in this section includes information obtained from the *City of Seal Beach General Plan* Open Space and Recreation Element (City of Seal Beach 2003), the *City of Seal Beach Parks and Community Services Master Plan* (City of Seal Beach 2013), the *Southeast Area Specific Plan (SEASP) Draft EIR* (City of Long Beach 2016), and the *City of Long Beach General Plan* Open Space and Recreation Element (City of Long Beach 2002). Published information pertaining to recreation facilities available via various online resources was also used. All information sources used are included as citations within the text; sources are listed in Section 3.13.7, *References*.

3.13.2 Environmental Setting

3.13.2.1 Existing Parks and Recreation Facilities

Seal Beach

The Seal Beach Community Services/Recreation (SBCSR) Department operates the parks and recreational programs and services in the City of Seal Beach. SBCSR owns and maintains 75.45 acres of parkland divided between 18 individual parks, 4 community centers, 1 tennis center, 1 gymnasium, and 1 aquatics facility (City of Seal Beach 2013). The City of Seal Beach has also created a number of venues that allow for recreational activities including the Edison Park Community Gardens, the Arbor Dog Park, Gum Grove Nature Park Hiking Trails, River's End Kitesurfing Park, the Seal Beach Pier, and the 2 miles of surf and sand.

The SBCSR has adopted Statewide, Park Acreage Standards to guide their long-range planning and acquisition of parklands. The SBCSR operates the following two categories of parks within

the city: community parks and neighborhood parks. These two park categories as defined by the California State Parks Planning Division, are described below (City of Seal Beach 2003):

- **Neighborhood parks** are designed to meet the needs of individual residential developments within the city. While providing for the recreational needs of several age groups, the neighborhood park is primarily designed to meet the needs of the 5- to 14-year-old group. Children's play equipment and tennis and basketball courts are among the facilities often found at neighborhood parks. Other improvements might include senior centers, youth centers, and aquatic facilities. These parks vary in size from a single lot to parcels of approximately 5 acres. There are 13 neighborhood parks in the City of Seal Beach, encompassing a total of 14.05 acres.
- **Community parks** are larger than neighborhood parks and are designed to serve the needs of a broader age group. They serve the entire city and are easily accessible via arterial roads, attracting people from outside the area in which they are located. Typically, these facilities contain tennis, volleyball, handball and basketball courts, picnic areas, and sports fields for seasonal sports such as baseball and football. Community parks generally range in size from approximately 5 to 30 acres. There are five community parks in the City of Seal Beach, encompassing a total of 61.4 acres.

Overall, the SBCSR maintains 75.45 acres of parks and recreation facilities for a population of 24,157 individuals, which equates to approximately 3.12 acres of parkland per 1,000 people. According to the Seal Beach Parks and Community Services Master Plan, the parkland per resident ratio is significantly below the adopted Standards' required ratio of 5 acres of parkland per 1,000 people primarily because a high percentage of the City of Seal Beach was developed prior to the adoption of the current acreage goal (City of Seal Beach 2013).

Table 3.13-1, *Seal Beach Recreational Facilities within the Vicinity of the Program Area*, lists the parks and recreational facilities in the City of Seal Beach within a 0.5-mile radius of the program area.

TABLE 3.13-1
SEAL BEACH RECREATIONAL FACILITIES WITHIN THE VICINITY OF THE PROGRAM AREA

Facility Name	Type of Facility	Description	Distance from Program Area
Electric Avenue Median Park	Community park	8.4-acre community park providing a stretch of greenery as well as picnic tables, through Old Town Seal Beach	0.33 miles southwest
Gum Grove Nature Park	Community park	25-acre open space area that hugs the edge of Los Cerritos Wetlands. There's one trail down the middle of the park and several small single track trails run along the hill that separates neighborhood homes from the park	0.0 miles south
Marina Park and Community Center	Neighborhood park	1.5 acres including a community center, open space, basketball courts, tennis courts, and a swimming pool	0.34 miles southwest
Seal Beach Senior Center	Neighborhood park	0.25-acre senior center facility that provides individuals ages 50 and over opportunities to meet new friends, develop new interests, and socialize	0.35 miles southwest
Zoeter Field	Neighborhood park	1.5 acres including softball fields and restrooms	0.39 miles south

SOURCE: City of Seal Beach, 2019.

Long Beach

The Long Beach Parks, Recreation, and Marine (LBPRM) Department operates the parks and recreational programs and services in the City of Long Beach. LBPRM owns and maintains 26 community centers, 2 historic sites, 2 major tennis courts, 1 municipal golf system with 5 courses, the Long Beach Animal Services Bureau, and the largest municipally operated marina system in the nation (comprised of Alamitos Bay Marina, Long Beach Shoreline Marina [Downtown Marina], and Rainbow Harbor/Rainbow Marina), with 3,677 boat slips and 6 miles of beaches. In addition, the City of Long Beach's recreational resources include parks, community gardens, bike and equestrian trails, special use recreation resources, and recreational programs such as youth/adult sports leagues, teen centers, sports and aquatic programs, skate parks, a sailing and aquatic center, public swimming pools, senior citizen services, adaptive recreation and cultural centers (City of Long Beach 2016).

The LBPRM also manages over 172 acres of estuaries within the City of Long Beach including three within a 2-mile radius of the program area. Jack Dunster Marine Biological Reserve, which is comprised of 1.5 acres of land and 1.2 acres of shallow waters, is located approximately 0.5 miles west of the Pumpkin Patch site, at the intersection of Boathouse Lane and Los Cerritos Channel in the City of Long Beach. The Colorado Lagoon, which consists of 27.5 acres of land and open saltwater area is located approximately 1.5 miles northwest of the Synergy Oil Field site, at 5119 East Colorado Street, in the city (City of Long Beach 2016). Sims' Pond Biological Reserve, which contains 6.06 acres of marsh habitat, is located approximately 0.65 miles northwest of the Synergy Oil Field site, at the intersection of Loynes Drive and the Pacific Coast Highway (PCH) in the City of Long Beach (City of Long Beach 2016). Unlike the publicly accessible Jack Dunster Marine Biological Reserve and the Colorado Lagoon mentioned above, Sims Pond is not accessible to the public and is surrounded by a chain-link fence (LCWS 2013).

The LBPRM operates the following five categories of parks within the City of Long Beach: mini parks, neighborhood parks, community parks, regional parks, and greenway parks. These five park categories are defined below:

- **Mini parks** consist of less than 2 acres of land and are designed to serve residents within an eighth-mile radius. These parks include the following amenities: landscape irrigation, walking paths, seating areas, picnic tables, tot lots, and sculpture/art. There are 22 mini parks in the City of Long Beach, encompassing approximately 21 acres.
- **Neighborhood parks** typically consist of an average 8 acres and serve residents within a 0.25- to 0.5-mile radius. Neighborhood parks include all the uses within a mini park, as well as recreation fields, courts and rinks, water features, libraries, day care centers, community centers, and restroom buildings. Building coverage in neighborhood parks is limited to 7 percent of the total park area. There are 19 neighborhood parks in the city, encompassing 147 acres.
- **Community parks** are on average 35 acres in size and serve neighborhoods within a 1-mile radius. These parks focus on community recreation, including sports fields, open space, and swimming pools. Building coverage is limited to 10 percent of the total park area. There are 13 community parks in the city, encompassing a total of 464 acres.

- **Regional parks** are a minimum 175 acres in size and serve communities within a half-hour drive time. Permitted uses at regional parks include all uses allowed within community parks and building coverage is limited to 2 percent of the total park area. There is one regional park in the city, El Dorado Regional Park, which encompasses 401 acres and is located approximately 2.3 miles northeast of the program area.
- **Greenway parks** are undeveloped green space, which connect recreational opportunities throughout a community. Building coverage is limited to 1 percent of the total park area at greenway parks. There are nine greenway parks located in the city, encompassing approximately 71 acres.

In addition to the mini, neighborhood, community, regional and greenway parks, the LBPRM also operates and maintains 28 special use parks (including the riverfront recreation vehicle campground, two special events parks [Queen Mary and Rainbow Lagoon], the calm water swimming park at Colorado Lagoon, and Shoreline/Riverfront, Santa Cruz, and Victory Parks, a nature center park, and a nature trail park), two ranchos, 247 acres of beaches, 568 acres of golf course, and 373 acres of water recreation facilities (including Alamitos Bay and Downtown Marina surface areas) (City of Long Beach 2016).

Table 3.13-2, *Long Beach Recreational Facilities within the Vicinity of the Program Area*, lists the parks and recreational facilities in the City of Long Beach within a 0.5-mile radius of the proposed program area.

TABLE 3.13-2
LONG BEACH RECREATIONAL FACILITIES WITHIN THE VICINITY OF THE PROGRAM AREA

Facility Name	Type of Facility	Description	Distance from Program area
Channel View Park	Neighborhood park	5.1 acres including open space and a popular walking path for joggers and strollers	0.1 mile northeast
Jack Nichol Park	Neighborhood park	3.5 acres including a basketball court, baseball field, playground, soccer field, softball field, restrooms, picnic area, and a youth recreation program	0.08 miles northwest
Jack Dunster Marine Reserve	Special use park	2.7-acre special use park that has green space and provides coastal viewing	0.20 miles west
Sims' Pond	Special use park	6-acre open space area	0.33 miles northwest
Bixby Village Golf Course	Special use park	Public, municipal 9-hole golf course	0.26 miles north
Alamitos Bay Marina	Special use park	Boat facilities, coastal viewing, and green space	0.26 miles southwest
Davies Launch Ramp	Special use park	Boat facilities, green space, and horseshoes	0.25 miles west

SOURCE: City of Long Beach, 2016.

In addition to parks, the City of Long Beach also has numerous marine recreation resources. These include beaches, a pier, a harbor, marinas and boat launches. The City of Long Beach has approximately 247 acres of beaches and 11 miles of shoreline with a visitation rate of millions of persons per year. Belmont Pier provides public fishing facilities. Rainbow Harbor includes eight

public piers to accommodate historic ship visitation, sightseeing, and fishing, and includes an aquarium. The City of Long Beach owns and operates two large marinas and one smaller marina with many boat slips: the Alamitos Bay Marina (1,967 boat slips), the Shoreline Marina (1,744 slips), and the Rainbow Marina (86 boat slips). There are five public boat launches within the city: Davies, Claremont, Granada, Marine Stadium, and South Shore. A variety of water equipment including powerboats, jet skis, sailboats, catamarans, and kayaks can be launched from these locations (City of Long Beach 2002). Within the vicinity of the program area, the Los Cerritos Channel is used by recreational kayakers year round.

3.13.2.2 Existing Bicycle Trails

Seal Beach

According to the City of Seal Beach Circulation Element of the General Plan, the City of Seal Beach has developed a local street bicycle circulation system that includes three classifications of bikeways that generally correspond to the Orange County Transportation Authority (OCTA) bikeway classifications. Class I bikeways provide for bicycle travel on a right-of-way completely separated from the street. Class II bikeways provide for a striped lane for one-way travel within the street right-of-way. Class III bikeways provide for on-road, signed only bikeways and are not included on the bike trail map due to their unique locations (City of Seal Beach 2003).

The OCTA has also been working to develop the Orange County (OC) Loop, which would connect 66 miles of bicycle lanes seamlessly within Orange County (OCTA 2020). Currently, 80 percent of the OC Loop is in place. Multiple agencies throughout Orange County have tried to secure funding to close gaps along the OC Loop.

Long Beach

According to the City of Long Beach Mobility Element of the General Plan, the City has developed a local street bicycle circulation system that includes signed bike routes (Class III bicycle facilities), striped and signed bikeways (Class II bicycle facilities), and on-street bike paths that are physically separated from automobile traffic (Class I bicycle facilities). This on-street bicycle network system includes 15 miles of bike routes, 19 miles of bikeways, and 29 miles of bike paths. In addition to the on-street bicycle network, the city has over 60 miles of off-street bike and pedestrian paths within its boundaries.

The City of Long Beach is served by Class I, II, and III bicycle facilities, bicycle boulevards, and separated bicycle lanes (Cycle Track or Class IV). As determined by Caltrans, the three classes of bikeways are defined as follows: Class I (a completely separated right of way for the exclusive use of bicycles and pedestrians), Class II (a striped lane for one-way bike travel on a street or highway), and Class III (a roadway allowing for shared use between bicycles and motor vehicle traffic) (Caltrans 2017). Based on a review of the City of Long Beach Draft Bicycle Master Plan (December 2016), existing bicycle facilities in the study area include:

- Class III bicycle lanes along 2nd Street west of PCH and 2nd Street/Westminster Avenue east of Studebaker Road and Class II bicycle lanes on 2nd/Westminster Avenue west of Studebaker Road;

- Class II bicycle lanes on PCH both north and south of 2nd Street;
- Class II bicycle lanes on Marina Drive south of 2nd Street; and
- Class II bicycle lanes on Studebaker Road between 2nd Street and Loynes Drive.

Additionally, there is a Class I bikeway (San-Gabriel River Trail) that runs along the San Gabriel River. It extends 28 miles from the Pacific Ocean to Whittier Narrows and connects to the Rio Hondo River Trail, Bellflower Bike Trail, and Coyote Creek Bikeway, forming the backbone of a large regional trail system. Bikeways in close proximity to the program area and their associated classes are shown in relation to the program area on **Figure 3.13-1**, *Existing Bike and Pedestrian Paths*.

3.13.3 Regulatory Framework

3.13.3.1 Federal

There are no generally applicable federal laws, regulations, plans, or standards governing recreational facilities that are relevant to the proposed program.

3.13.3.2 State

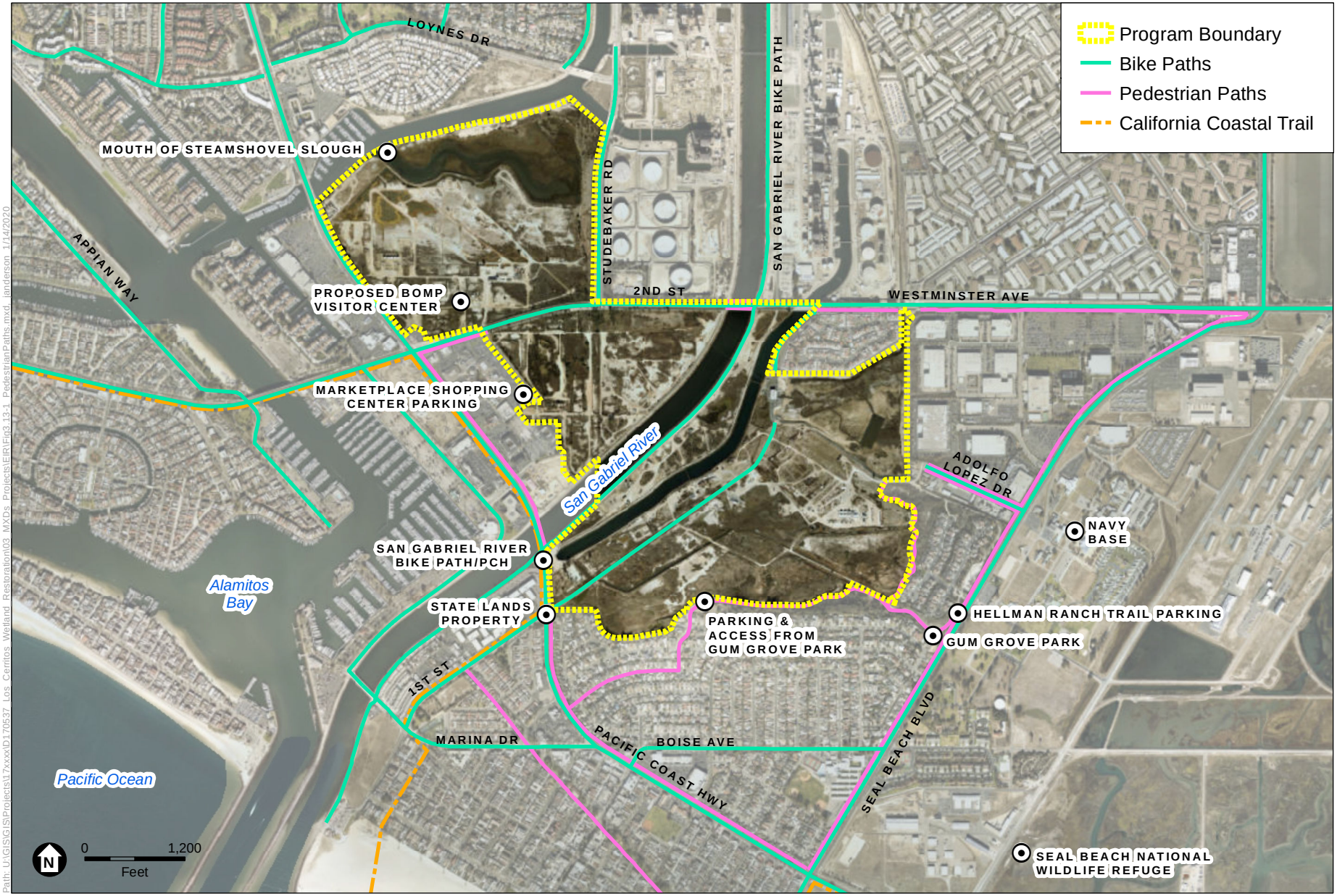
There are no generally applicable state laws, regulations, plans, or standards governing recreational facilities that are relevant to the proposed program.

Quimby Act

The Quimby Act is a state legislation (codified at Government Code Section 66477) that requires the dedication of land and/or imposes a requirement for the payment of fees for park and recreational purposes in connection with the approval of new development that requires a tentative tract or parcel map (City of Long Beach 2017; City of Seal Beach 2003). Under the Quimby Act, park land dedication may be based on a ratio of number of residents to acres of land. Generally, under the Quimby Act, 3 acres of park land must be provided per thousand residents, and may be increased under certain criteria to 5 acres of park land dedication per thousand residents.

California Coastal Act

The California Coastal Act provide some guidance for addressing impacts to access and recreation, including Sections 30210, 30211, 30212, 30212.5, 30213, 30214, 30220, 30221, 30222, 30223, 30224, 30252 of the California Coastal Act.



SOURCE: ESRI

Los Cerritos Wetlands Restoration Plan Draft Program EIR

Figure 3.13-1
Existing Bike and Pedestrian Paths

ESA

3.13.3.3 Local

Seal Beach General Plan Open Space and Recreation Element

The Seal Beach Open Space and Recreation Element of the General Plan contains plans for the preservation of open space and production of natural resources, open space management, open space for public health and safety, and open space for outdoor recreation. Further, it discusses the amount of recreational open space available in the City of Seal Beach and factors in future possible open space acquisition opportunities as the City of Seal Beach's population continues to grow. Additionally, the Seal Beach Open Space and Recreation Element establishes a recreation open space standard of 5 acres per 1,000 residents. Park and recreational areas exclude joint-use school facilities and only apply to parkland owned and maintained by the City of Seal Beach. Policies and programs that apply to the proposed program are discussed in Section 3.9, *Land Use and Planning*, of this PEIR.

City of Seal Beach Local Coastal Program

The City of Seal Beach is subject to a state-mandated Local Coastal Program under the jurisdiction of the California Coastal Commission, due to its proximity to the Pacific Ocean. The 1976 California Coastal Act, which provides protection for the natural and scenic resources of the coastal area, requires the preparation of a local coastal program for jurisdictions with land within the coastal zone. The policies defined by the Local Coastal Program set the standards that preserve and conserve the community's coastal influenced resources. The City of Seal Beach Local Coastal Program policies are included by reference as part of the City's General Plan. The Local Coastal Program is to be updated every five years (City of Seal Beach 2003).

Long Beach General Plan Open Space and Recreation Element

The Long Beach Open Space and Recreation Element of the General Plan contains plans for the preservation of open space and production of natural resources, open space management, open space for public health and safety, and open space for outdoor recreation. Further, it discusses the amount of recreational open space available in the City of Long Beach and factors in future possible open space acquisition opportunities as the City of Long Beach's population continues to grow. Additionally, the Long Beach Open Space and Recreation Element establishes a recreation open space standard of 8 acres per 1,000 residents. Park and recreational areas exclude joint-use school facilities and only apply to parkland owned and maintained by the City of Long Beach. Policies and programs that apply to the proposed program are discussed in Section 3.9, *Land Use and Planning*, of this PEIR.

Southeast Area Development and Improvement Plan

Approved in 1977, the Southeast Area Development and Improvement Plan (SEADIP) was the first Planned Development district (PD-1) in the City of Long Beach. The SEADIP document was intended to guide land use and development in the 1,500-acre area in southeast Long Beach during a period of rapid growth. The provisions provided in the SEADIP relevant to recreation are listed below.

Provision 18. Developers shall improve and dedicate the City certain streets, recreation areas and other public facilities necessary to support the proposed private development, as specific by area in subsequent paragraphs. If any such required improvements are found by the Commission to be infeasible or undesirable for engineering, legal or other reasons, the Commission may accept alternative improvements proposed by the developer so long as they meet the intent of the original requirements and are consistent with the overall goals and objectives of the adopted Specific Plan. Developers shall make such improvements or furnish security in connection with such improvements prior to commencement of construction of adjacent areas, which the improvements are designed to support; improvements may be phased with the phased construction of such adjacent areas. In those cases where the developer is to dedicate land area for subsequent improvement by the City, the developer shall not be required to convey such area until the City has budgeted funds for the improvements.

Southeast Area Specific Plan 2060

In July 2016, the City of Long Beach circulated a draft of the Southeast Area Specific Plan (SEASP) 2060, which is a contemporary planning document for the program area, including re-designating land uses for the program area for the next 50 years (City of Long Beach 2016). The SEASP 2060 was adopted by the City Council on September 19, 2017. Note that at the time of writing this PEIR, the CCC has yet to certify the proposed SEASP 2060; however, it is anticipated that the SEASP 2060 will be completed and issued in its final form within the lifetime of the proposed program. The development standards relevant to recreation are listed below.

Chapter 5.7, General Development Standards, Item c, Open Space and Amenities in Mixed-Use Designations

Developers shall construct public open space, trails, pathways and bicycle trails for each development in a manner that will be generally accessible to the public and that will interconnect with similar facilities in adjacent developments so as to form an integrated system of open space and trails connecting activity centers, important views and destinations in the SEASP program area.

Section 6.2.1, Pedestrian and Bicycle Circulation and Access

This section provides the requirements for Class I, II, and III bikeways, described in Section 3.13.2, *Environmental Setting*.

City of Long Beach Local Coastal Program

The City of Long Beach's Local Coastal Program provides policies regarding public access, recreation, marine environment, land resources, development, and industrial development. The Local Coastal Program identifies the following recreational facilities in the program area:

Neighborhood Services, Facilities and Amenities. Amenities are high in the SEADIP neighborhood. Multiple recreational uses are located here. Marine Stadium and Recreation Park offer active and passive recreation opportunities. The Marina off the Los Cerritos Flood Control Channel provides recreational opportunities and is a visual amenity to the residents of Costa del Sol, Spinnaker Coves and Marina Pacifica. Bixby Golf Course located along Loynes Drive is another recreational node. Los Cerritos Lagoon is a unique natural resource in SEADIP. It is a

breeding ground for marine life and a habitat for shorebirds. Schools are abundant as well; Kettering Elementary, Hill Junior High, and the California State University at Long Beach are all close by.

Water Quality Control Plan for the Los Angeles Region (Basin Plan)

Section 3.8.3.3 provides an overview of the Los Angeles Region Basin Plan. The Basin Plan identifies contact and non-contact water based recreation (REC1 and REC2) as a beneficial use of the Los Cerritos Channel Watershed. As such, the protection of that beneficial use is a requirement under the Basin Plan.

3.13.4 Significance Thresholds and Methodology

3.13.4.1 Significance Thresholds

For the purposes of this Program Environmental Impact Report (PEIR) and consistency with Appendix G of the *CEQA Guidelines*, the proposed program would have a significant impact on recreation if it would:

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; or

b. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

As detailed in the NOP/IS (refer to Appendix A of this PEIR), the proposed program would result in less than significant impacts to threshold "a." Although not required, evaluation of the proposed program's impact to thresholds "a" was conducted in this section.

3.13.4.2 Methodology

The evaluation of public services impacts is based on the development assumptions for the proposed program, as described in Chapter 2, *Project Description*, of this PEIR. The proposed program would restore the wetlands and implement public access improvements, including new pedestrian trails, elevated perimeter pedestrian walkways, educational or interpretive features, viewing areas with overlooks, new and improved parking facilities, and a visitor center. As described in Chapter 2, *Project Description*, the environmental effects associated with the Long Beach Visitor Center, construction of a parking lot, trails, overlook terrace, sidewalk enhancements, and bikeway improvements previously evaluated in the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse Number 2016041083) will not be further evaluated in this PEIR.

The methodology for this analysis is based on a review of planning documents obtained from the City of Seal Beach and the City of Long Beach, as well as other published information pertaining to recreation facilities available via various online resources. The analysis below considers the increase in use that would be generated by the proposed program and the ability of existing recreational facilities in the surrounding area to meet the potential demand from temporary construction workers, permanent employees on site, and new visitors. The analysis considers

whether an increase in use would result in the substantial deterioration of existing neighboring recreational facilities, such as accelerated wear on sports facilities and fields, erosion along trails, or disturbance of vegetation, during and after the restoration of the wetlands and proposed public accessibility improvements.

As stated in Chapter 1, *Introduction*, on March 8, 2019, the Los Cerritos Wetlands Authority sent an NOP to responsible, trustee, and federal agencies, as well as to organizations and individuals potentially interested in the proposed program to identify the relevant environmental issues that should be addressed in the PEIR. No issues related to recreation were identified.

3.13.5 Program Impacts and Mitigation Measures

Impact REC-1: The proposed program would result in a significant impact if the proposed program would 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.

Construction

During construction of the proposed program, there would be a temporary increase in construction workers on the program area. These construction workers would likely come from an existing local and/or regional (County) construction labor force and would not likely relocate their households as a consequence of working on the proposed program. Therefore, the short-term increased employment of construction workers on the program area would not result in a notable increase in the residential population of the area surrounding the program area. Accordingly, there would not be a corresponding demand or use of the existing parks and recreation facilities during this time as construction workers are more likely to use parks and recreation facilities near their places of residence. It is anticipated that construction workers would not use nearby parks during their lunch break, as lunch breaks are not typically long enough for workers to take advantage of such facilities and return to work within the typical 30- to 60-minute lunch break; however, if construction workers were to use the existing recreational facilities during their lunch break, it would only increase use at those facilities for 30 to 60 minutes a day, which would be considered a less than substantial impact. Thus, program construction workers would not generate an increase in demand for park and recreation facilities such that it would result in the accelerated physical deterioration of a park or recreation facilities.

Potential construction of new sidewalks is proposed by the proposed program and would result in temporary inaccessibility to portions of the bikeway. The streets that would be impacted would be as follows: the south side of 2nd Street for potential sidewalk improvements; the intersection of Shopkeeper Road and 2nd Street for a new crosswalk to improve public access between the North Area, Long Beach Visitor Center, and Central Area. All construction for this bikeway would occur within the existing right-of-way and would be implemented in accordance with the City of Long Beach standards. Additionally, bikeway detour signs would be posted to redirect bike users to utilize other bikeways in the area during this temporary construction period. Therefore, impacts during construction would be less than significant.

Operation

The proposed program would include the operation of the Seal Beach Visitor Center and a public access trail system, which would increase the number of employees, volunteers, and daytime visitors within the program area. The proposed program would provide employment opportunities for the local economy and it is anticipated that the majority of jobs would be filled by the local labor force. Thus, these employees would not likely relocate their households as a consequence of working on the proposed program. Accordingly, there would not be a corresponding demand or increased use of the existing parks and recreation facilities as most employees would be more likely to use parks and recreation facilities near their places of residences. Moreover, as they would be located next to the restored wetlands and trail, recreational opportunities would be provided on site for new employees and it is anticipated that the employees would not use nearby parks during their lunchbreak. However, if employees were to use the existing recreational facilities during their lunch break, it would only increase potential use at those facilities for 30 to 60 minutes a day per employee, which would not increase use of park and recreational facilities such that physical deterioration would occur.

The proposed program would also introduce publically accessible recreational areas to the program area with the development of new pedestrian trails, elevated perimeter pedestrian walkways, educational or interpretive features, viewing areas with overlooks, new and improved parking facilities, and Seal Beach Visitor Center. Due to the increased availability of recreational amenities, the proposed improvements would bring an unknown number of daytime visitors to the program area could also increase the use of existing recreational facilities in the surrounding area. It is important to note that portions of the trails would be restricted to scheduled docent-led tours, which would limit the number of visitors that would be allowed on the perimeter trail at the same time in order to ensure there would be no degradation to the wetlands as a result of human activity. Visitors would be accompanied by a docent at all times. Overall, opening the Seal Beach Visitor Center and public access trail to the public would allow for wider enjoyment of its recreational and open space amenities and, thereby, expand and enhance recreational opportunities available within the program vicinity. The public enhancements would enable able-bodied visitors to walk through what are now inaccessible areas on site and gain better views of the on-site wetland habitat. As such, the proposed program would result in direct beneficial effects to recreation and the proposed program would not result in the increased use of existing parks or recreational facilities such that substantial deterioration of these resources would occur or be accelerated.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

Impact REC-2: The proposed program would result in a significant impact if the proposed program would include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Currently, there are no existing recreational facilities located on the program area. The proposed program would construct recreational facilities on site through the development of new pedestrian trails, elevated perimeter pedestrian walkways, educational and interpretive features, viewing areas with overlooks, new and improved parking facilities, and Seal Beach Visitor Center. The public enhancements would enable able-bodied visitors to walk through what are now inaccessible areas on site and gain better views of the on-site wetland habitat. The proposed program could also include new sidewalk improvements. The construction and enhancement of recreational facilities are considered part of the proposed program; therefore, construction and enhancement of these facilities are described and analyzed with the rest of the proposed program components throughout Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*, in Sections 3.1 through 3.16 of this PEIR, including air quality, traffic, and noise. Additionally, once constructed and operational, the proposed program would provide a beneficial impact with respect to increased recreational opportunities for the cities of Seal Beach and Long Beach. As described throughout this PEIR, the new pedestrian trails, elevated perimeter pedestrian walkways, educational or interpretive features, viewing areas with overlooks, new and improved parking facilities, and Seal Beach Visitor Center would be constructed in areas with the least potential to disturb native habitat and any potentially significant impacts would be mitigated to the maximum extent possible. No additional mitigation measures are needed.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

3.13.6 Cumulative Impacts

The geographic context for the analysis of recreation impacts is the Hellman Specific Plan area in City of Seal Beach and the PD-1 (SEADIP) area in the City of Long Beach, as this represents the largest areas within which the proposed program's direct and indirect impacts could manifest. The LBPRM Department maintains and operates the parks and recreational programs and services within the PD-1 (SEADIP) area, as well as throughout the City of Long Beach. The analysis considers the ongoing impacts of past programs and impacts that would result from the existing and reasonably foreseeable future programs identified in Chapter 2, *Program Description*, Table 3-1, List of Cumulative Projects. Given the 23 projects located within a 3-mile radius of the proposed program, those within the PD-1 (SEADIP) area are considered in this cumulative analysis. These cumulative projects include, but are not limited to, industrial, infrastructure, residential, and commercial programs.

While the restoration activities that would occur at the program area would not result in permanent residential and employment growth that could increase the amount of recreational users at the program area, it would provide a visitor center and public access to the program area, which is inaccessible under existing conditions. The proposed program would also construct improvements along the street frontages and could provide sidewalks. By providing these new and enhanced recreational facilities to the public, the use of the existing 2nd Street bike path and surrounding bike paths in the program area would likely increase. However, it is unlikely that creation would be increased to the extent that substantial physical deterioration of existing recreation facilities would occur. In light of the proposed program's long-term recreational benefits, there would be no significant adverse impact to recreation.

There are a number of present and foreseeable future programs in the study area that could result in the intensification of residential uses and, thus, could increase the population and, thereby, increase the demand for recreational opportunities and facilities in the program vicinity. There are 23 cumulative projects within the geographic scope of this cumulative impacts assessment that could contribute to a cumulative impact to recreation. These new and improved facilities, in combination with the less-than-significant impacts of the proposed program would have a less-than-significant cumulative impact.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

3.13.7 References

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SECTION 3.15
Tribal Cultural Resources

3.15.1 Introduction

This section evaluates the potential for the proposed program to result in adverse tribal cultural resources impacts. The analysis is based on a Sacred Lands File (SLF) search through the Native American Heritage Commission (NAHC) and consultation with California Native American Tribes. This section identifies the potential for both program-level and cumulative environmental impacts to occur, as well as feasible mitigation measures that would minimize or avoid the proposed program's impacts on tribal cultural resources.

Information sources for the analysis presented in this section include the following:

- *Native American Heritage Commission Sacred Lands File Search* (Quinn, 2019)
- *Staff Report: Coastal Development Permit for the Los Cerritos Wetland Oil Consolidation and Restoration Project* (California Coastal Commission [CCC], 2018)

All information sources used are included as citations within the text; sources are listed in Section 3.15.7, *References*.

3.15.2 Environmental Setting

3.15.2.1 Tribal Cultural Resources Definition

Tribal cultural resources, as defined in Public Resources Code (PRC) Section 21074, include "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" that are either included or determined to be eligible for inclusion in the California Register of Historical Resources (California Register) or included in a local register of historical resources, or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant. A cultural landscape that meets these criteria is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape. Historical resources, unique archaeological resources, or non-unique archaeological resources may also be tribal cultural resources if they meet these criteria.

3.15.2.2 Ethnographic Setting

The program area is located in a region traditionally occupied by two Native American groups: the Gabrielino (including the Tongva and Kizh) and Juaneño (or Acjachemen). The terms

Tongva, Kizh, and Acjachemen are preferred by many descendant groups over the Spanish words that have historically been used to describe them. Each group is described below. ~~The program area is located in a region traditionally occupied by the Gabrielino and Juaneño. Each group is described below.~~

The main sources on the Gabrielino (Tongva and Kizh) include Hugo Reid (see Heizer 1968), Zephyrin Engelhardt, Alfred Kroeber, John P. Harrington, Bernice E. Johnston, Thomas C. Blackburn, and C. Hart Merriam. The main sources on the Juaneño (or Acjachemen) include Fray Gerónimo de Boscana (see Robinson 1846 and Harrington 1933, 1934), Alfred Kroeber, and John P. Harrington (other accounts describing Luiseño groups may also be applicable). In 1978, the Smithsonian Institution complied the *Handbook of North American Indians* – a 20-volume encyclopedia summarizing the work of previous ethnographers and what was known about the prehistory, history, and culture of indigenous North American groups. *Volume 8: California* serves as the primary source material for the information presented in this section. Where possible, this information has been supplemented with information gleaned from other published sources (such as McCawley, 1996, and O'Neil and Evans, 1980). The following summaries are not intended to provide a comprehensive account of these groups, but are instead brief historical overviews based on available information. However, tribes are the authority on their culture history.

It should be noted that the information presented herein is related to living tribes who still reside in Los Angeles and Orange counties and who maintain a vested interest in their history, culture, practices, customs, and beliefs. Currently, there are five Gabrielino (Tongva and Kizh) and three Juaneño (or Acjachemen) groups that are recognized by the State as California Native American Tribes (as indicated by the NAHC): Gabrieleño Band of Mission Indians – Kizh Nation; Gabrielino Tongva Indians of California Tribal Council; Gabrieleno-Tongva San Gabriel Band of Mission Indians; Gabrielino-Tongva Tribe; Gabrielino/Tongva Nation; Juañeno Band of Mission Indians, Acjachemen Nation – Belardes; Juañeno Band of Mission Indians, Acjachemen Nation – Romero; Juaneño Band of Mission Indians. These tribes are living communities who actively participate in the preservation of their culture and tribal resources, and were consulted during the preparation of this PEIR

Gabrielino (or Tongva and Kizh)

The term "Gabrielino" is a general term that refers to those Native Americans who were sent by the Spanish to the Mission San Gabriel Arcángel. The term first appears, spelled Gabrieleños, in an 1876 report by Oscar Loew (Bean and Smith, 1978). Two indigenous terms are commonly used by tribal groups refer to themselves and are preferred by descendant groups: Tongva and Kizh. The term Tongva was recorded by ethnographer C. Hart Merriam in 1903 (Heizer, 1968). The term Kizh was first published by ethnologist Horatio Hale in 1846 (Heizer, 1968). Since there are two terms that are used by different groups to refer to themselves, the term Gabrielino is used in this section to encompass both Tongva and Kizh groups.

Prior to European colonization, the Gabrielino occupied a diverse area that included: the watersheds of the Los Angeles, San Gabriel, and Santa Ana rivers; the Los Angeles basin; and the islands of San Clemente, San Nicolas, and Santa Catalina (Bean and Smith, 1978). Their neighbors included the Chumash and Tataviam to the north, the Juañeno to the south, and the

Serrano and Cahuilla to the east. The Gabrielino are reported to have been second only to the Chumash in terms of population size and regional influence (Bean and Smith, 1978). The Gabrielino language was part of the Takic branch of the Uto-Aztecan language family.

The Gabrielino Indians were hunter-gatherers and lived in permanent communities located near the presence of a stable food supply. Subsistence consisted of hunting, fishing, and gathering. Small terrestrial game was hunted with deadfalls, rabbit drives, and by burning undergrowth, while larger game such as deer were hunted using bows and arrows. Fish were taken by hook and line, nets, traps, spears, and poison (Bean and Smith, 1978). The primary plant resources were the acorn, gathered in the fall and processed in mortars and pestles, and various seeds that were harvested in late spring and summer and ground with manos and metates. The seeds included chia and other sages, various grasses, and islay or holly-leafed cherry. Community populations generally ranged from 50 to 100 inhabitants, although larger settlements may have existed. The Gabrielino are estimated to have had a population numbering around 5,000 in the pre-contact period (Kroeber, 1925).

The Late Prehistoric period, spanning from approximately 1,500 years B.P. to the mission era, is the period associated with the florescence of the Gabrielino (Wallace, 1955). Coming ashore near Malibu Lagoon or Mugu Lagoon in October of 1542, Juan Rodriguez Cabrillo was the first European to make contact with the Gabrielino Indians.

Maps produced by early explorers indicate that at least 26 Gabrielino villages were within proximity to known Los Angeles River courses, while an additional 18 villages were reasonably close to the river (Gumprecht, 2001).

The closest villages to the program area ~~was~~ were the villages of *Puvungna*, the archaeological manifestation of which is located approximately 0.75 miles north of the program area (McCawley, 1996), and *Motuucheyngna*, the archaeological manifestation of which is located on a portion of the former Hellman Ranch property that has since been developed as a residential subdivision (CCC, 2018). The Kirkman-Harriman Pictorial and Historical Map of Los Angeles County (Los Angeles Public Library, 1938) depicts two unnamed villages located approximately 2 miles northwest and 5 miles southeast of the program area.

Puvungna is ~~reported to be~~ the birthplace of *Chingichngish* (or *Chinigchinich*), the primary deity of ~~a protohistoric and early~~Native American historic belief system ~~and ceremonial complex~~ that spread ~~to~~ to multiple Southern California Native American tribes, including the Acjachemen, Payómkawichum, Yuhaaviatam~~throughout the Los Angeles basin, Orange County, western Riverside County, and northern San Diego County~~. The belief system based on the teachings of *Chinigchinich* continues to be part of modern tribal spiritual and cultural practices. Most ethnohistoric data suggest that the main village of *Puvungna* was located on Alamitos Mesa at Bixby Ranch. However, as villages often covered large areas and could move to meet changing needs (see White's definition of village above), *Puvungna* may refer to the entire rim of Alamitos Bay (Cleland et al., 2007).

Juañeno (or Acjachemen)

The Juaneño spoke a language belonging to the Cupan group of the Takic subfamily of the Uto-Aztecan language family. The Juaneño people were so called because of their association with Mission San Juan Capistrano, although some contemporary Juaneño identify themselves by the indigenous term *Acjachemen*. The term Acjachemen is the name of the main village and was used by Fray Gerónimo de Boscana describe the indigenous group associated with the Mission San Juan Capistrano. During his time at San Juan Capistrano, Boscana complied an ethnographic account of the Acjachemen, including an account of the belief system centered around *Chingichngish*, as described above.

The Juaneño were linguistically and culturally related to the neighboring Luiseño (with whom they are often grouped; see Bean and Shipek, 1978), Cahuilla, and Cupeño. Juaneño territory extended from just above Aliso Creek in the north to San Onofre Canyon in the south and inland from the Pacific Ocean to Santiago Peak and the ridges above Lake Elsinore (Bean and Shipek, 1978).

The Juaneño lived in sedentary autonomous villages located in diverse ecological zones. Each settlement claimed specific fishing and collecting regions. Typically, villages were located in valley bottoms, along coastal strands and streams, and near mountain foothills. Villages were usually sheltered in coves or canyons, on the side of slopes near water and in good defensive spots. There are no reported ethnographic Juaneño villages in the vicinity of the program area; the closest village sites are more than 20 miles south of the program area (O'Neil and Evans, 1980).

Trails, hunting sites, temporary hunting camps, quarry sites, and ceremonial and gaming locations were communally owned, while houses, gardens, tools, ritual equipment, and ornamentation were owned by individuals or families. Most groups had fishing and gathering sites along the coast that they visited annually from January to March when inland supplies were scarce. October to November was acorn-gathering time, when most of the village would settle in the mountain oak groves. Houses were conical in form, partially subterranean, covered with thatch, reeds, brush, or bark. Sweathouses were round and earth covered. Each village was enclosed with a circular fence and had a communal ceremonial structure at the center (Bean and Shipek, 1978).

3.15.2.3 Identification of Tribal Cultural Resources

Sacred Lands File Search

The NAHC maintains a confidential file which contains sites of traditional, cultural, or religious value to the Native American community. The NAHC was contacted on March 12, 2019, to request a search of the SLF. The NAHC responded to the request in a letter dated March 21, 2019, indicating that the SLF search was positive. The letter did not provide details on the resource(s) identified, but recommended that Native American groups be contacted for additional information regarding the resource(s). LCWA conducted tribal consultation pursuant to AB 52, the results of which are described below.

AB 52 Consultation

On June 17, 2019, LCWA notified the designated contact of, or a tribal representative of, a total of 26 California Native American Tribes pursuant to PRC Section 21080.3.1 inviting them to engage in government-to-government consultation with LCWA regarding the proposed program.

Letters were sent via email and included a description of the proposed program, a map depicting the program area, and contact information for LCWA. Recipients were requested to respond within 30 days of receipt of the letter if they wished to engage in consultation. **Table 3.15-1**, *California Native American Tribes Notified Pursuant to AB 52*, lists the Tribes, contacts, and responses.

TABLE 3.15-1
CALIFORNIA NATIVE AMERICAN TRIBES NOTIFIED PURSUANT TO AB 52

Tribe	Contact	Title	Response
Agua Caliente Band of Cahuilla Indians	Garcia-Plotkin, Patricia	Director	Declined consultation on 06/26/19
Fernandeño Tataviam Band of Mission Indians	Ortega, Rudy Jr.	—	Declined consultation on 06/18/19
Gabrieleño Band of Mission Indians - Kizh Nation	Salas, Andrew	Chairperson	Requested consultation on 07/11/19
Gabrielino Tongva Indians of California Tribal Council	Dorame, Robert	Chairperson	Requested consultation on 08/08/19
Gabrielino/Tongva Nation	Goad, Sandonne	Chairperson	No response
Gabrieleno-Tongva San Gabriel Band of Mission Indians	Morales, Anthony	Chairperson	Requested consultation on 07/10/19
Gabrielino-Tongva Tribe	Candelaria, Linda	Chairperson	Requested consultation on 07/15/19
Juañeno Band of Mission Indians	Johnston, Sonia	Chairperson	Requested consultation on 06/20/19
Juañeno Band of Mission Indians Acjachemen Nation	Belardes, Matias	Chairperson	Requested consultation on 06/20/19
Kern Valley Indian Community	Robinson, Robert	—	No response
Kitanemuk & Yowlumne Tejon Indians	Dominguez, Delia	—	No response
LA City/County Native American Indian Commission	Andrade, Ron	—	No response
Pala Band of Mission Indians	Gaughen, Shasta	Tribal Historic Preservation Officer	Declined consultation on 06/25/19
Pauma Band of Luiseño Indians	Aguilar, Temet	Chairperson	No response
Pechanga Band of Luiseño Indians	Macarro, Mark	Chairperson	No response
Rincon Band of Luiseño Indians	Mazzetti, Bo	Chairperson	No response
San Fernando Band of Mission Indians	Yocum, Donna	Chairperson	No response
San Luis Rey Band of Mission Indians	Tribal Council	—	No response
San Manuel Band of Mission Indians	Clauss, Lee	—	Declined consultation on 06/20/19
Santa Ynez Band of Chumash Indians	Kahn, Kenneth A.	Chairperson	Declined consultation on 06/17/19
Soboba Band of Luiseño Indians	Cozart, Scott	Chairperson	Declined consultation on 07/08/19
Ti'At Society/Inter-Tribal Council of Pimu	Alvitre, Cindi	—	No response

TABLE 3.15-1
CALIFORNIA NATIVE AMERICAN TRIBES NOTIFIED PURSUANT TO AB 52

Tribe	Contact	Title	Response
Tongva Ancestral Territorial Tribal Nation	Rosas, Johntommy	—	No response
Tubatulabals of Kern Valley	Gomez, Robert Jr.	Chairperson	No response
Twenty-Nine Palms Band of Mission Indians	Darrell, Mike	Chairperson	No response
Viejas Band of Mission Indians of the Viejas Reservation	Welch, Robert Jr.	Chairperson	No response

Six of the California Native American Tribes who were notified requested consultation. **Table 3.15-2**, *Summary of Tribes Consulted*, identifies the tribes who requested consultation and the dates consultation meetings were held, and provides a brief summary of the meetings. Confidential information has been withheld in accordance with PRC Code Section 21082.3(c) and consistent with subdivision (r) of Section 6254 of, and Section 6254.10 of, the Government Code, and subdivision (d) of Section 15120 of Title 14 of the California Code of Regulations. ~~No tribal cultural resources as defined in PRC Section 21074 were identified within the program area as a result of consultation.~~

TABLE 3.15-2
SUMMARY OF TRIBES CONSULTED

Tribe and Representative Attending Meeting	Meeting Date	Meeting Summary	Notes
Gabrieleño Band of Mission Indians – Kizh Nation (Andrew Salas)	08/28/19	~~No tribal cultural resources identified.~~ The Tribe expressed that that they would like the wetlands to be preserved and protected and that even artifacts that lack context (are not in-situ) have value to the Tribe. The Tribe requested input on the proposed program's ecological design, to review the cultural resources and tribal cultural resources sections of the PEIR to ensure confidential information is not disclosed, and to remain informed of the proposed program.	Additional information requested by the Tribe during the consultation meeting was sent via email on 09/03/19.
Gabrielino Tongva Indians of California Tribal Council (Robert Dorame)	08/15/19	~~No tribal cultural resources identified.~~ The Tribe expressed concerns about potential impacts to human remains, archaeological resources (village sites), and biological resources. The Tribe requested to participate in surveys and monitoring, and in selection of plants/native plants. The Tribe asked that the land be treated with dignity and respect, and to remain informed of the proposed program.	—
Gabrieleno-Tongva San Gabriel Band of Mission Indians (Julia Bogany)	07/29/19	~~No tribal cultural resources identified.~~ The Tribe asked about trails and interpretive signage. The Tribe expressed that it is our responsibility to communicate the history and cultural connection of the program area for generations to come. The Tribe expressed support for the restoration. The Tribe asked to remain informed of the proposed program.	LCWA indicated Tribe would be contacted during creation of content for signage.

TABLE 3.15-2
SUMMARY OF TRIBES CONSULTED

Tribe and Representative Attending Meeting	Meeting Date	Meeting Summary	Notes
Gabrielino-Tongva Tribe (Sam Dunlap)	07/29/19	~~No tribal cultural resources identified.~~ The Tribe provided background information about the Tribe. The Tribe discussed *Puvungna*. The Tribe expressed that the program area is important to many peoples. The Tribe expressed support for restoration goals. The Tribe asked about Native American monitoring, depth of excavations, and length of proposed program.	A follow-up email was received on 09/16/19 asking to make sure that the Tribe's comments and concerns were fully documented to include their specific concerns about tribal cultural resources in the program area. Additional information was sent to the Tribe on 09/17/19 regarding cultural resources in the program area and vicinity and offering to answer any questions. On 09/27/19, the Tribe requested an additional meeting, which took place on 10/11/19.
	10/11/19	~~No tribal cultural resources identified.~~ The Tribe provided additional background information about the Tribe. The Tribe expressed concerns about encountering human remains and indicated that it's better to leave burials alone and not do any unnecessary testing. The Tribe expressed interest in providing Native American monitoring.	
Juañeno Band of Mission Indians, Acjachemen Nation – Romero (N/A)	N/A	Several attempts were made via email and phone to schedule a meeting, but no responses were received.	Date emails sent: 07/08/19 07/15/19 07/29/19 08/14/19 08/22/19 Date phone calls placed: 08/14/19 08/22/19
Juañeno Band of Mission Indians, Acjachemen Nation – Belardes (Joyce Perry)	08/26/19	No tribal cultural resources identified. The Tribe provided background information on the Juañeno and ethnographic accounts. The Tribe requested Native American and archaeological monitoring of ground disturbance and to remain informed of the proposed program.	Additional information requested by the Tribe during the consultation meeting was sent via email on 09/04/19 and 09/13/19.

California Native American Tribes who consulted with LCWA pursuant to AB 52 generally indicated that the program area is culturally sensitive and important, and expressed support for the restoration of the wetlands. Tribal members specifically made the following requests to mitigate potential impacts to resources important to the Native American community and LCWA has incorporated this input into mitigation measures outlined in Section 3.4, *Cultural Resources*:

- Input on the proposed program's ecological design and the selection of plants/native plants (see Mitigation Measure CUL-16)
- Remaining informed of the proposed program as it progresses (see Mitigation Measures CUL-12 and CUL-16)
- Participation in surveys (see Mitigation Measure CUL-12)
- Native American monitoring (see Mitigation Measure CUL-13)
- Communicating the history and cultural connection of the program area for generations to come (see Mitigation Measure CUL-16)

- Preservation of tribal access (see Mitigation Measure CUL-17)

In a follow-up tribal consultation meeting on August 17, 2020 between LCWA and the Gabrieleno/Tongva San Gabriel Band of Mission Indians and an Acjachemen Tribal Elder, the following information regarding the importance of salt marshes and salt flats to the tribe was shared and requested to be included in the PEIR:

> In the Tongva history, it is known that salt marsh used to exist in this area because their tribe would travel from the ocean to the salt marsh on canoes. The salt marshes were important to the Tongva because throughout prehistoric times, the Tongva traded salt gathered from salt flats in the salt marsh. Multiple stories exist that document the salt trade, for example, the tribe used to trade salt to a hospital in San Bernardino to treat patients. The Los Cerritos Wetlands is the only prehistoric salt marsh left in the area from Pacific Palisades, and the Los Cerritos Wetlands was and continues to be an important cultural resource to the Tongva and Acjachemen tribes.

Tribal Cultural Landscape

In 2018, the CCC conducted consultation with the Gabrieleño Band of Mission Indians - Kizh Nation (Kizh Nation), Gabrieleno-Tongva San Gabriel Band of Mission Indians (Gabrieleno-Tongva), and a member of the Acjachemen Tribe. Consultation was conducted in support of a Coastal Development Permit for the Los Cerritos Wetland Oil Consolidation and Restoration Project (State Clearinghouse Number 2016041083), whose boundary includes the entirety of the North Area (North and South Synergy Oil Field sites), Long Beach City Property site, and Pumpkin Patch site[1], which are all within the program area. The CCC report states that representatives of the Kizh Nation "described the tribe's view that the Los Cerritos Wetlands area is a sacred land, just as all land, water and animals are sacred" (CCC, 2018: 125). The CCC report also states that representatives of the Gabrieleno-Tongva and Acjachemen Tribe "described the project site as Sacred Lands that are part of a larger area of connected tribal sites that constitute a Tribal Cultural Landscape that may eligible for listing by the National Register as a Tribal Cultural Property" and that "this Tribal Cultural Landscape includes several significant tribal sites and resources in close proximity to the project site, including the site of *Puvungna*, Rancho Los Alamitos (Long Beach Area), and the Hellman Ranch property" (CCC, 2018: 125). During AB 52 consultation conducted as part of the proposed program, some tribal members expressed that they agree that there is a Tribal Cultural Landscape present. The following discussion of the tribal cultural landscape is summarized from the Coastal Development Permit (CCC, 2018). It should be noted that the tribal cultural landscape was not and has not since been formally documented or evaluated for listing in the National Register or California Register.

Tribal representatives described the Los Cerritos Wetlands and its surroundings as sacred lands that encompass a larger area of connected tribal sites. Tribal representatives indicated that the Hellman Ranch area was an extension of *Puvungna* and was connected to a network of villages surrounding the area. They noted that during development of the Hellman Ranch property in the 2000s, approximately 35 prehistoric burials and numerous artifacts were discovered. Tribes

[1] Only the eastern portion of the Pumpkin Patch site is within the program area.

believe identified these resources to be associated with a Gabrieleno-Tongva settlement in Seal Beach, known as *Motuucheyngna* (sometimes referred to as *Puvungna East*). ~~Since t~~The Los Cerritos Wetlands are located in between the archaeological manifestations of *Puvungna* and *Motuucheyngna*, and the wetlands ~~are thus~~ were identified ~~considered~~ by tribes to be part of the larger cultural landscape of *Puvungna* and the surrounding villages.

In addition to being culturally connected, the wetlands and surrounding area are connected biologically. These connections occur through the waterways and the plants and animals present. All the tribal members that were part of the CCC's consultation effort agreed that these biological resources are sacred to tribal people as an integral component of tribal resources.

Prehistoric Archaeological Resources

A records search conducted at the SCCIC on May 15, 2019 by ESA staff resulted in the identification of 12 prehistoric archaeological resources within or immediately adjacent to (within 150 feet of) the program area (**Table 3.15-3**, *Prehistoric Archaeological Resources with or Adjacent to the Program Area*). These resources consist of shell middens and shell scatters. Only two resources (CA-ORA-261 and -262) have been previously evaluated as eligible for listing in the California Register. The remaining 10 resources have not been evaluated.

A reconnaissance-level site visit of the program area was conducted on June 13, 2019 by ESA archaeologist Candace Ehringer, M.A., RPA. During the site visit, staff documented the general cultural resources context and noted key features and resources that might warrant discussion in the existing conditions context of the PEIR. No resources were formally documented during the survey, but resources were noted on field maps, photographed, and assigned temporary field designations for ease of reference. Previously recorded resources were not visually inspected during the site visit. No prehistoric archaeological resources were noted, but a systematic survey was not conducted at the time.

TABLE 3.15-3
PREHISTORIC ARCHAEOLOGICAL RESOURCES WITHIN OR ADJACENT TO THE PROGRAM AREA

Primary Number (P-)	Permanent Trinomial (CA-)	Description	Eligibility Status	Site
30-000256	ORA-000256	Prehistoric archaeological site: shell midden	Not evaluated	South LCWA
30-000257	ORA-000257	Prehistoric archaeological site: shell midden	Not evaluated	Adj. South LCWA
30-000258	ORA-000258	Prehistoric archaeological site: shell midden	Not evaluated	Adj. South LCWA
30-000259	ORA-000259	Prehistoric archaeological site: shell midden	Not evaluated	Adj. South LCWA
30-000261	ORA-000261	Prehistoric archaeological site: shell midden	Eligible for CR	South LCWA
30-000262	ORA-000262	Prehistoric archaeological site: shell midden	Eligible for CR	Adj. South LCWA
30-000850	ORA-000850	Prehistoric archaeological site: shell midden	Not evaluated	Adj. Hellman Retained
30-000851	ORA-000851	Prehistoric archaeological site: shell midden	Not evaluated	Hellman Retained
30-001473	ORA-001473	Prehistoric archaeological site: shell midden	Not evaluated	South LCWA
30-001542	ORA-001542/H	Multicomponent archaeological site: prehistoric shell scatter and historic-period refuse scatter	Not evaluated	Adj. Los Alamitos Retarding Basin
30-001544	ORA-001544	Prehistoric archaeological site: shell scatter	Not evaluated	Adj. Los Alamitos Retarding Basin
19-001821	LAN-001821	Prehistoric archaeological site: shell midden	Not evaluated	Long Beach City Property

SOURCE: SCCIC, 2019.

3.15.3 Regulatory Framework

3.15.3.1 State

Assembly Bill 52 and Related Public Resources Code Sections

Assembly Bill (AB) 52 was approved by California State Governor Edmund Gerry "Jerry" Brown, Jr. on September 25, 2014. The act amended California PRC Section 5097.94, and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 applies specifically to projects for which a Notice of Preparation (NOP) or a Notice of Intent to Adopt a Negative Declaration or Mitigated Negative Declaration (MND) will be filed on or after July 1, 2015. The primary intent of AB 52 was to include California Native American Tribes early in the environmental review process and to establish a new category of resources related to Native Americans that require consideration under CEQA, known as tribal cultural resources. PRC Section 21074(a)(1) and (2) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe" that are either included or determined to be eligible for inclusion in the California Register or included in a local register of historical resources, or a resource that is determined to be a tribal cultural resource by a lead agency, in its discretion and supported by substantial evidence. On July 30, 2016, the California Natural Resources Agency adopted the final text for tribal cultural resources update to Appendix G of the *CEQA Guidelines*, which was approved by the Office of Administrative Law on September 27, 2016.

PRC Section 21080.3.1 requires that within 14 days of a lead agency determining that an application for a project is complete, or a decision by a public agency to undertake a project, the lead agency provide formal notification to the designated contact, or a tribal representative, of California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the project (as defined in PRC Section 21073) and who have requested in writing to be informed by the lead agency (PRC Section 21080.3.1(b)). Tribes interested in consultation must respond in writing within 30 days from receipt of the lead agency's formal notification and the lead agency must begin consultation within 30 days of receiving the tribe's request for consultation (PRC Sections 21080.3.1(d) and 21080.3.1(e)).

PRC Section 21080.3.2(a) identifies the following as potential consultation discussion topics: the type of environmental review necessary; the significance of tribal cultural resources; the significance of the project's impacts on the tribal cultural resources; project alternatives or appropriate measures for preservation; and mitigation measures. Consultation is considered concluded when either: (1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or (2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC Section 21080.3.2(b)).

If a California Native American tribe has requested consultation pursuant to Section 21080.3.1 and has failed to provide comments to the lead agency, or otherwise failed to engage in the consultation process, or if the lead agency has complied with Section 21080.3.1(d) and the California Native American tribe has failed to request consultation within 30 days, the lead agency may certify an EIR or adopt an MND (PRC Section 21082.3(d)(2) and (3)).

PRC Section 21082.3(c)(1) states that any information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public without the prior consent of the tribe that provided the information. If the lead agency publishes any information submitted by a California Native American tribe during the consultation or environmental review process, that information shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public.

California Government Code Sections 6254(r) and 6254.10

These sections of the California Public Records Act were enacted to protect archaeological sites from unauthorized excavation, looting, or vandalism. Section 6254(r) explicitly authorizes public agencies to withhold information from the public relating to "Native American graves, cemeteries, and sacred places maintained by the Native American Heritage Commission." Section 6254.10 specifically exempts from disclosure requests for "records that relate to archaeological site information and reports, maintained by, or in the possession of the Department of Parks and Recreation, the State Historical Resources Commission, the State Lands Commission, the Native American Heritage Commission, another state agency, or a local agency, including the records that the agency obtains through a consultation process between a Native American tribe and a state or local agency."

3.15.4 Significance Thresholds and Methodology

3.15.4.1 Significance Thresholds

For the purposes of this Program Environmental Impact Report (PEIR) and consistency with Appendix G of the *CEQA Guidelines*, the proposed program would have a significant impact on tribal cultural resources if it would:

Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

b) A resource determined by the lead agency, in its discretion and supported by substantial 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.

3.15.4.2 Methodology

According to the PRC Section 21084.2, a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. While what constitutes a "substantial adverse change" to a tribal cultural resource is not defined in the section, guidance on what constitutes a substantial adverse change under CEQA can be drawn from *CEQA Guidelines* Section 15064.5(b). Although applicable specifically to historical resources (as defined in Section 15064.5(a)), an analogy can be drawn when assessing if there has been a substantial adverse change to a tribal cultural resource. *CEQA Guidelines* Section 15064.5(b)(1) defines a substantial adverse change as the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings, resulting in material impairment of the historical resource. According to *CEQA Guidelines* Section 15064.5(b)(2), the significance of a historical resource is materially impaired when a project:

- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or
- Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the PRC or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the PRC, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
- Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for

inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

In drawing an analogy, a substantial adverse change to a tribal cultural resource could be considered to be the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings, resulting in material impairment of the tribal cultural resource. Similarly, material impairment could include:

- Demolition or material alteration in an adverse manner to those characteristics of a tribal cultural resource that convey its significance and that justify its inclusion in or eligibility for listing in the California Register, or in a local register of historical resources as defined in PRC section 5020.1(k); or
- Demolition or material alteration in an adverse manner to those characteristics of a tribal cultural resource that convey its significance and that justify its eligibility for inclusion in the California Register pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1, as determined by a lead agency in its discretion and supported by substantial evidence for purposes of CEQA.

PRC Section 21084.3 provides guidance on addressing impacts to tribal cultural resources and states that:

(a) Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.

(b) If the lead agency determines that a project may cause a substantial adverse change to a tribal cultural resource, and measures are not otherwise identified in the consultation process provided in Section 21080.3.2, the following are examples of mitigation measures that, if feasible, may be considered to avoid or minimize the significant adverse impacts:

  (1) Avoidance and preservation of the resources in place, including, but not limited to, planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

  (2) Treating the resource with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

    (A) Protecting the cultural character and integrity of the resource.

    (B) Protecting the traditional use of the resource.

    (C) Protecting the confidentiality of the resource.

  (3) Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

  (4) Protecting the resource.

CEQA Guidelines Section 15370 provides additional guidance on the types of mitigation that may be considered, and includes: avoiding impacts altogether; minimizing impacts; rectifying impacts through repair, rehabilitation, or restoration; reducing impacts through preservation; and compensating for impacts by providing substitute resources.

PRC Section 21082.3(b) indicates that if a project may have a significant impact on a tribal cultural resource, the agency's environmental document shall discuss whether the proposed project has a significant impact on an identified tribal cultural resource and whether feasible alternatives or mitigation measures avoid or substantially lessen the impact on the identified tribal cultural resource.

PRC Section 21080.3.2 indicates that as part of the consultation pursuant to Section 21080.3.1, California Native American Tribes may propose mitigation measures, including, but not limited to, those recommended in Section 21084.3, capable of avoiding or substantially lessening potential significant impacts to a tribal cultural resource or alternatives that would avoid significant impacts to a tribal cultural resource. Also, the lead agency may incorporate changes or additions to a project even if not legally required to do so.

As stated in Chapter 1, *Introduction*, on March 8, 2019, the Los Cerritos Wetlands Authority sent a Notice of Preparation to responsible, trustee, and federal agencies, as well as to organizations, and individuals potentially interested in the proposed program to identify the relevant environmental issues that should be addressed in the PEIR. Issues related to tribal cultural resources were identified.

3.15.5 Program Impacts and Mitigation Measures

Impact TRI-1: The proposed program would result in a significant impact if the proposed program would 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 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).

Construction

The Los Cerritos Wetlands were identified as part of a tribal cultural landscape by some tribal representatives during consultation with the CCC that occurred in connection with the Los Cerritos Wetland Oil Consolidation and Restoration Project (State Clearinghouse Number 2016041083) (CCC, 2018). This tribal cultural landscape has not been formally documented, geographically defined, nor has it been evaluated for listing in the California Register or for listing in a local register of historical resources. ~~As such, no impacts would occur.~~ The tribal cultural landscape has been determined by LCWA to be a tribal cultural resource in its discretion and supported by substantial evidence, and as such is analyzed under Impact TRI-2.

Operation

The Los Cerritos Wetlands were identified as part of a tribal cultural landscape by some tribal representatives during consultation with the CCC that occurred in connection with the Los Cerritos Wetland Oil Consolidation and Restoration Project (State Clearinghouse Number 2016041083) (CCC, 2018). This tribal cultural landscape has not been formally documented, geographically defined, nor has it been evaluated for listing in the California Register or for

listing in a local register of historical resources. The tribal cultural landscape has been determined by LCWA to be a tribal cultural resource in its discretion and supported by substantial evidence, and as such is analyzed under TRI-2.~~As such, no impacts would occur.~~

Mitigation Measure

~~No mitigation is required.~~See Impact TRI-2

Significance after Mitigation

~~Less than Significant~~See Impact TRI-2

Impact TRI-2: The proposed program would result in a significant impact if the proposed program would 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 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.

Construction

The Los Cerritos Wetlands is part of a tribal cultural landscape identified by some tribal representatives during consultation with the CCC on the Los Cerritos Wetland Oil Consolidation and Restoration Project (State Clearinghouse Number 2016041083). Based on the information provided in the CCC Staff Report for the Coastal Development Permit for the Los Cerritos Wetland Oil Consolidation and Restoration Project (State Clearinghouse Number 2016041083) (CCC, 2018), the tribal cultural landscape appears to be a cultural landscape with cultural value to some California Native American Tribes. Therefore, LCWA has determined, in its discretion and as supported by substantial evidence presented in the CCC Staff Report, that the tribal cultural landscape is significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1 for the purposes of this PEIR. LCWA has considered the significance of the resource to California Native American Tribes in making this discretionary determination. As discussed in Section 3.4, *Cultural Resources*, the tribal cultural landscape includes the village sites of *Puvungna* and *Motuucheyngna* (represented by prehistoric archaeological sites in the California State University – Long Beach and the Hellman Ranch areas, respectively), Native American or prehistoric archaeological sites within or near the Los Cerritos Wetlands, as well as the waterways, plants, and animals that are present in the area

Actions that have the potential to result in a substantial adverse change in the significance of a tribal cultural resource include:

- Demolition or material alteration in an adverse manner to those characteristics of the tribal cultural landscape that convey its significance and that justify its eligibility for inclusion in the California Register pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1

Potential impacts from the proposed program on the tribal cultural landscape could occur if the proposed program resulted in the demolition or material alteration to the essential physical characteristics that convey its significance, such as the village sites of *Puvungna* and *Motuucheyngna*, Native American or prehistoric archaeological sites within or near the Los Cerritos Wetlands, waterways, plants, or animals.

With regards to potential impacts to *Puvungna* and *Motuucheyngna*, the archaeological manifestations of these two village sites that contribute to the landscape's significance would not be impacted. *Puvungna* is located about 0.75 miles to the north of the proposed program area, in the area of California State University – Long Beach and its vicinity. *Motuucheyngna* is on a portion of the former Hellman Ranch property that has since been developed as a residential subdivision. No impacts to the archaeological sites associated with these two villages are anticipated as a result of the proposed program.

With regards to potential impacts to other Native American or prehistoric archaeological sites within the Los Cerritos Wetlands, there are 12 prehistoric archaeological sites within or immediately adjacent to (within 150 feet of) the program area. These include five archaeological sites that are within or partially overlap the program boundary (CA-LAN-1821 and CA-ORA-256, -261, -851, and -1473). Of these five sites, only one site (CA-LAN-1821) is entirely within the program area. The remaining sites are on the fringes of the program boundary and some appear to only slightly overlap with the program area. There are also seven archaeological sites that are within 150 feet of the program boundary (CA-ORA-257, -258, -259, -262, -850, -1542, and -1544). Of the 12 prehistoric sites, only two (CA-ORA-261 and-262) have been previously evaluated as eligible for listing in the California Register, and as such they would likely contribute to the significance of the landscape, however, these sites were reportedly destroyed by construction of Heron Pointe. The remaining sites have not been subject to formal evaluations, but they are considered potential contributors to the significance of the landscape.[2] In addition, there could be as yet unidentified prehistoric archaeological sites on the surface or subsurface within the program area that could contribute to the significance of the landscape. Therefore, the proposed program could result in the demolition or material alteration to Native American or prehistoric archaeological sites within the Los Cerritos Wetlands that convey the significance of the tribal cultural landscape. Implementation of Mitigation Measures CUL-1 and CUL-4 through CUL-15 would lessen the impact to archaeological resources that contribute to the significance of the tribal cultural landscape:

- Mitigation Measures CUL-1, CUL-4 through CUL-6, and CUL-8 require that qualified cultural resources personnel conduct future project-specific studies to identify archaeological resources and develop appropriate treatment for resources that contribute to the significance of the tribal cultural landscape.
- Mitigation Measure CUL-7 requires consideration of avoidance and preservation in place of archaeological resources, including those that contribute to the landscape's significance, to ensure that destructive treatment measures are a last resort.

[2] As noted in Section 3.4, *Cultural Resources*, of this PEIR, sites CA-ORA-256, -257, -258, and -259 were impacted by modern development, although remnants of the sites may still be present.

- Mitigation Measures CUL-9 through CUL-11, CUL-14, and CUL-15 require establishment of a plan and procedures for avoidance and discoveries measures during construction, training construction personnel on the significance of the area and procedures to follow in the event of discoveries, monitoring of ground disturbance by archaeologists, and proper curation/disposition of recovered archaeological materials. These measures would ensure the protection, identification, and appropriate handling and treatment of archaeological resources that contribute to the landscape's significance.
- Mitigation Measures CUL-12 and CUL-13 require that LCWA consult with Native American representatives during the preparation of all cultural resources-related documents and that Native American groups are included in monitoring of ground disturbance. These measures would ensure that tribal values are considered in identification, evaluation, and treatment of archaeological resources that contribute to the landscape's significance.
- Mitigation Measure CUL-17 requires that LCWA shall develop a written access plan to preserve and enhance tribal members access to, and use of, the restoration project area for religious, spiritual, or other cultural purposes.

Even with implementation of these measures, the destruction or material alteration of an archaeological resource that contributes to the landscape's significance would constitute a substantial adverse change since it would no longer be present on the landscape. Since avoidance and preservation in place of such resources cannot be guaranteed, impacts to Native American or prehistoric archaeological resources that convey the significance of the tribal cultural landscape are considered significant and unavoidable at the program level.

With regards to potential impacts to the waterways, plants, and animals, the purpose of the proposed program is to restore the natural waterways and habitat of the Los Cerritos Wetlands. These actions would have a beneficial effect on the waterways, plants, and animals. As noted in Chapter 2, *Project Description*, of this PEIR, the proposed program would restore the tidal wetland process by providing a more natural connection between the wetlands and surrounding water sources. This would increase estuarine habitat with a mix of tidal channels, mudflat, salt marsh, and brackish/ freshwater marsh and ponds. The existing waterways within the wetlands are human-made and not natural, with the exception of Steamshovel Slough, and do not resemble the historical or pre-contact appearance of the Los Cerritos Wetlands. The proposed program would develop channels that resemble more natural waterways, such as the meandering channels to be excavated off of the Hellman Channel, and would breach the San Gabriel levee. This would result in a more natural tidal influence between the saltwater/freshwater sources and the wetlands. As discussed in Section 3.3, *Biological Resources*, the result would be a net increase in jurisdictional wetlands. However, there could be temporary impacts associated with the removal of existing salt marshes (see Section 3.15.2.3 – Identification of Tribal Cultural Resources for a discussion of the importance of salt to some tribes). While the one of the goals of the proposed program is to restore and expand tidal salt marshes, construction could result in the temporary loss of some of the wetlands and associated natural resources to which tribes ascribe value and use for spiritual, cultural, and recreational purposes. However, there will be some salt marsh available throughout the entirety of the construction phase of the program.

Also as noted in Chapter 2, *Project Description*, of this PEIR, the proposed program would restore and maintain native habitat and maximize wildlife corridors. As discussed in Section 3.3,

Biological Resources, the creation of suitable habitat would have a net benefit on several special-status species (e.g., monarch butterfly, estuary sea-blite, black skimmer, California least tern, and others). Historically the wetlands provided natural resources to surrounding Native American village sites. The plants, animals, fish, and shellfish once present within the wetlands were gathered, hunted, and fished to provide sustenance, tools, ceremonial objects, and other materials for native populations. Restoration of native habitat would attract wildlife back to the area and would allow for a variety of species to again flourish within the wetlands, creating an ecosystem more closely resembling the one that existed historically and in pre-contact times. However, there could be temporary impacts associated with the removal of existing habitat. While the one of the goals of the proposed program is to restore, maintain, and maximize native habitat and wildlife corridors, construction could result in the temporary loss of some of native habitat and associated biological resources to which tribes ascribe value and use for spiritual, cultural, and recreational purposes.

The proposed program ~~also~~ includes several mitigation measures that would lessen potential construction-related impacts to plants and animals that are considered part of the tribal cultural landscape. Mitigation Measures BIO-1 through BIO-9 in Section 3.3, *Biological Resources*, would require: avoidance of special-status plants or restoration of affected special-status plants; environmental awareness training for construction personnel and biological monitoring; restoration of affected breeding habitat for the Belding's savannah sparrow, nesting bird and raptor avoidance; pre-construction surveys for burrowing owl and creation of a management plan to minimize or avoid impacts to burrowing owls; pre-construction surveys for bat roosting habitat and creation of an exclusion plan to minimize or avoid impacts to breeding bats; focused surveys for special-status wildlife species and creation of an avoidance plan to minimize or avoid impacts to occupied habitat; and revegetation of sensitive natural communities. Implementation of these measures would ensure that any potential construction-related impacts to plants and animals are less than significant. However, the temporary loss of wetlands habitat and associated resources would result in an impact to tribal values ascribed to the Los Cerritos Wetlands as part of the tribal cultural landscape.

Potential impacts to the tribal cultural landscape would be further reduced by considering Native American tribal values ascribed to the Los Cerritos Wetlands throughout the course of development and construction of the proposed program. Mitigation Measure CUL-16, presented in Section 3.4, *Cultural Resources*, would require that LCWA seek input from California Native American Tribes regarding development of project-level designs, planting selections/palettes, and educational/interpretive signage and displays.~~.~~ This would ensure that tribal values ascribed to the Los Cerritos Wetlands as part of the tribal cultural landscape are considered as part of the design, restoration, and educational elements of the proposed program. Mitigation Measure CUL-17 would require that LCWA prepare a tribal access plan to preserve and enhance tribal member's access to, and use of, the restoration project area for religious, spiritual, or other cultural purposes. Also, as part of its future obligations pursuant to AB 52, LCWA will continue to consult with California Native American Tribes and seek their input on project-level CEQA documents in accordance with applicable PRC sections.

In summary, some of the essential physical features of the tribal cultural landscape would not be impacted (archaeological manifestations of the village sites of *Puvungna* and *Motuucheyngna*), or could be enhanced by the restoration elements of the proposed program (jurisdictional wetlands, plant and animal habitats). However, since the proposed program includes ground disturbing activities that have the potential to result in a substantial adverse change to Native American or prehistoric archaeological resources within the Los Cerritos Wetlands and would also result in a temporary loss of wetland habitat and associated resources that are of value to tribes and that tribes use for spiritual, cultural, and recreational purposes. ~~Sand s~~ince these types of resources contribute to the significance of the tribal cultural landscape, the proposed program could materially impair the landscape's ability to convey its significance even with the implementation of mitigation. Therefore, impacts to tribal cultural resources would be significant and unavoidable at the program level.

Operation

Operation of the proposed program would include ongoing inspection and maintenance of the perimeter levees and berms, flood walls and water-control structures; removal of non-native vegetation in restored habitat and stormwater management features; trash removal within the restored wetlands; and operation of the visitor center and associated parking lot. Operation of the proposed program would include increased public access to the program area, and could potentially result in the vandalism of or disturbances to potential tribal cultural resources. As discussed above, no impacts to the archaeological sites associated with *Puvungna* and *Motuucheyngna* are anticipated as a result of the proposed program. Any ground disturbance associated with operational activities would occur within soils that have already been subject to ground disturbance and archaeological/Native American monitoring, and they are unlikely to unearth Native American or prehistoric archaeological resources associated with the landscape. As discussed in Section 3.3, *Biological Resources*, operational impacts to plants and animals would be minimal or would be lessened by implementation of Mitigation Measures BIO-1, BIO-6, and BIO-8 though BIO-11, which require restoration of affected special-status plants; preparation of a lighting plan and requiring that nighttime lighting is shielded downward to minimize spillage onto adjacent area; preparation of a Mitigation, Maintenance and Monitoring Program to ensure successful revegetation of sensitive natural communities; and a functional assessment of the wetland areas that will be restored in the program area. Also, resulting modification to existing waterways or creation of new waterways would result in a net increase in jurisdictional wetlands, and with implementation of BIO-10, operational impacts on the wetlands would be assessed. As such, no operational~~With implementation of these mitigation measures,~~ impacts are anticipated to wetlands habitat and associated~~the tribal cultural~~ resources that are of value to tribes and that tribes use for spiritual, cultural, and recreational purposes. With implementation~~from operation~~ of these mitigation measures, impacts to the tribal cultural resources from operation of the proposed program would be less than significant.

Mitigation Measures

Mitigation Measures BIO-1 through BIO-11 as provided in Section 3.3, *Biological Resources*, and Mitigation Measures CUL-1, and CUL-4 through CUL-~~16~~17, as provided in Section 3.4, *Cultural Resources*.

Significance after Mitigation

Significant and Unavoidable

3.15.6 Cumulative Impacts

This analysis of cumulative impacts takes into consideration impacts on tribal cultural resources from implementation of the proposed program. The geographic area of analysis for tribal cultural resources typically covers the region within which similar types of tribal cultural resources occur. The geographic scope of analysis for tribal cultural resources encompasses the broadly defined coastal zone of Orange and Los Angeles Counties, from roughly Santa Monica in the north to Newport Beach in the south. Prehistoric groups occupying this area focused to a large degree on littoral and immediately inland areas, particularly those associated with the estuaries and marshes at the mouths of the coastal drainages. This geographic scope of analysis is appropriate for tribal cultural resources because the types of resources within this area are expected to be similar to those that occur within the program area.

3.15.6.1 Construction

Multiple projects, mostly development within urban settings, are proposed throughout the geographic scope of analysis. Cumulative impacts to tribal cultural resources could occur if any of these projects, in conjunction with the proposed program, would have impacts on resources that, when considered together, would be significant.

As described above, one tribal cultural resource was identified within the program area – a tribal cultural landscape related to the village sites of *Puvungna* and *Motuucheyngna*. Potential impacts from the proposed program on the tribal cultural landscape are considered significant and unavoidable. ~~While s~~Some of the essential physical characteristics of the landscape (*Puvungna* and *Motuucheyngna*) would not be impacted and others (waterways, plants, and animals) and others would receive a beneficial effect or a less than significant impact with mitigation. However, some of the essential physical characteristics of the landscape (Native American or prehistoric archaeological sites within the Los Cerritos Wetlands) could be impacted by the proposed program. There may also be temporary loss of wetlands habitat and associated resources, which would result in an impact to tribal values ascribed to the Los Cerritos Wetlands as part of the tribal cultural landscape. ~~and~~As such, there is no feasible mitigation to lessen this impact to a level of less than significant.

As discussed in Section 3.15.5, *Program Impacts and Mitigation Measures*, above, the archaeological manifestations of the two village sites that contribute to the landscape's significance, *Puvungna* and *Motuucheyngna*, would not be impacted by the proposed program. *Puvungna* is located about 0.75 miles to the north of the proposed program area, in the area of California State University, Long Beach and its vicinity. *Motuucheyngna* is on a portion of the former Hellman Ranch property that has since been developed as a residential subdivision. No impacts to the archaeological sites associated with these two villages are anticipated as a result of the proposed program.

Also as discussed in Section 3.15.5, *Program Impacts and Mitigation Measures*, above, the proposed program would either result in a beneficial effect to waterways, plants, and animals or require mitigation to lessen construction-related impacts. The proposed program would result in a net increase or benefit to jurisdictional wetlands and several special-status species. Temporary impacts resulting from construction would be mitigated to less-than-significant level by implementation of Mitigation Measures BIO-1 through BIO-9, outlined in Section 3.3, *Biological Resources*. These measures require: avoidance of special-status plants or restoration of affected special-status plants; environmental awareness training for construction personnel and biological monitoring; restoration of affected breeding habitat for the Belding's savannah sparrow, nesting bird and raptor avoidance; pre-construction surveys for burrowing owl and creation of a management plan to minimize or avoid impacts to burrowing owls; pre-construction surveys for bat roosting habitat and creation of an exclusion plan to minimize or avoid impacts to breeding bats; focused surveys for special-status wildlife species and creation of an avoidance plan to minimize or avoid impacts to occupied habitat; and revegetation of sensitive natural communities.

Potential impacts to the tribal cultural landscape would be further reduced by considering Native American tribal values ascribed to the Los Cerritos Wetlands throughout the course of development and construction of the proposed program. Mitigation Measure CUL-16 would require that LCWA seek input from California Native American Tribes regarding development of project-level designs, planting selections/palettes, and educational/interpretive ~~signage~~elements. This would ensure that tribal values ascribed to the Los Cerritos Wetlands as part of the tribal cultural landscape are considered as part of the design, restoration, and educational elements of the program. Mitigation Measure CUL17 would require that LCWA prepare a tribal access plan to preserve and enhance tribal member's access to, and use of, the restoration project area for religious, spiritual, or other cultural purposes.

However, as noted in Section 3.15.5, *Program Impacts and Mitigation Measures*, above, there are known Native American or prehistoric archaeological resources within the program area that could contribute to the significance of the landscape and that may be impacted by the proposed program. Additionally, there is a potential for as yet unidentified prehistoric archaeological sites on the surface or subsurface within the program area that could contribute to the significance of the landscape and that may also be impacted by the proposed program. Implementation of Mitigation Measures CUL-1 and CUL-4 through CUL-~~15~~ 17 would lessen the impact to archaeological resources that contribute to the significance of the tribal cultural landscape. However, even with implementation of these measures, the destruction or material alteration of a resource that contributes to the landscape would constitute a substantial adverse change since it would no longer be present on the landscape. Since avoidance and preservation in place of such resources cannot be guaranteed, impacts to Native American or prehistoric archaeological resources that convey the significance of the tribal cultural landscape are considered significant and unavoidable at the program level. Therefore, the proposed program's residual impact on the tribal cultural landscape, which has been discretionarily determined by LCWA to be a tribal cultural resource for the purposes of this PEIR, is significant and unavoidable.

The cumulative projects proposed throughout the geographic scope of this analysis also have the potential to result in a substantial adverse change in the significance of the tribal cultural

landscape as some of these projects are also within or in the vicinity of the tribal cultural landscape. Past, present, and foreseeable projects have resulted in or could result in the demolition or material alteration to some aspects of the tribal cultural landscape that convey its significance. Past projects in the proposed program's vicinity, such as the construction of California State University – Long Beach, United States Veterans Administration Hospital, Rancho Los Alamitos/Bixby Hill, and Heron Pointe, resulted in the demolition or material alteration of archaeological sites associated with the villages of *Puvungna* and *Motuucheyngna*. Additionally, other past projects have encroached upon the wetlands leading to habitat degradation and loss, resulting in the material alteration of waterways, and plant habitat, and animal habitat. Future projects could also materially alter the tribal cultural landscape through the introduction of development that is incompatible with the landscape's setting or through ground disturbance within archaeological sites that contribute to the significance of the landscape. When taken together, past, present, and foreseeable projects result in a significant cumulative impact to the tribal cultural landscape.

The purpose of the proposed program is to restore the wetlands and the proposed program would result in an overall benefit to several of the essential physical characteristics of the landscape, such as the waterways, plants, and animals. Other projects have in the past resulted in greater impacts to the landscape than the proposed program, including impacts to archaeological sites associated with the villages of *Puvungna* and *Motuucheyngna*, as well as other Native American or prehistoric archaeological resources that may have contributed to the significance of the landscape, and impacts to waterways (including wetlands), plant habitat, and animal habitat. The incremental effects of the proposed program are not considered significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. Therefore, the incremental contribution of the proposed program on impacts to the tribal cultural landscape as a tribal cultural resource would not be cumulatively considerable.

Mitigation Measure

Mitigation Measures BIO-1 through BIO-9 as provided in Section 3.3, *Biological Resources*, and Mitigation Measures CUL-1, and CUL-4 through CUL-~~16~~17, as provided in Section 3.4, *Cultural Resources*.

Significance after Mitigation

Less than Significant with Mitigation

3.15.6.2 Operation

Operational impacts to the tribal cultural landscape would be mitigated to a less-than-significant level by implementation of BIO-1, BIO-6, and BIO-8 though BIO-11, which require restoration of affected special-status plants; preparation of a lighting plan and requiring that nighttime lighting is shielded downward to minimize spillage onto adjacent area; preparation of a Mitigation, Maintenance and Monitoring Program to ensure successful revegetation of sensitive natural communities; and a functional assessment of the wetland areas that will be restored in the

program area. Therefore, cumulative impacts to tribal cultural resources during operations would not be cumulatively considerable.

Mitigation Measure

Mitigation Measures BIO-1, BIO-6, and BIO-8 through BIO-11, as provided in Section 3.3, *Biological Resources*.

Significance after Mitigation

Less than Significant with Mitigation.

3.15.7 References

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SECTION 3.16
Utilities and Service Systems

3.16.1 Introduction

This section evaluates whether implementation of the proposed program has the potential to result in adverse impacts to utilities and service systems. Utilities and service systems include water supply and distribution systems, wastewater (sewage) conveyance and treatment, and solid waste collection and disposal. This analysis is based on review of the existing infrastructure and levels of service, the relevant regulatory requirements, a discussion of the methodology and thresholds used to determine whether the proposed program would result in significant impacts, and identifies any improvements necessary to accommodate the proposed program. This section identifies the potential for both program-level and cumulative environmental impacts, as well as feasible mitigation measures that could reduce or avoid the identified impacts. Impacts to hydrology (e.g., flooding), storm drainage systems, and water quality can be found in Section 3.8, *Hydrology and Water Quality*.

Information sources for the analysis presented in this section include reference documents regarding water use (City of Long Beach 2016; LBWD 2016; City of Seal Beach 2018a), wastewater (LACSD 2017a; LBWD 2016, City of Seal Beach 2018b), stormwater (City of Long Beach 2008), and solid waste (CalRecycle 2008, 2009, 2014; County of Los Angeles 2016; County of Orange 2017a, 2017b; LACSD 2017a, 2017b, 2017c, 2017d, 2017e). All information sources used are included as citations within the text; sources are listed in Section 3.16.7, *References*, below.

3.16.2 Environmental Setting

3.16.2.1 Water Supply

City of Seal Beach

The City of Seal Beach provides water to a population of 25,561 throughout its service area. The City of Seal Beach receives its water from two main sources: (1) the Orange County Groundwater basin, which is managed by the Orange County Water District (OCWD) and (2) imported water from the Municipal Water District of Orange County (MWDOC). Groundwater is pumped from four active wells located throughout the City of Seal Beach, and imported water is treated at the Diemer Filtration Plant and delivered to the City of Seal Beach via imported water connections. The City of Seal Beach's Water Division of the Department of Public Works maintains 66 miles of pipeline, four active groundwater wells, an active service connection with Metropolitan Water District of Southern California (MWD), emergency interconnections with other utilities, two

reservoirs with a total storage capacity of 7 million gallons (MG), two booster stations that constantly maintain water at approximately 60 pounds per square inch (psi), four disinfection sites, approximately 680 hydrants and approximately 5,500 service connections.

The City of Seal Beach's existing and projected water supply for 2020 through 2040 is quantified in **Table 3.16-1**, *Seal Beach Existing and Projected Water Supplies (in acre-feet)*. The volumes show the City of Seal Beach's projected annual groundwater extraction rights. The City of Seal Beach's 2015 Urban Water Management Plan anticipates purchasing additional rights to extract water from the Orange County Groundwater basin (i.e., increasing its allowable pumping allocation), over the next 25 years, if and when cost-effective opportunities to do so become available (City of Seal Beach 2018a).

TABLE 3.16-1
SEAL BEACH EXISTING AND PROJECTED WATER SUPPLIES (IN ACRE-FEET)

Water Supply	2015	2020	2025	2030	2035	2040
Groundwater	2,734	2,442	2,621	2.639	2,638	2,642
Imported	787	1,046	1,123	1,131	1,131	1,132
Total	**3,521**	**3,488**	**3,744**	**3,770**	**3,769**	**3,774**

SOURCE: City of Seal Beach 2018a.

The City of Seal Beach projects that water supplies would be sufficient to meet all demands through the year 2040 during normal, single dry year, and multiple dry year hydrologic conditions (City of Seal Beach 2018a). Historical precedent has consistently shown that water demands decrease in dry years due to voluntary and mandatory water use restrictions and a general increase in public awareness of the need for water conservation; however, future water demand projections take a conservative approach to planning, by assuming that water demand will remain steady rather than decrease during dry years. The projected City of Seal Beach water supply and demand are compared in **Table 3.16-2**, *Seal Beach Existing and Projected Water Supplies, Demand, and Surplus (in acre-feet)*, which quantifies the projected water supply surplus through 2040. Seal Beach water supplies are projected to meet demand through 2040 even in future dry years, as in recent droughts (City of Seal Beach 2018a).

TABLE 3.16-2
SEAL BEACH EXISTING AND PROJECTED WATER SUPPLIES, DEMAND, AND SURPLUS (IN ACRE-FEET)

	2020	2025	2030	2035	2040
Total Supplies	3,488	3,744	3,770	3,769	3,774
Total Demands	3,488	3,744	3,770	3,769	3,774
Surplus	**0**	**0**	**0**	**0**	**0**

SOURCE: City of Seal Beach 2018a.

City of Long Beach

The Long Beach Water Department (LBWD) provides water service to the City of Long Beach (LBWD 2016). The LBWD service area is located in the southwest corner of the County of Los Angeles, and essentially overlays the boundaries of the City of Long Beach. LBWD owns, operates, and maintains 29 active groundwater wells, 907 miles of water mains, 6,501 fire hydrants, and 750 miles of sanitary sewer lines.

LBWD primarily relies on groundwater extracted locally to meet customer water demands. LBWD then purchases imported water from the Metropolitan Water District of Southern California (MWD) to make up the difference between demand and groundwater supplies. LBWD also provides recycled water to an increasing number of customers to replace the use of potable water for watering landscaping at golf courses, parks, and medians on City of Long Beach-owned property.

The LBWD existing and projected water supply for 2015 through 2040 is quantified in **Table 3.16-3**, *Long Beach Existing and Projected Water Supplies (in acre-feet)*. The volumes show the projected LBWD annual groundwater extraction rights. LBWD anticipates purchasing additional rights to extract water from the Orange County Groundwater basin (i.e., increasing its allowable pumping allocation), over the next 25 years, if and when cost-effective opportunities to do so become available.

TABLE 3.16-3
LONG BEACH EXISTING AND PROJECTED WATER SUPPLIES (IN ACRE-FEET)

Water Supply	2015	2020	2025	2030	2035	2040
Groundwater	32,693	33,001	33,501	34,001	34,501	35,001
Imported	35,100	35,100	35,100	35,100	35,100	35,100
Recycled	9,190	9,190	9,190	9,190	9,190	9,190
Total	**76,983**	**77,291**	**77,791**	**78,291**	**78,791**	**79,291**

SOURCE: LBWD, 2016.

LBWD projects that water supplies would be sufficient to meet all demands through the year 2040 during normal, single dry year, and multiple dry year hydrologic conditions (LBWD 2016). Historical precedent has consistently shown that water demands decrease in dry years due to voluntary and mandatory water use restrictions and a general increase in public awareness of the need for water conservation; however, future water demand projections take a conservative approach to planning, by assuming that water demand will remain steady rather than decrease during dry years. The projected LBWD water supply and demand are compared in **Table 3.16-4**, *Long Beach Existing and Projected Water Supplies, Demand, and Surplus (in acre-feet)*, which quantifies the projected water supply surplus through 2040. LBWD water supplies are projected to exceed demand through 2040 even in future dry years, as in recent droughts (LBWD 2016).

TABLE 3.16-4
LONG BEACH EXISTING AND PROJECTED WATER SUPPLIES, DEMAND, AND SURPLUS (IN ACRE-FEET)

	2020	2025	2030	2035	2040
Total Supplies	77,291	77,791	78,291	78,791	79,291
Total Demands	63,643	63,410	63,454	63,609	64,137
Surplus	**13,648**	**14,381**	**14,837**	**15,182**	**15,154**

SOURCE: LBWD, 2016.

3.16.2.2 Wastewater

City of Seal Beach

Portions of the program area that are within the jurisdiction of the City of Seal Beach would discharge all wastewater into the local sewer main and conveyed for treatment at the Orange County Sanitation Districts (OCSDs) reclamation plants. The City of Seal Beach relies on OCSD for collection and treatment at their plants located in the cities of Huntington Beach and Fountain Valley.

OCSD's Plant No. 1 in Fountain Valley has a capacity of 320 million gallons per day (mgd) and Plant No. 2 in Huntington Beach has a capacity of 312 mgd. OCSD's Plant No. 1 in Fountain Valley received an average daily flow of wastewater of 114 mgd in 2018 and OCSD's Plant No. 2 in Huntington Beach received an average daily flow of wastewater of 74 mgd in 2018 (OCSD 2018). The City of Seal Beach's 2015 Urban Water Management Plan states that the City produced approximately 2,289 acre-feet of wastewater, collected by OCSD's plants No. 1 and No. 2, in 2015 (City of Seal Beach 2018).

The Seal Beach Public Works Division provides wastewater collection service to approximately 5,000 customers in the northeast and south west portions of the City and Sunset Aquatic Park, including the program area. The existing wastewater systems consists of approximately 181,00 feet of gravity sewers, 780 man holes, and six existing sewer pump stations.

As discussed in the Sewer Master Plan 2018, hydraulic analysis was conducted for the gravity sewer system. Based on the hydraulic modeling results, there were no pipe capacity deficiencies identified.

The closest pump station to the program area is the Adolfo Lopez pump station. As discussed in the Sewer Master Plan 2018, existing flow to this pump station is 15 gallons per minute (gpm), 36 gpm, and 49 gpm on an average dry, peak dry, and peak wet weather conditions (City of Seal Beach 2018b). Hydraulic modeling provided in the Sewer Master Plan 2018 revealed that this pump station could accept an ultimate peak dry weather flow of 87 gpm and peak wet weather flow of 120 gpm. The Adolfo Lopez pump station has a firm capacity of 200 gpm, which is double than the ultimate peak dry weather flow (City of Seal Beach, 2018b). In addition, as discussed therein, it was determined that this station would provide many years of reliable

service, with proper maintenance.[1] The mechanical and electrical equipment were determined to reach the end of their useful lives around 2025. Improvements would be made that that time to replace pumps, replace discharge equipment, and construction site improvements.

City of Long Beach

Portions of the program area that are within the jurisdiction of the City of Long Beach would utilize the sewer services from LBWD. LBWD is responsible for operating and maintaining the sanitary sewer lines in the City of Long Beach. Through these sanitary sewer lines, the LBWD delivers wastewater to two of the Los Angeles County Sanitation District (LACSD) facilities (LACSD 2017a). The LACSD currently provides wastewater services for the program area, including the current practice of accepting produced water from oil extraction on the program area.[2] LACSD is a public agency created under state law to manage wastewater and solid waste on a regional scale and consists of 24 independent special districts serving approximately 5.5 million people in Los Angeles County, including the City of Long Beach.

The LBWD delivers over 40 mgd of wastewater to LACSD facilities. A portion of the wastewater is delivered to the LACSD Joint Water Pollution Control Plant (JWPCP) in Carson and the remainder of the wastewater is delivered to the Long Beach Water Reclamation Plant (LBWRP) (LBWD 2016). The JWPCP treats approximately 260 mgd and has a total permitted design capacity of 400 mgd (LACSD 2017f). The LBWRP treatment capacity is approximately 25 mgd (LBWD 2016; LACSD 2017g). The LBWRP is expected to reach full capacity sometime during the next 25 years (at least by 2040) and LACSD is not expected to increase the capacity because there is no open space at the site to accommodate an expansion; however, the influent streams to LACSD facilities are interconnected such that influent can be diverted from one LACSD facility to another.

3.16.2.3 Stormwater Drainage

City of Seal Beach

Within the City of Seal Beach, regularly scheduled street cleaning, annual inspections, as well as catch basins assist in reducing potential impacts of stormwater runoff. In addition, the City requires water quality management plans for all projects located under the City's jurisdiction. Much of Seal Beach's run-off drains into the Naval Weapons Base with the remainder split between the Pacific Ocean, Coyote Creek, and the San Gabriel River (City of Seal Beach, 2019).

As described in Chapter 2, *Project Description*, stormwater originating from the developed portions of the program area in the City of Seal Beach would drain into the existing curb-and-gutter system to the storm drains operated by the City. Stormwater from portions of the program area in Seal Beach that are not paved would infiltrate into the subsurface. For additional

[1] As discussed in the Sewer Master Plan 2018, the City of Seal Beach is currently evaluating whether the Adolfo Lopez pump station sewershed as the capacity to accept wastewater flow from nearby oil and gas operations. The Sewer Master Plan 2018 recommends that the Adolfo Lopez pump station sewershed is monitored closely as conditions change to ensure that sufficient capacity remains available in the sewershed (City of Seal Beach 2018b).

[2] Over 95 percent of the fluid pumped from the Synergy Oil Field site and City Property site oil wells is saline water.

information regarding stormwater drainage for the program area, please see Section 3.8, *Hydrology and Water Quality*, of this PEIR.

City of Long Beach

Within the City of Long Beach, there are approximately 383 miles of active stormwater carriers, including pipes, open channels, ditches, culverts, connector pipes, and drains (City of Long Beach 2008). In addition, the City of Long Beach owns 3,872 catch basins and 23 pump stations, all of which are cleaned repeatedly throughout the year.

As described in Chapter 2, *Project Description*, stormwater originating from the developed portions of the program area in the City of Long Beach would drain into the existing curb-and-gutter system to the storm drains operated by the City. Stormwater from portions of the program area in Long Beach that are not paved would infiltrate into the subsurface. For additional information regarding stormwater drainage for the program area, please see Section 3.8, *Hydrology and Water Quality*, of this PEIR.

3.16.2.4 Solid Waste Services

City of Seal Beach

The City of Seal Beach is not included in an Integrated Waste Management Plan. Consolidated Disposal Services, LLC (Republic Services) provides exclusive waste and recycling collection services for residential and commercial uses in the City of Seal Beach. Republic Services currently operates three landfills in the Los Angeles/Orange County area in Long Beach, Gardena, and Anaheim. Republic Services also has recycling operations at their Anaheim facility, as well as at their BFI Falcon transfer station in Wilmington. Republic Services landfills currently have sufficient capacity to serve the City of Seal Beach now and into the future (Republic Services, 2019).

City of Long Beach

The City of Long Beach is included in the most recent *County of Los Angeles, Countywide Integrated Waste Management Plan, 2017 Annual Report*, and disposed 498,239 tons of solid waste in 2017 (County of Los Angeles 2019). A majority of the City of Long Beach's solid waste is sent to the Southeast Resource Recovery Facility (SERRF), a transfer facility located in Long Beach about 8 miles from the program area. In 2017, approximately 196,840 tons, or 56 percent of the solid waste generated by Long Beach residents and businesses were sent to the SERRF for processing.

Materials that can be recycled are segregated out of the waste stream, combustible materials are burned to generate electricity, and solid waste that cannot be processed at the SERRF is taken to landfills. The landfills that are closer to the program area, as well as the SERRF, include the Olinda Alpha Landfill, Frank R. Bowerman, the El Sobrante Landfill, Azusa Land Reclamation, and the Waste Management Simi Landfill. The distances from the program area, maximum permitted daily capacities, remaining available capacities, and expected closure dates are listed in **Table 3.16-5**, *Landfills in the Program Region*. Hazardous waste (Class I waste) is not accepted by SERRF or the listed landfills and would be sent to the Kettleman Landfill, as discussed in Section 3.7, *Hazards and Hazardous Materials*.

TABLE 3.16-5
LANDFILLS IN THE PROGRAM REGION

Landfill	Address	Distance from Program Area	Maximum Permitted Daily Tons	Average Remaining Capacity (tons)	Expected Closure Date
Olinda Alpha Landfill	1942 Valencia Ave., Brea, CA	19.4 miles	8,000	51,300,000	2030
Frank R. Bowerman	11002 Bee Canyon Access Rd., Irvine, CA	24.6 miles	11,500	307,500,000	2053
El Sobrante Landfill	10910 Dawson Canyon Rd., Corona, CA	36 miles	16,000	145,530,000	2045
Waste Management Simi Landfill	2801 North Madera Rd., Simi Valley, CA	68 miles	8,750	306,250	2052
Azusa Land Reclamation	1211 West Gladstone, Azusa, CA	33 miles	6,000	120,000	2037
Totals			**50,250**	**504,756,250**	

SOURCES: CalRecycle, 2008, 2009, 2014; County of Orange, 2017a, 2017b; Waste Management, 2017.

3.16.3 Regulatory Framework

3.16.3.1 Federal

Resource Conservation and Recovery Act (42 USC 6901 et seq.)/ Toxic Substances Control Act (15 USC 2605)/Hazardous and Solid Waste Act

The combination of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Toxic Substances Control Act of 1976 authorized the USEPA to regulate the generation, transportation, treatment, storage, and disposal of hazardous waste and non-hazardous waste, and underground storage tanks. Solid waste consists of solids, liquids and gases, including garbage, also known as municipal solid waste (e.g., milk cartons and coffee grounds); refuse (e.g., metal scrap, wall board, and empty containers); sludges from waste treatment plants, water supply treatment plants, or pollution control facilities (e.g., scrubber slags); industrial wastes (e.g., manufacturing process wastewaters and non-wastewater sludges and solids); and other discarded materials, including solid, semisolid, liquid, or contained gaseous materials resulting from industrial, commercial, mining, agricultural, and community activities (e.g., boiler slag). Currently, all 50 states and territories have been granted authority to implement RCRA. State RCRA programs must be at least as stringent as the federal requirements, but states can adopt more stringent requirements as well. California has implemented additional requirements, as discussed further below.

The RCRA was amended in 1984 by the Hazardous and Solid Waste Act, which affirmed and extended the "cradle to grave" system of regulating hazardous wastes. Contractors would be required to comply with state regulations including the Hazardous Materials Release Response Plans and Inventory Act, Unified Hazardous Waste and Hazardous Materials Management Regulatory Program, License to Transport Hazardous Materials, and Hazardous Materials Storage

and Handling, which would make the proposed action consistent with the Toxic Substances Control Act.

3.16.3.2 State

Senate Bill 610 (Water Code Sections 10910 et seq.)

Senate Bill (SB) 610 requires the preparation of a water supply assessment for certain types of projects. As discussed in Section 3.8.3, Regulatory Framework, in Section 3.8, *Hydrology and Water Quality*, the proposed program does not include development of any of the specified categories, nor does the proposed program generate a water demand equal to or greater than the demand generated by a 500-dwelling-unit project (i.e., approximately 125 acre-feet per year). Therefore, a water supply assessment is not required for the proposed program.

Sustainable Groundwater Management Act of 2014

The Sustainable Groundwater Management Act of 2014 (SGMA) requires the creation of a Groundwater Sustainability Agency that would develop and implement a Groundwater Sustainability Plan that would manage and use groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results. Relative to Utilities and Public Services, preventing undesirable results would include a significant and unreasonable depletion of water supply. SGMA is noted but discussed in Section 3.8.3, *Regulatory Framework*, in Section 3.8, *Hydrology and Water Quality*.

Statewide Water Reductions (Executive Orders B-29-15, B-36-15, and B-37-16)

These state executive orders were implemented by Governor Brown in response to the drought. The required actions are focused on reducing potable water use, reducing waste, and improving water supplies provided by water supply agencies. The orders direct urban water suppliers (e.g., the LBWD) to develop new water use targets. Actions for the proposed program that would be consistent with these orders would include storing and recycling hydrostatic testing water to reduce overall potable water use and injecting produced water back into the production zones to prevent subsidence that could adversely affect aquifers that could supply usable groundwater.

California Integrated Waste Management Act of 1989 and Assembly Bill 341

The California Integrated Waste Management Board (CIWMB) oversees, manages, and tracks waste generated in California. The authority and responsibilities of the CIWMB were promulgated in Assembly Bill (AB) 939 and SB 1322, which were signed into law as the California Integrated Waste Management Act of 1989 (Public Resources Code [PRC], Division 30). The California Integrated Waste Management Act, as modified by subsequent legislation, mandated all California cities and counties to implement programs to reduce, recycle, and compost at least 50 percent of wastes by 2000 (PRC Section 41780). In January 2010, the CIWMB changed its name to the California Department of Resources, Recycling, and Recovery (CalRecycle).

AB 341, which amends the Integrated Waste Management Act of 1989 and was adopted by the California legislature in October 2011, directs CalRecycle to adopt a state policy that actively seeks to achieve a goal of diverting 75 percent of solid waste from landfills by 2020. The new legislation focuses largely on commercial waste generators, as this sector was identified as the most in need of improved waste management. AB 341 does not alter the 50 percent diversion mandate; rather, it is a "legislative declaration of policy" to guide CalRecycle's administration of the California Integrated Waste Management Act.

A jurisdiction's diversion rate is the percentage of total generated waste it diverts from disposal through source reduction, reuse, and recycling programs. The state determines compliance with the 50 percent diversion mandate through a complex formula. Use of the formula requires cities and counties to conduct empirical studies to establish a base-year waste generation rate against which future diversion is measured. The diversion rate in subsequent years is determined through deduction instead of direct measurement. Rather than counting the amount of material recycled and composted, the city or county tracks the amount of material disposed of at landfills and then subtracts that amount from the base-year amount; the difference is assumed to be diverted (PRC Section 41780.2).

3.16.3.3 Regional

Los Angeles County Integrated Waste Management Plan

The California Integrated Waste Management Act of 1989 (AB 939) requires that the responsibility for solid waste management be shared between state and local governments. The state has directed the County to prepare and implement a local integrated waste management plan in accordance with AB 939. The Los Angeles County Integrated Waste Management Plan Executive Summary presents the County-wide goals and objectives for integrated solid waste management and describes the County's system of governmental solid waste management infrastructure and the current system of solid waste management in the cities and unincorporated areas of the County. This document also summarizes the types of programs planned for individual jurisdictions and describes countywide programs that could be consolidated.

The Los Angeles County Integrated Waste Management Plan, *2017 Annual Report on the Countywide Summary Plan and Countywide Siting Element*, describes the County's approach to dealing with a broad range of solid waste issues, including processing capacity; markets for recovered materials; waste reduction mandates; waste disposed at Class I (i.e., hazardous waste–only landfills) and Class II (i.e., landfills that accept specified hazardous waste and non-hazardous wastes) disposal facilities; allocation of "orphan" waste (waste that comes from an unknown origin); the accuracy of the state Disposal Reporting System (DRS); and the CIWMB enforcement policy. This document also includes the Los Angeles County Integrated Waste Management strategies to maintain adequate solid waste disposal capacity through 2032. The proposed program would be subject to the Los Angeles County Integrated Waste Management Plan (County of Los Angeles 2019).

Orange County Construction and Demolition (C&D) Debris Reuse and Recycling Program

Orange County requires the preparation of a C&D Program Application Packet and Final Compliance Report for various construction and demolition projects. The C&D program's goal is to ensure a minimum of 65 percent diversion of construction building materials and demolition debris from landfills. Projects can achieve diversion through reuse, recycling, and/or composting of construction and demolition materials at County-approved facilities or use of a County Franchised Waste Hauler. Information provided in the Application and Compliance Report includes hauler identification and anticipated material wastes type and quantity (County of Orange, 2019c).

3.16.3.4 Local

Orange County Drainage Area Management Plan (DAMP) and Orange County MS4 Permit

The City of Seal Beach is covered under the Seal Beach MS4 Permit: Waste Discharge Requirements for Municipal Separate Storm Sewer System Discharges from the City; Order No. R8-2009-0030 NPDES No. CAS618030, as amended by Order No. R8-2010-0062. The Seal Beach MS4 is noted and discussed in Section 3.5.3, *Regulatory Framework*, in Section 3.5, *Geology, Soils, and Paleontological Resources*.

Los Angeles County Sanitation District

As briefly described above the LACSD provides wastewater treatment services for the program area. LACSD is a public agency created under state law to manage wastewater and solid waste on a regional scale and consists of 24 independent special districts serving approximately 5.5 million people in Los Angeles County, including the City of Long Beach.

Capital improvements to the LACSD water reclamation plants are funded by connection fees charged to new developments, redevelopments, and expansions of existing land uses. The connection fee is a capital facilities fee used to provide additional conveyance, treatment, and disposal facilities (capital facilities) required by new users connecting to the LACSD's sewerage system or by existing users who significantly increase the quantity or strength of their wastewater discharge. The Connection Fee Program ensures that all users pay their fair share for any necessary expansion of the system. Estimated wastewater generation factors used in determining connection fees in LACSD's member districts are set forth in the Connection Fee Ordinance for each respective district available on LACSD's website. Most of the City of Long Beach, including the program area, is in District 3 of the LACSD (LACSD 2017a).

Long Beach Water Department 2015 Urban Water Management Plan

Urban Water Management Plans (UWMP) are comprehensive planning documents that project water supplies and water demands 25 years into the future. These plans also describe efforts to promote the efficient use and management of limited water resources. The current version for the City is the 2015 UWMP. The projected public water supply available to the proposed program is based on the 2015 UWMP, as analyzed below in Impact UTL-2.

Long Beach Water Department 2016 Water Conservation and Water Supply Shortage Plan

The Water Conservation and Water Supply Shortage Plan for the LBWD is described in Resolution WD-1354, adopted June 2, 2016. This plan has the objectives of preventing water supply shortages through water management programs such as conjunctive use, water conservation, water education, and the use of reclaimed water. The plan prohibits excessive use, loss through leaks and breaks, landscape irrigation between 4 p.m. and 9 a.m. or during rainfall, or allowing unreasonable runoff or waste. The control of runoff and limits on irrigation would apply to the proposed program. The plan also describes emergency procedures in the event of a water supply shortage, which could limit the use of water for the proposed program.

Long Beach MS4 Permit

The City of Long Beach is covered under the Long Beach MS4 Permit: Waste Discharge Requirements for Municipal Separate Storm Sewer System Discharges from the City; Order No. R4-2014-0024. The Long Beach MS4 is noted and discussed in Section 3.5.3, *Regulatory Framework*, in Section 3.5, *Geology, Soils, and Paleontological Resources*.

Adopted Southeast Area Development and Improvement Plan

The Southeast Area Development and Improvement Plan (SEADIP) was a planning document for the Long Beach portions of the program area, including re-designating land uses for the program area (City of Long Beach 2016). The provisions relevant to utilities and service systems are provided below.

> **Provision 3.** Prior to issuance of a building permit, all infrastructure, including street improvements, fire hydrants, water lines, storm drains, and sanitary sewers shall be construction on a block basis in accordance with the approved plans. Such improvements, including engineering plans, shall be financed by subdivider(s) or by an assessment district or both.
>
> **Provision 15.** All utility lines shall be placed underground and utility easements shall be provided as required unless waived by the Commission on the advice of the Director of Public Works.
>
> **Provision 16.** Developers shall construct, in accordance with plans approved by the Director of Public Works, all necessary sanitary sewers to connect with existing public sewers, and shall provide easements to permit continued maintenance of these sewers by the City were the City accepts responsibility for such maintenance.
>
> **Provision 19.** Developers shall make provision for the continued private maintenance of all common areas that are not to be dedicated and accepted by the City, and of all ways not to be dedicated and accepted by the City, including maintenance of street lighting, walks, curbs, storm drainage, water lines, fire hydrants, and street trees. Such provisions shall be perpetuated by their inclusion in the covenants, conditions, and restrictions of the property owners.

Proposed Southeast Area Specific Plan 2060

However, the City unanimously approved the SEASP 2060, a new specific plan with conventional zoning on a few select parcels, which replaced the previously adopted SEADIP. The portions relevant to utilities and service systems are provided below.

Chapter 8, Infrastructure, Section 8.1.2, Storm Drains

Any new projects in the SEASP area will comply with the MS4 Permit for the City and include stormwater LID Best Management Practices (BMPs). Application of LID BMPs would ensure any increases in runoff from proposed land use changes will be sustainably managed and that the 85th percentile, 24-hour storm event would be treated through a variety of LID features. The 85th percentile storm event is measured by rainfall depth; for example, if the 85th percentile storm event equals 0.5 inch, then 85 percent of all rainfall events would be equal to 0.5 inch or less of precipitation.

As required by the MS4 permit, the use of LID features shall be consistent with the prescribed hierarchy of treatment provided in the permit: infiltration, evapotranspiration, harvest/reuse, and biotreatment. For areas of the site where LID features are not feasible or that do not meet the feasibility criteria, treatment control BMPs with biotreatment enhancement design features must be used.

Typical water quality BMPs for new development in mixed-use areas include stormwater planters (raised or at grade), cisterns and reuse distribution systems (primarily for landscaping), proprietary detention/biotreatment flow-through systems, and subterranean infiltration systems. Since increased density is anticipated in mixed-use areas, the majority of the proposed features should be located within the landscaping along the perimeter of the proposed program, adjacent to the buildings, or in some cases, within the buildings themselves.

3.16.4 Significance Thresholds and Methodology

3.16.4.1 Significance Thresholds

For the purposes of this Program Environmental Impact Report (PEIR) and consistency with Appendix G of the *CEQA Guidelines*, the proposed program would have a significant impact on utilities and service systems if it would:

a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects;

b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years;

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

d. Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; or

e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

3.16.4.2 Methodology

The analysis related to wastewater treatment requirements identifies the types of wastewater that are anticipated to be generated by implementation of the proposed program and regulations related to wastewater. The analysis of sewer infrastructure capacity focuses on the changes in the nature and volume, if any, of wastewater and wastewater treatment from the proposed program over the 20+ planning period.

The analysis of water supply is focused on the change in levels of water use from implementation of the proposed program. The primary resources used for this analysis include information from the City of Seal Beach and City of Long Beach's 2015 UWMP. The projected increase in water demand over the 20-year planning period of the proposed program is compared to future available supplies. The demand generated by the proposed program compared to water supplies available determines whether an impact from implementation of proposed program would occur.

The analysis of the proposed program's impact on stormwater drainage facilities identifies the general increase or decrease in stormwater runoff that is anticipated to occur from implementation of the proposed program, and identifies the existing drainage infrastructure that serves the program area.

The analysis of the proposed program's impact on landfill facilities identifies solid waste that is anticipated to be generated during both construction and operation of the proposed program. The analysis identifies the anticipated amount of non-hazardous construction debris and operational solid waste that would be generated from implementation of the proposed program and the amount that would be disposed of in landfills after compliance with recycling/diversion requirements. The results (i.e., solid waste after recycling/diversion) are compared with the available capacity of the landfill serving the program areas to assess the significance of the proposed program's solid waste generation during construction and during operation. The analysis of the proposed program's impact related to solid waste regulations identifies the non-hazardous solid waste that is anticipated to be generated during both construction and operation of the proposed program, and how the proposed program would implement the regulations related to disposal of that solid waste. Hazardous waste is analyzed in Section 3.7, *Hazards and Hazardous Materials*; however, the capacity of the nearest landfill permitted to accept hazardous waste is analyzed herein.

As stated in Chapter 1, *Introduction*, on March 8, 2019, the Los Cerritos Wetlands Authority sent a Notice of Preparation to responsible, trustee, and federal agencies, as well as to organizations, and individuals potentially interested in the proposed program to identify the relevant environmental issues that should be addressed in the PEIR. No issues related to utilities were identified.

3.16.5 Program Impacts and Mitigation Measures

Impact UTL-1: The proposed program would result in a significant impact if the proposed program would require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

Water Infrastructure—Construction and Operation

The proposed program would be constructed and implemented in three phases over a 20-year period. In the South Area, the existing road (1st Street) through the marsh would be raised on a berm to move it out of the restored marsh floodplain in the near-term. The City of Seal Beach is planning to reline the existing water line within the road, which could be done at any time. In the long-term, 1st Street would be removed to allow for restoration of the berm and the water line would be relocated off site. However, the design and installation of the new water line would be required to meet applicable City standards. Construction impacts associated with the installation would primarily involve trenching in order to place the water distribution lines below grade and reconnect existing domestic and fire water services for the affected surrounding properties. Prior to ground disturbance, contractors would coordinate with OCWD and LBWD to identify the locations and depth of all lines and send notices in advance of proposed ground disturbance activities to avoid water lines and disruption of water service. As discussed in Section 3.14, *Transportation*, in accordance with Mitigation Measure TRA-1, the proposed program would implement a Construction Management Plan to reduce temporary pedestrian and traffic impacts during construction, including construction of water distribution lines and connections to the public main.

Additional water infrastructure needed for the Seal Beach Visitor Center and irrigation would likely come from existing domestic water mains surrounding the program boundary that are maintained by the cities of Seal Beach and Long Beach. As previously discussed in Section 3.16.2, *Environmental Setting*, above, water for the proposed program would be provided by the OCWD and LBWD. As described in Chapter 2, *Project Description*, of this PEIR, the existing domestic water mains surrounding the program boundary, which are owned by the cities of Seal Beach and Long Beach, are relatively large for irrigation use and available for new water meter services. Construction impacts would be limited to the one to two days required for each meter and lateral installation. In addition to water meters installed by utility providers, existing fire hydrants can provide domestic water service to the program area. A temporary utility company provided meter would be attached onto one of the hydrant outlets for access to potable water. If the hydrants are on the side of the street opposite the program boundary, either a temporary pipeline crossing of the street or filling of water trucks at the meter and transfer by vehicle would be required. For operation of the proposed program, as the design of the visitor center is unknown at this time, the proposed program would implement Mitigation Measure UTL-1, which would require obtaining a will serve letter prior to operation of the visitor center to verify that surrounding water mains surrounding the program boundary have capacity to provide service to the visitor center. No other new infrastructure or modifications to utilities are proposed for the proposed program.

While the proposed program does include relocation of a water line in the South Area and new line connections, they would not result in any physical environmental effects beyond those identified in this PEIR. Therefore, with implementation of existing regulations and Mitigation Measure TRA-1, impacts would be reduced to a less than significant level.

Mitigation Measure

Mitigation Measure TRA-1, as provided in Section 3.14, *Transportation*.

> **Mitigation Measure UTL-1: Water Will Serve Letter.** Prior to issuance of a certificate of occupancy of the visitor center, a will serve letter will be obtained to verify that the water mains surrounding the program boundary have the capacity to serve the visitor center.

Significance after Mitigation

Less than Significant with Mitigation.

Wastewater Infrastructure—Construction and Operation

All wastewater generated during construction, including water from washing down trucks, equipment, and concrete construction pads, would be stored on site within temporary storage tanks. These tanks would store all wastewater and would be periodically hauled off site by vacuum trucks. Construction workers would use portable sanitary units during construction activities for the proposed program. Wastewater generated during construction of the proposed program would be minimal and would not require the construction of new wastewater treatment facilities. After settling out the solids, the waste water would be sent to the OCSD and LACSD treatment facilities for treatment and disposal. Because construction of new or expanded facilities is not required to accommodate the construction of the proposed program, there would be no construction impacts associated with the provision of these facilities to serve the proposed program.

Sanitary wastewater generated by the Seal Beach Visitor Center would be met using existing sewer lines. Because of the comparatively large reduction in wastewater generated from oil production, there would be no requirement for the construction of new or expanded wastewater treatment facilities to serve the proposed program. In addition, the existing sewer lines are sized to accommodate the volume of wastewater produced from the proposed program. Furthermore, as discussed above in Section 3.16.2, *Environmental Setting*, above, and in the Sewer Master Plan 2018 for the City of Seal Beach, there were no sewer pipe capacity deficiencies identified and sufficient capacity was determined at the Adolfo Lopez pump station, the closest pump station to the program area. Furthermore, as the design of the visitor center is unknown at this time, the proposed program would implement Mitigation Measure UTL-2, which would require obtaining a sewer capacity study prior to operation of the visitor center to verify that sewer lines surrounding the program boundary have capacity to provide service to the visitor center. Because construction of new or expanded facilities is not required to accommodate the proposed program and the overall volume of wastewater would decrease, there would be no operational impacts associated with the provision of these facilities to serve the proposed program.

Mitigation Measure

Mitigation Measure UTL-2: Sewer Capacity Study. Prior to issuance of a certificate of occupancy of the visitor center, a sewer capacity study will be performed to verify that the sewer lines surrounding the program boundary have the capacity to serve the visitor center.

Significance after Mitigation

Less than Significant with Mitigation.

Stormwater Infrastructure—Construction and Operation

As described in Chapter 2, *Project Description*, of this PEIR, improving connection of wetlands to tidal flows to allow for habitat restoration would require changes to existing flood risk and stormwater management elements, and construction of new flood risk and stormwater management elements. The proposed program would include modifications to Los Angeles County Drainage Area project structures within the program area by modifying the existing levee along the San Gabriel River, constructing new flood risk management structures (e.g., earthen levees and berms, or flood walls), restoring the wetland floodplain, constructing new water-control structures that allow for increased tidal connections, and constructing new stormwater management features (e.g., bioswales).

Specifically, the proposed program would construct new stormwater basin or bioswales in the South Area to function as a water quality treatment measure for the stormwater runoff from the new Seal Beach Visitor Center and associated parking. In the Central Area, the construction of the proposed levees would eliminate the storage volume for the excess overflow drainage from the roads. Replacement stormwater storage volume would be provided by creating low areas (e.g., basins or swales) between the roads and the proposed levee or flood wall. These storage basins or bioswales would be sized to accommodate the local area drainage. These basins would also function as water quality treatment measures for a portion of the runoff from the existing paved areas. In the North Area, storage for the overflow of stormwater draining from the roads would be reduced with the construction of the proposed berm or flood wall. Room for stormwater storage between the road and berm or flood wall would be provided by creating low areas (basins or swales) between the roads and the proposed levee. These storage basins or bioswales would be sized to accommodate the local area drainage. These basins would also function as water quality treatment measures for a portion of the runoff from the existing paved areas. No change to the flood risk or stormwater management is anticipated for the Isthmus Area. During operations, maintenance of bioswales is expected to be limited to non-native vegetation removal. Non-native plant removal would include work with hand tools such as shovels, rakes, hatchets, wheelbarrows, and small trucks for hauling of equipment and spoils. It is expected that these efforts would occur once a year for the lifespan of the proposed program.

The construction of the on-site stormwater drainage facilities would be designed in accordance with all applicable stormwater requirements and permits and would revise the United States. Army Corps of Engineers' OMRR&R Manual to reflect changes made to the existing Los

Angeles County Drainage Area project structures and facilities within the program area. The proposed program would also implement BMPs as defined by a Stormwater Management Plan, such as stormwater basins. Compliance with applicable regulatory requirements and implementation of BMPs would ensure impacts related to the need to construct or expand stormwater drainage facilities would be less than significant.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

Electric Infrastructure—Construction and Operation

Infrastructure and utility modifications include relocation of electric lines. As part of the proposed program, the existing road (1st Street) through the marsh would be raised on a berm to move it out of the restored marsh floodplain within the South Area in the short-term. The utility poles supporting the electric lines along the road would likely need to be improved (e.g., relocated, heightened) as part of the raising of the road. Preferably the electric lines could be replaced underground. In the long-term, 1st Street would be removed to allow for restoration of the berm. The electric lines would be relocated off site. Additional electrical infrastructure needed for the Seal Beach Visitor Center would likely would tie into existing off-site facilities surrounding the program boundary.

In addition, electrical lines are located along the Central LCWA site and Central Bryant site. As part of the proposed program, an earthen levee would be constructed within the Central LCWA site and Central Bryant site during the interim to protect the Long Beach City Property site, and a perimeter levee would be constructed along 2nd Street within the Central Bryant site. As part of this effort, utility poles supporting the electric lines, similar to those existing along 1st Street, would likely need to be improved (e.g., relocated, heightened) as part of the proposed program's efforts to construction the interim and perimeter levees. Preferably the electric lines could be replaced underground.

During construction, installation of the new electrical infrastructure would create a temporary environmental disturbance. Program design features and mitigation measures identified throughout this PEIR where appropriate to further reduce impacts associated with proposed program construction activities would be in place for these installation activities. In addition, the electrical electric lines would be placed underground for the duration of operation and maintenance. As such, construction and operation of the proposed program is not anticipated to adversely affect the electrical infrastructure serving the surrounding uses or utility system capacity and would not result in the construction of new electric power facilities or expansion of existing facilities, which could cause significant environmental effects the impact would be less than significant.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

Natural Gas—Construction and Operation

As discussed in Section 3.6, *Greenhouse Gas Emissions and Energy*, of this PEIR, no natural gas consumption would be required during construction of the proposed program. However, construction of the visitor center would involve installation of new natural gas connections to serve the visitor center, creating a temporary environmental disturbance. Since the area surrounding the visitor center is located in an area already served by existing natural gas infrastructure, it is anticipated that extensive off-site infrastructure improvements would not be needed to serve the program area. Program design features and mitigation measures identified throughout this PEIR where appropriate to further reduce impacts associated with proposed program construction activities would be in place for these installation activities.

Natural gas would be required for operation of the visitor center. As discussed in Section 3.6, *Greenhouse Gas Emissions and Energy*, of this PEIR, the proposed program was estimated to generate 0.02 million British thermal units (kBtu), which is 0.000002 percent of SoCalGas' Natural Gas Sales in 2017. As such, operation of the proposed program would use a minimal amount of energy, not increase the need for new energy infrastructure, and not cause a wasteful, inefficient, and unnecessary consumption of energy.

Based on the above, construction and operation of the proposed program is not anticipated to adversely affect the natural gas infrastructure serving the surrounding uses or utility system capacity and would not result in the construction of new natural gas facilities or expansion of existing facilities, which could cause significant environmental effects the impact would be less than significant.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

Telecommunication Infrastructure—Construction and Operation

No existing major telecommunication facilities are located on site. Construction activities typically do not involve the construction of telecommunication facilities. During construction, wireless telecommunication systems may be used for internet and telephone systems. Uses on the proposed program that may require telecommunication infrastructure include the visitor centers

proposed on the South Area and North Area. However, as telecommunication providers already deliver their services to a large number of homes in in the vicinity of the program area, it is anticipated that existing telecommunications facilities would be sufficient to support the proposed program's needs for telecommunication services. As such, no upgrades to off-site telecommunications facilities are anticipated during construction or operation. Therefore, the proposed program would not require or result in the relocation or construction of new or expanded telecommunication facilities. Impacts would be less than significant.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

Impact UTL-2: The proposed program would result in a significant impact if the proposed program would not have sufficient water supplies available to serve the proposed program and reasonably foreseeable future development during normal, dry and multiple dry years.

Construction

The proposed program would have typical water uses during construction. The construction of the Seal Beach Visitor Center would require water for mixing with cement. In addition, relatively minor amounts of water would be used as necessary for the cleaning of equipment and dust suppression. The proposed program's long term objectives include phasing out the oil wells and associated oil production infrastructure on the Hellman Retained site, which would require water for mixing with bentonite clay and cement to plug the wells in the South Area. Overall, water usage during construction would be minimal.

As previously discussed in Section 3.16.2, *Environmental Setting*, the OCWD and LBWD have sufficient water supplies to meet all demands through the year 2040 during normal, single dry year, and multiple dry year hydrologic conditions. Given the proposed program's minimal water usage and phasing, the proposed program is expected to have sufficient water supply available during construction. Therefore, impacts would be less than significant.

Operation

During operations, drinking water and other potable water use would be nominal at the Seal Beach Visitor Center in the South Area. Water would also be required for restoration and irrigation to ensure vegetation is established. Water sources for restoration and irrigation would include the public water system. Given the proposed program's minimal water usage, the proposed program is expected to have sufficient water supply available during operation. Mitigation Measure UTL-1 would be require obtaining a will serve letter prior to operation of the visitor center to verify that surrounding water mains surrounding the program boundary have capacity to provide service to the visitor center. Therefore, impacts would be less than significant.

Mitigation Measure

Mitigation Measure UTL-1.

Significance after Mitigation

Less than Significant with Mitigation

Impact UTL-3: The proposed program would result in a significant impact if the proposed program would result in a determination by the wastewater treatment provider which serves or may serve the proposed program that it has adequate capacity to serve the proposed program's projected demand in addition to the provider's existing commitments.

Construction

All wastewater generated during construction, including water from washing down trucks, equipment, and concrete construction pads, would be stored on site within temporary storage tanks. These tanks would store all wastewater and would be periodically hauled off site by vacuum trucks. Construction workers would use portable sanitary units during construction activities for the proposed program. Wastewater generated during construction of the proposed program would be minimal and would not require the construction of new wastewater treatment facilities. After settling out the solids, the wastewater would be sent to the OCSD and LACSD treatment facilities for treatment and disposal. All wastewater generated in portable toilets would be collected by a permitted portable toilet waste hauler and appropriately disposed of at one of the County identified liquid waste disposal stations. Because construction of new or expanded facilities is not required to accommodate the construction of the proposed program, there would be no construction impacts associated with the provision of these facilities to serve the proposed program.

Operation

Operation of the proposed Seal Beach Visitor Center has the potential to result in a nominal increase of the amount of sanitary wastewater generated. Sanitary wastewater generated by the visitor center would be treated at the existing OCSD treatment facilities. Waste discharge requirements (WDRs) for the proposed program are based on all applicable federal and state regulations, policies, and guidance. Wastewater generated from on-site employees and recreational visitor to the Seal Beach Visitor Center would be nominal compared to the 632 mgd capacity of the combined treatment facilities and no new or expanded facilities would be needed. Although the volume of wastewater would nominally increase, the nature of wastewater disposed to the sanitary sewer system would remain unchanged and would, therefore, still be acceptable under the existing site discharge requirements. The proposed program would continue to be served by existing sewer systems located within public streets and rights-of-way and the OCSD treatment facilities. As noted under Impact UTL-1, above, no sewer pipe capacity deficiencies were identified within the City of Seal Beach's Sewer Master Plan 2018 and sufficient capacity was determined at the Adolfo Lopez pump station, the closest pump station to the program area. Furthermore, as the design of the visitor center is unknown at this time, the proposed program would implement Mitigation Measure UTL-2, which would require obtaining a sewer capacity study prior to operation of the visitor center to verify that sewer lines surrounding the program

boundary have capacity to provide service to the visitor center. Therefore, the impact of the additional wastewater from the Seal Beach Visitor Center would be less than significant.

Mitigation Measure

Mitigation Measure UTL-2.

Significance after Mitigation

Less than Significant with Mitigation

Impact UTL-4: The proposed program would result in a significant impact if the proposed program would generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.

Construction

The proposed program's construction activities would generate solid waste primarily from excavated soil that would be exported from the program area. As described in Chapter 2, *Project Description*, of this PEIR, there are three options for off-site soil export and disposal:

1. Export via trucks with disposal at local landfills, the most likely of which could include Scholl Canyon Landfill in the City of Glendale, Frank R Bowerman Landfill in Irvine, and/or Olinda Alpha Landfill in Brea;
2. Export via barge to the Port of Long Beach or Port of Los Angeles, transfer to trucks for upland disposal at local landfills; or
3. Export via barge to an off-shore disposal location, potentially including the Los Angeles ocean disposal site off the coast from San Pedro (LA-2) or the Newport Bay ocean disposal site off the coast from Newport Beach (LA-3), each of which is managed by the United States Environmental Protection Agency (USEPA).

The proposed program would also demolish existing pipelines on the Central LCWA site. The pipelines would be removed in compliance with applicable standards required by the California Geologic Energy Management Division (formerly California Department of Conservation Department of Oil, Gas, and Geothermal Resources) and Department of Toxic Substances Control (DTSC). The solid waste from pipeline removal would include metals, concrete, asphalt, wood, cardboard, glass, plastics, soil, and other materials. The metals portion of the solid waste would consist of sections of pipelines, cut-up pieces of storage tanks, and other metallic waste. The majority of the metals waste would be recycled at local metals recyclers. Some other solid waste may also be recycled such as asphalt, concrete, and the boxes and crates used in the shipment of materials, depending on the nature of the material. For example, asphalt plants would be unlikely to accept asphalt mixed with soil. Consequently, it is anticipated that some of the listed demolition and construction waste may not be acceptable for recycling.

As discussed above, the five landfills that can serve the proposed program have a combined remaining capacity of 504,756,250 tons and a combined daily maximum acceptance rate of

50,250 tons. These five landfills are projected to remain open until about 2030, 2053, 2045, 2052, and 2037, respectively. Based on the available capacity, these landfills would have the capacity to accept all of the solid waste. Therefore, construction and demolition activities of the proposed program would not result in the need to expand the existing landfill facilities or construct a new landfill facility. Contaminated soil would be segregated and disposed of at the Kettleman Landfill, which is permitted to accept hazardous waste. The Kettleman Landfill is in the process of expanding its hazardous waste unit capacity by an additional 4.9 million cubic yards, which is anticipated to provide an additional 8 to 9 years based on the typical rate of hazardous waste disposal (DTSC 2014). As a result, construction activities would result in less-than-significant impacts related to landfill facilities.

Operation

Operation and maintenance of the proposed program would result in minimal trash generation, mainly personal waste generated by employees and visitor at the Seal Beach Visitor Center. The visitor center would recycle waste such as pallets, cardboard and paper boxes, paper, plastics, scrap steel, scrap aluminum, and scrap wire. Other office-type trash and rubbish would be collected in waste bins and disposed of by Seal Beach waste haulers. Therefore, solid waste is expected to be negligible.

As discussed above, the five landfills have 504,756,250 tons and a combined daily maximum acceptance rate of 50,250 tons, therefore the amount of trash generated by the proposed program would not adversely impact the capacity of these landfills. The proposed program would not result in the need to expand the existing landfill facilities or construct a new landfill facility. As a result, operational activities would result in less-than-significant impacts related to landfill facilities.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

Impact UTL-5: The proposed program would <u>not</u> result in a significant impact if the proposed program would comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

Construction

As previously discussed, the proposed program would generate solid waste. A majority of this solid waste would consist of non-hazardous materials that would be acceptable at the five previously discussed landfills under the waste acceptance criteria in their current operating permits. There are two sources of solid waste that may require disposal as a hazardous waste at a disposal facility permitted to accept hazardous waste. Any contaminated soil would be segregated and disposed of at the Kettleman Landfill, which is permitted to accept hazardous waste.

As discussed in Section 3.7, *Hazards and Hazardous Materials*, metal pipelines that have carried crude oil for extended periods of time have the potential to retain naturally occurring radioactive materials. All pipeline segments would be tested for radioactivity once demolished. Those that exceed action levels would be segregated from other materials for handling, disposed as low-level radioactive waste, and hauled to a facility designed to accept these wastes, likely the landfill in McKittrick, California.

For all remaining solid waste, the proposed program would comply with all City and County construction and demolition requirements during construction of the proposed facilities as described above in Section 3.16.3, *Regulatory Framework*, above. All non-hazardous solid waste would be hauled off site by truck to one or more of the previously listed solid waste landfills. As previously discussed, the three landfills that can serve the proposed program have the daily and total available capacity to accept the solid waste that would be generated from operation of the proposed program. The proposed program would comply with all federal, State, and local statues related to solid waste disposal. Therefore, the proposed program would result in less-than-significant construction solid waste impacts.

Operation

Republic Services provides franchised waste and recycling collection services for residential and commercial uses in the City of Seal Beach. During operations, any recyclable materials would be segregated and sent to recycling facilities permitted to recycle the materials. Materials that cannot be recycled would be sent to disposal facilities licensed to accept the solid waste. Therefore, the proposed program impacts related to potential noncompliance with solid waste statutes and regulations would be less than significant.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

3.16.6 Cumulative Impacts

The cumulative projects are listed in Table 3-1, *List of Cumulative Projects*, and the locations shown on Figure 3-1, *Approximate Locations of Cumulative Projects*. The cumulative projects within the vicinity of the proposed program would consist of residential, commercial, redevelopment projects, and infrastructure project such as road repaving and other improvements.

3.16.6.1 New or Expanded Facilities

Water

Cumulative water infrastructure impacts are considered on a system-wide basis and are associated with the capacity of existing and planned infrastructure. The cumulative system evaluated

includes the City of Seal Beach and LBWD infrastructure systems that are serving the program area and adjacent land uses in the City of Seal Beach and City of Long Beach.

Cumulative projects in the program area could result in the need for new or upgraded water infrastructure. The construction activities associated with new or upgraded water facilities, if needed in by future cumulative projects, could result in significant environmental impacts. Those facilities, if required by other cumulative projects, would be analyzed at such time discretionary approvals for those projects are considered. As described above, Mitigation Measure UTL-1 would be require obtaining a will serve letter prior to operation of the visitor center to verify that surrounding water mains surrounding the program boundary have capacity to provide service to the visitor center. Cumulative projects would similarly obtain will serve letters, as needed. Given the proposed program's minimal water usage, the proposed program is expected to have sufficient water supply available during operation of the proposed program and would not have a cumulatively considerable contribution to potential significant cumulative impacts associated with water infrastructure.

Wastewater

Cumulative wastewater infrastructure impacts are considered on a system-wide basis and are associated with the capacity of existing and planned infrastructure. As previously discussed, the proposed program would reduce the volume of wastewater sent to the sewer system due to the large reduction in wastewater generated from oil production. In addition, as the design of the visitor center is unknown at this time, the proposed program would implement Mitigation Measure UTL-2, which would require obtaining a sewer capacity study prior to operation of the visitor center to verify that sewer lines surrounding the program boundary have capacity to provide service to the visitor center. Therefore, the proposed program would not have a cumulatively considerable contribution to potential significant cumulative impacts during construction or operation of the proposed program associated with wastewater infrastructure.

Storm Water Drainage

The geographic scope for cumulative impacts on stormwater drainage includes the existing stormwater infrastructure that serves the program area, which is based on the regional drainage area. These facilities include pipelines and culverts that are owned and maintained by the Los Angeles County Flood Control District. Because the cumulative area is urban, developed, and is generally covered with impervious surfaces, development of cumulative projects would not result in a substantial increase in impervious surfaces in the area or substantially increase stormwater and runoff flows through the stormwater drainage system. In accordance with state and regional MS4, LID, and County SUSMP regulations, projects are required to maintain pre-project hydrology, such that no net increase of off-site stormwater flows would occur. State and the County MS4 Permit conditions require a hydrology/drainage study for projects over 1 acre to demonstrate that all runoff would be appropriately conveyed and not leave the program area at rates exceeding pre-project conditions, prior to receipt of necessary permits. As a result, increases of runoff from cumulative projects that could cumulatively combine to impact stormwater drainage capacity would be less than cumulatively significant.

Areas surrounding the program area are generally covered with impervious surfaces and development of cumulative projects would not substantially increase the amount of impervious surfaces and runoff, such that existing storm drains would be overwhelmed because all development projects would be required to comply with the same SUSMP, LID, and RWQCB permit requirements to retain the difference between the volume pre- and post-construction runoff volume. In addition, implementation of the proposed program would include modification the existing levee along the San Gabriel River, construction of new flood risk management structures (e.g., earthen levees and berms, or flood walls), restoration the wetland floodplain, construction of new water-control structures that allow for increased tidal connections, and construction of new stormwater management features (e.g., bioswales). The drainage facilities would help to capture, retain, and utilize some surface water runoff, which would reduce the amount of surface runoff in the storm drains. Overall, with implementation of new BMPs and compliance with applicable regulatory requirements, the proposed program's contribution to cumulative impacts during construction and operation of the proposed program related to stormwater drainage capacity would be less than cumulatively considerable.

Electric Power

Cumulative electricity infrastructure impacts are considered on a system-wide basis and are associated with the capacity of existing and planned infrastructure. As previously discussed, while additional electrical infrastructure is needed for the proposed program, it would likely tie into existing off-site facilities surrounding the program boundary. Construction and operation of the proposed program is not anticipated to adversely affect the electrical infrastructure serving the surrounding uses or utility system capacity and would not result in the construction of new electric power facilities or expansion of existing facilities. Therefore, the proposed program would not have a cumulatively considerable contribution to potential significant cumulative impacts associated with electric power infrastructure.

Natural Gas

Cumulative natural gas infrastructure impacts are considered on a system-wide basis and are associated with the capacity of existing and planned infrastructure. As previously discussed, while additional natural gas infrastructure is needed for the proposed program, it would likely connect into existing off-site facilities surrounding the program boundary. Construction and operation of the proposed program is not anticipated to adversely affect the natural gas infrastructure serving the surrounding uses or utility system capacity and would not result in the construction of new natural gas facilities or expansion of existing facilities. Therefore, the proposed program would not have a cumulatively considerable contribution to potential significant cumulative impacts associated with natural gas infrastructure.

Telecommunication

Expansion of telecommunication infrastructure, including internet and telephone services, is typically at the discretion of the service providers and would occur as needed. It is expected that the telecommunication service providers would expand off-site telecommunications systems, if necessary, to meet demand increases within their service area. Projects may require the installation of new underground telecommunication lines to serve the project. Installation of new

telecommunications infrastructure for the cumulative projects are anticipated to be limited to on-site telecommunications distribution and minor off-site work associated with connections to the public system. Installation would be short term in duration and would cease to occur when installation is complete. Therefore, the proposed program would not have a cumulatively considerable contribution to potential significant cumulative impacts during construction and operation of the proposed program associated with telecommunication infrastructure.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

3.16.6.2 Water Supply

Cumulative water supply impacts are considered on a purveyor service area basis and are associated with the adequacy of the primary sources of water.

As previously discussed in Section 3.16.2, *Environmental Setting*, the City of Seal Beach, as provided in the City of Seal Beach's 2015 Urban Water Management Plan, and the LBWD, as provided in the LBWD's 2015 Urban Water Management Plan, expect water supplies would be sufficient to meet all demands through the year 2040 during normal, single dry year, and multiple dry year hydrologic conditions. Given the proposed program's minimal water usage and phasing during construction and minimal water usage and recycle water usage during operation, the proposed program is expected to have sufficient water supply available during construction and operation.

Every water purveyor provides projections for water supply and demand through 2040 that includes imported water and recycled water sources. By using SCAG growth projections, each water supply agency within the program area should adequately be able to monitor supplies and plan accordingly. As a result, cumulative development would result in less-than-significant cumulative impacts to water supply.

Because the proposed program as well as cumulative projects would result in less-than-significant impacts, the implementation of the proposed program would not result in cumulatively considerable impacts to water supply.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

3.16.6.3 Wastewater Treatment Capacity

Cumulative wastewater treatment capacity impacts are considered on a system-wide basis and are associated with the operation of the wastewater disposal at the OCSD, for the portion of the proposed program within the City of Seal Beach, and LACSD, for the portion of the proposed program within the City of Long Beach. As previously discussed, wastewater generated during construction of the proposed program would be minimal and would not require the construction of new wastewater treatment facilities. Cumulative developments within the urban and developed areas of the City of Seal Beach and City of Long Beach that are served by the OCSD and LACSD would consist of residential, commercial, redevelopment projects, and infrastructure project such as road repaving and other improvements. Similar to the proposed program, cumulative projects would similarly implement discharge requirements (WDRs) based on all applicable State and federal regulations, policies, and guidance. Therefore, the proposed program would continue to be served by existing sewer systems located within public streets and rights-of-way and the OCSD and LACSD treatment facilities, and these facilities would have adequate capacity to serve the proposed program, existing commitments, and cumulative projects. Thus, the proposed program would not have a cumulatively considerable contribution to potential significant cumulative impacts associated with wastewater treatment capacity.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

3.16.6.4 Landfill Capacity

The geographic scope of cumulative analysis for landfill capacity is the service area for the Olinda Alpha Landfill, Frank R. Bowerman Landfill, El Sobrante Landfill, Waste Management Simi Landfill, Azusa Land Reclamation, and Kettleman Landfill, which serve the program area. The projections of future landfill capacities are based on the projected waste stream going to these landfills. These five landfills are projected to remain open until about 2030 to up to 2053. The lifespan of these landfills includes the existing and projected solid waste that is anticipated from the growth in the County. As a result, impacts from future growth on landfill capacity would be less than cumulatively significant. Although the proposed program would contribute solid waste to the landfills, the increase would not substantially impact the permitted capacity of the landfills. Therefore, the increase in solid waste from operation of the proposed program in combination with planned growth within the County would not require construction of a new landfill or expansion of the existing landfill to meet capacity needs. As a result, the proposed program's contribution to cumulative impacts on the capacities of the landfill facilities would be less than cumulatively considerable.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

3.16.6.5 Solid Waste Regulations

The geographic scope of cumulative analysis for compliance related to solid waste regulations is the service area for the landfills that serve the Los Angeles County and Orange County region. Disposal of solid waste generated by cumulative development would be subject to the requirements set forth in AB 939, AB 341, and the policies within the Los Angeles County Integrated Waste Management Plan and Orange County Construction and Demolition (C&D) Debris Reuse and Recycling Program. Therefore, cumulative development would comply with all solid waste statutes and regulations, and cumulative development would result in no impacts.

Because disposal of solid waste generated by the proposed program would comply with all solid waste statutes and regulations, the proposed program would not contribute impacts related to conflicts with solid waste regulations. Therefore, the proposed program would not contribute to cumulative impacts associated with compliance with solid waste statutes and regulations.

Mitigation Measure

No mitigation is required.

Significance after Mitigation

Less than Significant

3.16.7 References

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CHAPTER 4
Other CEQA Considerations

4.1 Introduction

Consistent with *CEQA Guidelines* Section 15126.2, this section summarizes the significant and unavoidable environmental impacts, growth-inducing impacts, and significant irreversible environmental changes associated with development of the proposed program. Cumulative impacts are separately discussed in Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*.

4.2 Significant and Unavoidable Impacts

CEQA Guidelines Section 15126.2(b) requires that an EIR describe any significant environmental impacts that cannot be avoided, including those effects that can be mitigated, but not reduced to a less-than-significant level. As evaluated in Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*, and summarized below, implementation of the proposed program would result in a significant and unavoidable impact related to air quality, cultural resources, and tribal cultural resources.

4.2.1 Air Quality

As discussed in Section 3.2, *Air Quality*, if all subphases of construction associated with the near-term phase were to occur concurrently (which was conservatively analyzed in the earliest possible year), maximum daily emissions from construction activities would exceed the SCAQMD regional threshold for NO_X. With implementation of mitigation measures, regional impacts would be mitigated to a less than significant level. However, as discussed in Section 3.2, *Air Quality*, of this PEIR, localized impacts to sensitive receptors at the program-level would be considered potentially significant even after incorporation of mitigation. Therefore, localized impacts from program construction pertaining to NO_X emissions would be significant and unavoidable (Impact AQ-3), if all subphases of construction associated with the near-term phase were to occur concurrently (which was conservatively analyzed in the earliest possible year). In addition, as the proposed program would have a localized impact from NO_X emissions, the proposed program would also conflict with Criterion 1 for determining the proposed program's consistency with the AQMP (Impact AQ-1 and Impact AQ-3).

4.2.2 Cultural Resources

As discussed in Section 3.4, *Cultural Resources*, there are ~~22~~ 23 potential historical resources within or immediately adjacent to the program area, including ~~14~~ 15 archaeological resources and 8 historical architectural resources. In addition, the Los Cerritos Wetlands is part of a potential

tribal cultural landscape identified by some tribal representatives during consultation with the CCC. Furthermore, given that the entire program area was not systematically surveyed as part of this assessment, there could be additional as-yet unidentified archaeological and historical architectural resources within the program area. As such, the proposed program would implement Mitigation Measure CUL-1 through CUL-~~16~~ 17 to reduce impacts to historical resources by requiring qualified cultural resources personnel to conduct future project-specific studies; development of appropriate treatment for significant resources; and archaeological and Native American monitoring of ground disturbance (see Section 3.4, *Cultural Resources*, of this PEIR). However, even with implementation of these mitigation measures, impacts to historical resources and archaeological resources would be significant and unavoidable at the program level during construction of the proposed program (Impact CUL-1 and Impact CUL-2). Once specific projects are designed, additional cultural resources studies would be completed as necessary and impacts resulting from specific projects would be considered. It is possible that project-level impacts to historical and archaeological resources may be mitigated to a less than significant level. Project-level impacts would be analyzed as part of future CEQA analysis.

4.2.3 Tribal Cultural Resources

As described in Section 3.15, *Tribal Cultural Resources*, no tribal cultural resources were identified in the program area by Public Resources Code Section 21074 as either a site, feature, place, cultural landscape, or object with cultural value. However, the program area was identified as a potential tribal cultural landscape by some tribal representatives during consultation with the CCC that occurred in connection with the Los Cerritos Wetlands Oil Consolidation and Restoration Project. Implementation of Mitigation Measures CUL-1 and CUL-4 through CUL-~~15~~ 17 would lessen the impact to archaeological resources that contribute to the significance of the tribal cultural landscape. Even with implementation of these measures, the destruction or material alteration of an archaeological resource that contributes to the landscape's significance would constitute a substantial adverse change since it would no longer be present on the landscape. Since avoidance and preservation in place of such resources cannot be guaranteed, impacts to Native American or prehistoric archaeological resources that convey the significance of the tribal cultural landscape are considered significant and unavoidable at the program level (Impact TRI-1 and Impact TRI-2). Once specific projects are designed, additional tribal consultation would be conducted as necessary and impacts resulting from specific projects would be considered. It is possible that project-level impacts to Native American or prehistoric archaeological resources that convey the significance of the tribal cultural landscape may be mitigated to a less than significant level. Project-level impacts would be analyzed as part of future CEQA analysis.

4.3 Growth-Inducing Impacts

CEQA Guidelines Section 15126(d) requires that an EIR include a discussion of whether a project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Projects that remove obstacles to population growth (for example, a major expansion of a wastewater treatment plant that may allow for more construction in its service area, or a new freeway that may allow growth at freeway exits) and/or cause an influx of workers from outside the region are also considered

growth inducing. *CEQA Guidelines* Section 15126.2(d) also requires a discussion of the characteristics of projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. Finally, the *CEQA Guidelines* also state that it must not be assumed that growth in an area is necessarily beneficial, detrimental, or of little significance to the environment (Section 15126(d)).

As described in Chapter 2, *Project Description*, the proposed program would restore wetland, transition, and upland habitats throughout the program area. This would involve remediation of contaminated soil and groundwater, grading, revegetation, construction of new public access opportunities (including trails, visitor centers, parking lots, and viewpoints), construction of flood management facilities (including earthen levees and berms, and walls), and modification of existing infrastructure and utilities. Operation of the proposed program would include vegetation maintenance, irrigation, and weeding; trash removal, as needed; inspection of perimeter levees and berms; monitoring, condition assessment, and maintenance of flood walls; operation and maintenance of existing culverts; and maintenance of bioswales.

As discussed in more detail in the Initial Study, provided in Appendix A of this Draft PEIR, the proposed program would not result in the construction of any residential uses (or any other types of uses) that could directly induce population growth in the City of Seal Beach, City of Long Beach, or the surrounding vicinity.

The proposed program would provide temporary new employment to the area during the construction activities for remediation of contaminated soil and groundwater, extensive grading, revegetation, construction of new public access opportunities (including trails, visitor centers, parking lots, and viewpoints), construction of flood management facilities (including earthen levees and berms, and walls), and modification of existing infrastructure and utilities. Construction jobs are anticipated to be filled by residents in the local area or by commuters within the larger Los Angeles Metropolitan Area.

Employment opportunities during operation of the proposed program would be mainly maintenance workers and operation of the visitors' centers and volunteers; these are not anticipated to directly increase the population or housing in the area, as positions are anticipated to be filled by local residents or regional commuters. No expansion of municipal infrastructure or public services would be required to accommodate the proposed program.

Indirect growth from extension of roads and infrastructure would not be anticipated, as the proposed program would not add any new roadways and would be served by existing infrastructure with minor proposed upgrades and connections to accommodate the proposed program.

Based on the above, construction and operation of the proposed program would not induce substantial population growth, and impacts would be less than significant.

4.4 Significant Irreversible Environmental Changes

CEQA Guidelines Sections 15126(c) and 15126.2(c) require that an EIR address any significant irreversible environmental changes that would occur should the proposed program be implemented. Resources irreversibly or irretrievably committed to a proposed action are those used on a long-term or permanent basis. This includes the use of non-renewable resources such as metal, certain types of wood, fossil fuels, aggregate, and other non-renewable natural resources. These resources are considered irretrievable in that they would be used for a proposed action when they could have been conserved or used for other purposes. Another irreversible or irretrievable commitment of resources is the unavoidable destruction of natural resources that could limit the range of potential uses of that particular environment.

The proposed program would require the consumption of non-renewable resources during the construction phase. Program development would include the following commitment of resources: fossil fuels, building materials, fuel and operational materials/resources, and transportation of goods and people to the program site. Several non-renewable resources, or renewable resources may renew so slowly as to be considered non-renewable, would be required during program construction; aggregate materials contained in concrete and asphalt including sand, gravel and stone; metals such as steel, cooper, and lead; and petrochemical construction materials such as plastics. Additionally, non-renewable fossil fuels such as gasoline and oil would also be consumed in the use of construction vehicles and equipment, as well as the transportation of goods and people to and from the program area.

Because the proposed program would result in a small addition of permanent workers as discussed above, program operation would increase the amount of nonrenewable resources that are currently consumed within the City of Seal Beach and City of Long Beach. These resources would include fossil fuels, such as natural gas and petroleum, energy use for visitors and employees, and petroleum-based fuel for vehicle trips to and from the site. Fossil fuels would be considered the primary energy source associated with both construction and ongoing operation of the proposed program, and the existing, finite supplies of these natural resources would be incrementally reduced.

As discussed in Section 3.6, *Greenhouse Gas Emissions and Energy*, of this Draft PEIR, the proposed program would utilize construction contractors that would be in compliance with regulations including the USEPA Heavy Duty Vehicle Greenhouse Gas Regulation and the CARB ACTM that limits heavy-duty diesel motor vehicle idling. While the goal of these measures is primarily to reduce public health impacts from diesel emissions, compliance with the regulation also results in energy savings in the form of reduced fuel consumption from unnecessary idling.

With regard to operation of the proposed program, the amount of energy used from transportation-related energy associated with vehicles traveling to and from the program area would not represent a substantial fraction of the available energy supply in terms of transportation fuels. The program area is surrounded by urban developed uses such that visitors to the program area would not need to travel long distances thus minimizing vehicle miles travelled. In addition,

while the proposed program is not a transportation project or a residential, commercial, or mixed-use project that would generate substantial numbers of vehicle trips, the program would provide improved public access to the wetlands both on foot and by bicycle within a populated urban area in the City of Seal Beach and City of Long Beach that would be accessible to local area residents, employees, and visitors. These recreational opportunities for City of Seal Beach and City of Long Beach residents, employees, and visitors would reduce transportation-related fuel demand by providing nearby recreational amenities, including visitor centers and trails. Furthermore, continued use of non-renewable resources during proposed program construction and operation on a relatively small scale would be consistent with regional and local growth forecasts in the area, as well as state and local goals for reductions in the consumption of such resources.

4.5 Effects Not Found to Be Significant

Section 15128 of the *CEQA Guidelines* states that an EIR shall contain a brief statement indicating reasons that various possible significant effects of a project were determined not to be significant and not discussed in detail in the Draft EIR. Pursuant to Section 1512, such a statement may be contained in an attached copy of an Initial Study. An Initial Study was prepared for the proposed program and is included in Appendix A of this PEIR. The Initial Study provides a detailed discussion of the potential environmental impact areas and the reasons that each topical area is or is not analyzed further in the PEIR. The Initial Study determined that the proposed program would result in less than significant or no impacts related to agricultural resources; conflicting with provisions of an adopted local, regional, or state habitat conservation plan; rupture of a known earthquake; strong seismic ground shaking; seismic-related ground failure; landslides; unstable unit; soils incapable of adequately supporting the use of septic tanks; airstrips or airport proximity; an adopted emergency response plan or emergency evacuation plan; physically dividing and established community; population and housing; schools; other public facilities; substantial physical deterioration of recreational facilities; and, emergency access. For further discussion of these issues and more-detailed evaluation of potential impacts, refer to the Initial Study, provided in Appendix A of this PEIR.

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CHAPTER 5
Alternatives

5.1 CEQA Requirements

The identification and analysis of alternatives to a project is a fundamental aspect of the environmental review process under the California Environmental Quality Act (CEQA). The Public Resources Code (PRC) Section 21002 establishes the need to address feasible alternatives in an EIR. The *CEQA Guidelines* provides direction regarding the consideration and discussion of project alternatives in an EIR in Section 15126.6 as follows:

> *An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible.*

The *CEQA Guidelines* emphasize that the selection of project alternatives be based primarily on the ability to avoid or substantially lessen significant impacts relative to a project, "even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly." The *CEQA Guidelines* further directs that the range of alternatives be guided by a "rule of reason," such that only those alternatives necessary to permit a reasoned choice are addressed. In selecting project alternatives for analysis, potential alternatives must be feasible. *CEQA Guidelines* Section 15126.6(f)(1) states that:

> *Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries … and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site.*

Beyond these factors, *CEQA Guidelines* Section 15126.6(e) requires the analysis of a "no project" alternative. Based on the alternatives analysis, an environmentally superior alternative is to be identified. If the environmentally superior alternative is the No Project (No Build) Alternative, then the EIR is required to identify an environmentally superior alternative among the other alternatives.

5.2 Proposed Program Alternatives Background

5.2.1 Final Conceptual Restoration Plan (CRP)

The Los Cerritos Wetlands Final Conceptual Restoration Plan (CRP) (Moffatt & Nichol, 2015) developed three restoration design alternatives for habitat enhancement and improved public access for the Los Cerritos Wetlands Complex. The alternatives (minimum alteration, moderate alteration, and maximum alteration) include varying degrees of alterations to existing site conditions under a range of sea-level rise scenarios.

5.2.1.1 CRP Alternatives

Alternative 1 (Minimum Alteration)

The vision for Final Alternative 1 was to enhance habitat diversity through the preservation of existing wetlands habitats and the conversion of upland and unvegetated areas to wetlands and wetlands-associated habitats (**Figure 5-1**, *CRP Alternative 1 – Minimum Alteration*). Existing ground elevations would be utilized as much as possible to maintain existing wetlands habitats and expand coastal salt marsh habitat. Tidal exchange would be improved, but this would be done through the enhancement of existing channels/pipes and the addition of small channels and pipes where needed to provide hydraulic connectivity. For the most part, oil infrastructure would be maintained throughout the site with restoration work planned around the existing infrastructure. From a temporal standpoint, this alternative would seek to provide a wide range of wetland and associated upland habitats in the near-term with a decreased range of habitats remaining in the future based on current projections of sea-level rise. Transitional and upland habitats would be provided along the perimeters. Potential interpretive sites would be provided on the parcel at the northeast corner of Westminster Avenue and Studebaker Road and/or the State Lands Commission parcel (Moffatt & Nichol, 2015).

Alternative 2 (Moderate Alteration)

The vision for Final Alternative 2 would be to enhance habitat diversity through the preservation of existing wetlands habitats and the conversion of upland and unvegetated areas to wetlands and wetlands-associated habitats (**Figure 5-2**, *CRP Alternative 2 – Moderate Alteration*). Existing ground elevations would be utilized to maintain a large amount of the existing wetlands habitats and to expand coastal salt marsh habitat, but moderate levels of earthwork would also be conducted to expand coastal salt marsh under current sea levels. Tidal exchange would be improved primarily through the construction of small to moderate subtidal channels. The oil infrastructure would be consolidated throughout the site to allow more extensive areal restoration of coastal salt marsh. From a temporal standpoint, this alternative would seek to provide a limited range of wetland (coastal salt marsh) and associated upland habitats in the near-term with a decreased range of wetlands habitats (converting to low intertidal, mudflat, and subtidal) remaining in the future based on current projections of sea-level rise. Transitional and upland habitats would be provided along the perimeters. Potential interpretive sites would be provided on the parcel at the northeast corner of Westminster Avenue and Studebaker Road and/or the State Lands Commission parcels (Moffatt & Nichol, 2015).

Figure 5-1 CRP Alternative 1 – Minimum Alteration

Figure 5-2 CRP Alternative 2 – Moderate Alteration

Alternative 3 (Maximum Alteration)

The vision for Final Alternative 3 would be to enhance wetland habitat diversity through widespread conversion to coastal salt marsh habitat under current sea levels, thereby replicating the historical mix of wetland habitats found on the site in the late 1800s (**Figure 5-3**, *CRP Alternative 3 – Maximum Alteration*). Extensive grading would be conducted to maximize the areal coverage of coastal salt marsh habitats. Tidal exchange would be improved through the construction of moderate to large subtidal channels. The oil infrastructure would be consolidated throughout the site and flood protection would be maintained at existing levels throughout the site. From a temporal standpoint, this alternative would seek to provide a limited range of wetland (coastal salt marsh) and associated upland habitats in the near-term with a decreased range of habitats (conversion of high and mid marsh habitats to low marsh, mudflat, and subtidal habitats) remaining in the future based on current projections of sea-level rise. Transitional and upland habitats would be provided along some of the perimeter areas. A potential interpretive site would be provided on the parcel at the northeast corner of Westminster Avenue and Studebaker Road (Moffatt & Nichol, 2015).

5.2.1.2 Restoration Planning Process

The CRP was adopted by the LCWA Board of Directors in August 2015. The report was prepared with input by the LCWA Steering Committee (made up of staff representing agencies of the LCWA joint powers authority), a Technical Advisory Committee (representatives of 20 resource and permitting agencies, and research groups covering federal, state, regional, and local jurisdictions), and the public (based on input during 6 community workshops). The plan is supported by 8 technical reports that provide baseline information for numerous topics including hydrology and hydraulics, soils, watersheds, and habitat. The CRP identified the next step in the restoration design process:

> *Further concept development of a hybrid alternative may occur at some point in the future to maximize benefits and minimize impacts of restoration. This work may include "mixing" and "matching" certain footprints of particular alternatives with those of different alternatives to create more alternatives that may provide more overall benefit than any of these individual concepts (pg 7).*

As a result, the following alternatives were developed as hybrids of the CRP alternatives.

5.2.2 Los Cerritos Wetlands Optimized Restoration Plan

In 2017, LCWA received funding to further the design of the alternatives identified in the CRP (Section 5.2.1) with the development of an optimized restoration design, to prepare a PEIR, and to prepare a Los Cerritos Wetlands Optimized Restoration Plan (expected to be completed in 2020). The optimized restoration design process involved input from the LCWA Steering Committee (made up of staff representing agencies of the LCWA joint powers authority), a Technical Advisory Committee (representatives of 20 resource and permitting agencies, and research groups covering federal, state, regional, and local jurisdictions), and the public (based on input during 2 additional community workshops, beyond the 6 workshops conducted as part of the CRP).

Figure 5-3 CRP Alternative 3 – Maximum Alteration

5.2.2.1 Alternatives Developed for the South Area

The following sections describe the alternatives for the South Area that were discussed and either carried forward or not carried forward.

Full Tidal Connection from the Haynes Cooling Channel to the South Area

This alternative would remove the flap gate on the existing culvert that connects the San Gabriel River to the Southern Area to increase the tidal influence in the near-term. Focused marsh and transitional wetland grading would occur to lower the site to wetland elevations transitioning up to upland elevations along the southern and eastern borders of the South Area. Existing tidal salt marsh habitat would be avoided as much as possible. A new earthen berm or flood wall (with a height approximately 4 feet above the marshplain) would be constructed along the Hellman Retained site boundary on the South LCWA site to protect the Hellman Retained site from flooding. In the mid-term, the South LCWA site would be connected to the Haynes Cooling Channel, in addition to the existing culvert to the San Gabriel River, to increase the tide range at the site (Figure 2-13 in Chapter 2, *Project Description*). ***This alternative was chosen as part of the proposed program and is further described in Chapter 2, Project Description.***

Full Tidal Connection from the San Gabriel River to the South Area through an Open Channel

This alternative would excavate an open channel around the west end of the Haynes Cooling Channel to connect the San Gabriel River with the South Area. The existing San Gabriel River levee would be breached to allow for full tidal influence in the South Area. New flood management features would be constructed in the South Area to maintain or reduce the current level of flood risk. Major levees (with a height at least 13 feet above the marshplain) would be constructed around the entire perimeter of the South Area and along the channel from the San Gabriel River to the South Area. ***Section 5.4 discusses the reasons this alternative was not carried forward.***

Full Tidal Connection from the San Gabriel River through the Haynes Cooling Channel to the South Area

This alternative would excavate an open channel through the Isthmus Area to the Haynes Cooling Channel to connect the San Gabriel River with the South Area. The existing San Gabriel River levee would be breached to allow for full tidal influence in the Haynes Cooling Channel and in the South Area. New flood management features (e.g., major levees with a height at least 13 feet above the marshplain) would be constructed along the full distance of the Haynes Cooling Channel and the entire perimeter of the South Area to maintain or reduce the current level of flood risk. ***Section 5.4 discusses the reasons this alternative was not carried forward.***

Expanded Culvert Connection from the San Gabriel River to the South Area

This alternative would install an expanded culvert system (additional and/or larger culverts) along the existing culvert to increase the tidal connection from the San Gabriel River to the Southern Area. Focused marsh and transitional wetland grading would occur to lower the site to wetland elevations transitioning up to upland elevations along the southern and eastern borders of the South Area. Existing tidal salt marsh habitat would be avoided as much as possible. A new

earthen berm or flood wall (with a height approximately 4 feet above the marshplain) would be constructed along the Hellman Retained site property boundary on the South LCWA site to protect the Hellman Retained site from flooding. ***Section 5.4 discusses the reasons this alternative was not carried forward.***

5.2.2.2 Alternatives Developed for the Isthmus Area

The following sections describe the alternatives for the Isthmus Area that were discussed and either rejected or carried forward.

Muted Tidal Connection from the Isthmus Area to the San Gabriel River through Existing Culverts

This alternative would enhance existing wetland habitat at the Zedler and Callaway Marsh sites (Figure 2-18 in Chapter 2, *Project Description*). The existing culverts connecting the San Gabriel River to the Zedler and Callaway Marsh sites would be maintained and the flap gate on the culvert to Callaway Marsh would be removed. ***This alternative was chosen as part of the proposed program and is further described in Chapter 2, Project Description.***

5.2.2.3 Alternatives Developed for the Central Area

The following sections describe the alternatives for the Central Area that were discussed and either rejected or carried forward.

Full Breach from the San Gabriel River to the Central Area

This alternative would breach the existing San Gabriel River levee to allow full tidal influence in the Central Area (Figure 2-21 in Chapter 2, *Project Description*). Focused marsh and transitional wetland grading would occur to lower the site to wetland elevations transitioning up to upland elevations along the northern and western borders of the Central Area. A new earthen levee (approximately 18 feet above the marshplain elevation) would be constructed along 2nd Street and Shopkeeper Road and would tie into the existing levee. The existing wells on the Central LCWA site would be raised to approximately 13 feet above the marshplain elevation to maintain the existing level of flood protection. ***This alternative was chosen as part of the proposed program and is further described in Chapter 2, Project Description.***

Flood Wall Flood Protection in the Central Area

This alternative would either breach the existing San Gabriel River levee or add a set of culverts to allow full or muted tidal influence in the Central Area. Focused marsh and transitional wetland grading would occur to lower the site to wetland elevations transitioning up to upland elevations along the northern and western borders of the Central Area. This alternative would construct flood walls (approximately 18 feet above the marshplain elevation for the full breach) around the perimeter of the Central Area, rather than build levees (**Figure 5-4**, *Proposed Central Area Long-Term Restoration, Flood Walls Option*). ***Section 5.4 discusses the reasons this alternative was not carried forward.***

Figure 5-4 Proposed Central Area Long-Term Restoration, Flood Walls Option

Culvert Connection from the San Gabriel River to the Central Area

This alternative would involve installing culverts within the northern San Gabriel River levee to connect the river to the Central Area. The goal of using culverts, rather than a full breach connection, would be to potentially reduce the height of the flood protection levees and the levee footprints, in order to reduce impacts to existing wetlands on site. Focused marsh and transitional wetland grading would occur to lower the site to wetland elevations transitioning up to upland elevations along the northern and western borders of the Central Area. A new earthen levee would be constructed along 2nd Street and Shopkeeper Road and would tie into the existing levee. The existing wells on the Central LCWA site would be raised as high as 13 feet above the marshplain elevation to maintain the existing level of flood protection. Multiple options for culvert sizing and levee elevations and footprints are considered under this alternative and discussed below:

Muted Tidal Connection

This option would size culverts to allow some tidal flow into the Central Area, but restrict high water levels from the San Gabriel River. The tides would be muted, but so would the riverine flood levels. The culverts in this option would be the smallest of the three options. Levees would be constructed around the perimeter of the Central Area and around the existing wells on the Central LCWA site, but the levee crest elevation and levee footprint would be reduced, because the riverine flood levels in the site would be reduced. However, the marsh vegetation would experience a reduced tide range, which would limit the potential function of the marsh. ***This alternative is further described in Section 5.5.2.***

Managed Culvert Connection

This option would size culverts to allow a full tide range into the Central Area, but restrict high water levels from the San Gabriel River using tide gates. The culverts in this option would be larger than the culverts in the muted tidal connection option. Levees would be constructed around the perimeter of the Central Area and around the existing wells on the Central LCWA site, but the levee crest elevation and levee footprint would be reduced, because the riverine flood levels in the site would be reduced. This alternative would involve increased management to maintain the tide gates. ***Section 5.4 discusses the reasons this alternative was not carried forward.***

Full Tide Range Culvert Connection

This option would size culverts to allow a full tide range into the Central Area, but restrict high water levels from the San Gabriel River. The culverts in this option would be larger than the culverts in the muted tidal connection option. Levees would be constructed around the perimeter of the Central Area and around the existing wells on the Central LCWA site. The levee crest elevation and levee footprint would likely need to be the same size as proposed in the program to maintain the current level of flood protection. ***Section 5.4 discusses the reasons this alternative was not carried forward.***

Tidal Connection from Steamshovel Slough to the Central Area

This alternative would connect Steamshovel Slough to the Central Area ~~through~~ via a channel that would ~~go through the~~be constructed from the North Area and extend under 2nd Street~~, either~~ through a culvert system, by raising the road with a bridge, or by raising the road in a manner that

provides a tidal connection, flood control, and protection from sea-level rise. Focused marsh and transitional wetland grading would occur to lower the Central Area~~site~~ to wetland elevations transitioning up to upland elevations along the northern and western borders of the Central Area. A new earthen levee would be constructed along 2nd Street and Shopkeeper Road, but the levee crest elevation and levee footprint would be reduced compared to the proposed program. The existing wells on the Central LCWA site would be raised or protected with a wall or berm to maintain the existing level of flood protection, but to a lower elevation than in the proposed program~~.~~ Construction on the Central Area would be done in the long-term ~~once~~ after the Los Cerritos Wetlands Oil Consolidation and Restoration project restores the Northern Synergy Oil Field and ~~-~~removes the oil infrastructure and remediates on the Southern Synergy Oil Field ~~-~~and the Long Beach City Property sites. Furthermore, a tidal connection will need to be created from the Northen Synergy Oil Field Site to 2nd Street. ~~. connectCity and the portion of the Pumpkin Patch within the Central Area. Restoration for the Central LCWA and Central Bryant sites would progress in the near-term, through a connection to the San Gabriel Riverdividing the Central LCWA site from the Long Beach City Property Site as proposed under the program instead . This would require acrest elevation levee~~ ***Section 5.4 discusses the reasons this alternative was not carried forward.***

Tidal Connection from Steamshovel Slough to the Long Beach City Property

This alternative would connect Steamshovel Slough to the Long Beach City Property and the portion of the Pumpkin Patch site within the Central Area through a channel that would be constructed from the North Area and extend under 2nd Street. This connection could be through a culvert system, by raising the road with a bridge, or by raising the road in a manner that provides a tidal connection, flood control, and protection from sea-level rise. Restoration for the Central LCWA and Central Bryant sites would progress in the near-term as proposed in the program, through a connection to the San Gabriel River. Focused marsh and transitional wetland grading would occur to lower the Long Beach City Property to wetland elevations transitioning up to upland elevations along the northern and western borders of the Central Area. A new earthen levee would be constructed along 2nd Street and Shopkeeper Road, but the levee crest elevation and levee footprint would be reduced compared to the proposed program. The Interim Levee dividing the Central LCWA site from the Long Beach City Property site as proposed under the program would instead be built to be permanent and therefore would need to be designed for great protection for sea level rise. This would require a higher crest elevation and larger levee footprint than under the proposed program. The Interim Levee would hydrologically separate the Long Beach Property site from the Central Bryant and Central LCWA sites. Construction on the Long Beach City Property would be done in the long-term once the Los Cerritos Wetlands Oil Consolidation and Restoration project removes the oil infrastructure on the Southern Synergy Oil Field and the Long Beach City Property sites. ***Section 5.4 discusses the reasons this alternative was not carried forward.***

Managed Artificial Flooding in the Central Area

This alternative would involve installing a permanent pump system to pump water from the San Gabriel River, over the levee, and into the Central Area. Minimal grading would occur to improve habitat connectivity. A new earthen berm would be constructed along 2nd Street and Shopkeeper

Road and would tie into the existing levee. The existing wells on the Central LCWA site would be raised to maintain the existing level of flood protection. ***Section 5.4 discusses the reasons this alternative was not carried forward.***

5.2.2.4 Alternatives Developed for the North Area

Alternatives for the North Area were not developed as part of the program, since a project-level EIR was already prepared for the North Area as part of the Los Cerritos Wetlands Oil Consolidation and Restoration Project (and alternatives were developed and evaluated as part of that project). The Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse Number 2016041083) contains more detail and quantitative analysis of the North Area. The following project characteristics were carried forward as part of the Los Cerritos Wetlands Oil Consolidation and Restoration Project (see also Chapter 2). The alternative would involve removing the existing oil operations and associated facilities and implementing a wetlands habitat restoration project on the Northern and Southern Synergy Oil Field sites. In the near-term, this would include remediating any contaminated areas, constructing a new sheet pile and earthen berm barrier along the southern limits of the Northern Synergy Oil Field site, excavating tidal channels, and removing the existing berm and roads that separate Steamshovel Slough form the non-tidal portions of the Northern Synergy Oil Field site. The first phase of the project would also include work on the Southern Synergy Oil Field site, including relocating the existing office building on-site to house the Long Beach Visitor Center, and construction of a parking lot, trail, overlook, sidewalk enhancements, and bikeway improvements.

In the long-term, all remaining wells would be removed and the Southern Synergy Oil Field site would be restored to tidal salt marsh by breaching or lowering the earthen berm and removing the sheet pile wall.

5.3 Criteria for Selecting Alternatives

Each alternative was evaluated for its ability to attain most of the proposed program's objectives, its ability to reduce and/or eliminate significant impacts associated with the proposed program, and its feasibility. These criteria are described below.

5.3.1 Ability to Achieve Proposed Program Objectives

As described above, *CEQA Guidelines* Section 15126.6(f) states: "The range of alternatives required in an EIR is governed by a 'rule of reason' … [O]f those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project." For purposes of the alternative analysis, each alternative assessed in this EIR was evaluated to determine the extent to which it could attain the basic objectives set forth by the program applicant for the proposed program. As described in Chapter 2, *Project Description*, under Section 2.5, *Los Cerritos Wetlands and Restoration Program Goals*, the following goals and objectives have been established for the proposed program and serve as a basis for developing a reasonable range of alternatives to evaluate in the EIR. The goals and

objectives of the proposed program presented below are identical to the goals and objectives identified in the CRP.

1) Restore tidal wetland processes and functions to the maximum extent possible.
    a) Increase estuarine habitat with a mix of tidal channels, mudflat, salt marsh, and brackish/ freshwater marsh and ponds.
    b) Provide adequate area for wetland-upland ecotone and upland habitat to support wetlands.
    c) Restore and maintain habitat that supports important life history phases for species of special concern (e.g., federal and state listed species), essential fish habitat, and migratory birds as appropriate.
2) Maximize contiguous habitat areas and maximize the buffer between habitat and sources of human disturbance.
    a) Maximize wildlife corridors within the LCW Complex and between the LCW Complex and adjacent natural areas within the region.
    b) Incorporate native upland vegetation buffers between habitat areas and human development to mitigate urban impacts (e.g., noise, light, unauthorized human encroachment, domestic animals, wastewater runoff) and reduce invasion by non-native organisms.
    c) Design the edges of the LCW Complex to be respectful and compatible with current neighboring land uses.
    d) Create a public access and interpretive program that is practical, protective of sensitive habitat and ongoing oil operations, economically feasible, and will ensure a memorable visitor experience.
    e) Build upon existing beneficial uses.
    f) Minimize public impacts on habitat/wildlife use of the LCW Complex.
    g) Design interpretive concepts that promote environmental stewardship and the connection between the wetlands and the surrounding community.
    h) Solicit and address feedback from members of the surrounding community and other interested parties.
3) Incorporate phasing of implementation to accommodate existing and future potential changes in land ownership and usage, and as funding becomes available.
    a) Include projects that can be implemented as industrial operations are phased out and other properties are acquired over the near-, mid- and long-term (next 10 years, 10-20 years, and 20+ years).
    b) Investigate opportunities to restore levels of tidal influence that are compatible with current oil leases and neighboring private land holdings.
    c) Remove/realign/consolidate existing infrastructure (roads, pipelines, etc.) and accommodate future potential changes in infrastructure to the maximum extent feasible.
4) Strive for long-term restoration success.
    a) Implement an adaptive management framework that is sustainable.
    b) Restore habitats in appropriate areas to minimize the need for long-term maintenance activities that are extensive and disruptive to wildlife.

c) Design habitats that will accommodate climate changes, e.g., incorporate topographic and habitat diversity and natural buffers and transition zones to accommodate migration of wetlands with rising sea levels.

d) Provide economic benefit to the region.

5) Integrate experimental actions and research into the project, where appropriate, to inform restoration and management actions for this project.

a) Include opportunities for potential experiments and pilot projects to address gaps in information (e.g., effect of warm river water on salt marsh ecosystem) that are protective of sensitive habitat and wildlife and that can be used to adaptively manage the restoration project.

b) Include areas on the site, where appropriate, that prioritize research opportunities (such as those for adaptive management) over habitat sensitivities.

5.3.2 Elimination/Reduction of Significant and Unavoidable Impacts

As described above, *CEQA Guidelines* Section 15126.6(b) states that "[B]ecause an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (PRC Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly." Therefore, the alternatives evaluated in this EIR have been selected because they are anticipated to reduce and/or eliminate one or more significant impacts associated with the proposed program. Potentially significant environmental impacts that would result from the proposed program are evaluated in Sections 3.1 through 3.16 in Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*, and Chapter 4, *Other CEQA Considerations*. With implementation of the mitigation measures identified for each issue, many of the potentially significant impacts resulting from the proposed program would be reduced to a level considered less than significant. The proposed program impacts listed below would remain significant and unavoidable even after implementation of feasible mitigation measures.

5.3.2.1 Air Quality

If all subphases of construction associated with the near-term phase were to occur concurrently (which was conservatively analyzed in the earliest possible year), maximum daily emissions from construction activities would exceed the SCAQMD regional threshold for NO_X. With implementation of mitigation measures, regional impacts would be mitigated to a less than significant level. However, as discussed in Section 3.2, Air Quality, of this PEIR, localized impacts to sensitive receptors at the program-level would be considered potentially significant even after incorporation of mitigation. Therefore, localized impacts from program construction pertaining to NO_X emissions would be significant and unavoidable (Impact AQ-3), if all subphases of construction associated with the near-term phase were to occur concurrently (which was conservatively analyzed in the earliest possible year). In addition, as the proposed program would have a localized impact from NO_X emissions, the proposed program would also conflict with Criterion 1 for determining the proposed program's consistency with the AQMP (Impact AQ-1 and Impact AQ-3).

5.3.2.2 Cultural Resources

As described in Section 3.4, *Cultural Resources*, there are 22 potential historical resources within or immediately adjacent to the program area, including 14 archaeological resources and 8 historical architectural resources. In addition, the Los Cerritos Wetlands is part of a potential tribal cultural landscape identified by some tribal representatives during consultation with the CCC. Furthermore, given that the entire program area was not systematically surveyed as part of this assessment, there could be additional as-yet unidentified archaeological and historical architectural resources within the program area. As such, the proposed program would implement Mitigation Measure CUL-1 through CUL-16 to reduce impacts to historical resources by requiring qualified cultural resources personnel to conduct future project-specific studies; development of appropriate treatment for significant resources; and archaeological and Native American monitoring of ground disturbance (see Section 3.4, *Cultural Resources*, of this PEIR). The proposed program also includes several mitigation measures (see Mitigation Measures BIO-1 through BIO-11 in Section 3.3, *Biological Resources*, of this PEIR) that would lessen potential construction-related impacts to plants and animals that are considered part of the tribal cultural landscape. However, even with implementation of these mitigation measures, impacts to historical resources and archaeological resources would be significant and unavoidable at the program level during construction of the proposed program (Impact CUL-1 and Impact CUL-2).

5.3.2.3 Tribal Cultural Resources

As described in Section 3.15, *Tribal Cultural Resources*, no tribal cultural resources were identified in the program area by Public Resources Code section 21074 as either a site, feature, place, cultural landscape, or object with cultural value. However, the program area was identified as a potential tribal cultural landscape by some tribal representatives during consultation with the CCC that occurred in connection with the Los Cerritos Wetlands Oil Consolidation and Restoration Project. Implementation of Mitigation Measures CUL-1 and CUL-4 through CUL-15 would lessen the impact to archaeological resources that contribute to the significance of the tribal cultural landscape. The proposed program also includes several mitigation measures (see Mitigation Measures BIO-1 through BIO-11 in Section 3.3, *Biological Resources*, of this PEIR) that would lessen potential construction-related impacts to plants and animals that are considered part of the tribal cultural landscape. Even with implementation of these measures, the destruction or material alteration of an archaeological resource that contributes to the landscape's significance would constitute a substantial adverse change since it would no longer be present on the landscape. Since avoidance and preservation in place of such resources cannot be guaranteed, impacts to Native American or prehistoric archaeological resources that convey the significance of the tribal cultural landscape are considered significant and unavoidable at the program level.

5.3.3 Feasibility

CEQA Guidelines Section 15126.6(f)(1) (14 California Code of Regulations) states the following: "Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally-significant impact should consider the regional context), and whether the proponent can reasonably acquire,

control, or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553; see *Save Our Residential Environment v. City of West Hollywood* (1992) 9 Cal.App.4th 1745, 1753, fn. 1)."

5.4 Alternatives Considered and Withdrawn from Consideration

The *CEQA Guidelines* recommend that an EIR identify any alternatives that were considered by the Lead Agency, but were withdrawn from consideration because they were deemed infeasible, and briefly explain the reasons underlying the Lead Agency's determination. *CEQA Guidelines* Section 15126.6(c) states the following:

> *The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination … Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts.*

The analysis of alternatives started with an identification of a number of potential alternatives to the proposed program that would reduce or eliminate the proposed program's significant environmental impacts. Of the alternatives evaluated, six were eliminated from further consideration. The eliminated alternatives are discussed below.

It is important to note that some of the alternatives described in this section, particularly the tidal connection from the Central Area to Steamshovel Slough alternative, could become feasible in the future as some of the program uncertainties are resolved. As uncertainties are resolved, LCWA may choose to move forward with alternatives described in this section. At that time, LCWA would determine what additional environmental documentation must be prepared. See Chapter 2, Project Description, Section 2.2 for the restoration project road map and potential next steps.

5.4.1 South Area

5.4.1.1 Full Tidal Connection from the San Gabriel River to the South Area through an Open Channel

Would the alternative meet most of the program objectives?

This potential alternative meets most of the program objectives because it would restore tidal wetland processes and functions and maximize contiguous habitat areas and buffers.

Would the alternative reduce and/or eliminate significant impacts associated with the proposed program?

This alternative would not reduce and/or eliminate significant impacts associated with the proposed program, and instead would cause additional impacts. Creating a full tidal connection from the South Area to the San Gabriel River would require a flood risk management levee, a modified Los

Angeles County Drainage Area project feature that would be operated and maintained by LACFCD, around the entire perimeter of the South Area and the channel connecting it to the San Gabriel River. This levee would be almost twice the length of the levee proposed in the Central Area. The levee footprint would impact existing biological and cultural resources beyond the impacts in the proposed program, and it would reduce the restored habitat area. The levee would require more extensive maintenance than would be required for the berm in the proposed program.

Would the alternative be feasible?

This alternative would be feasible for purposes of CEQA, because it would be capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.

Summary

This alternative would meet most of the program objectives and would be feasible under CEQA. However, this alternative has not been carried forward for more detailed review because it would not reduce nor eliminate significant impacts associated with the proposed program.

5.4.1.2 Full Tidal Connection from the San Gabriel River through the Haynes Cooling Channel to the South Area

Would the alternative meet most of the program objectives?

This potential alternative meets most of the program objectives because it would restore tidal wetland processes and functions and maximize contiguous habitat areas and buffers.

Would the alternative reduce and/or eliminate significant impacts associated with the proposed program?

This alternative would not reduce and/or eliminate significant impacts associated with the proposed program, and instead would cause additional impacts. Creating a full tidal connection from the South Area to the San Gabriel River through the Isthmus Area and the Haynes Cooling Channel would require a flood risk management levee, a modified Los Angeles County Drainage Area project feature that would be operated and maintained by LACFCD, around the entire perimeter of the South Area, the channel connecting it to the San Gabriel River, and the entire perimeter of the Haynes Cooling Channel. This levee would be substantially longer than the levee proposed in the Central Area. The levee footprint would impact existing biological and cultural resources beyond the impacts in the proposed program, and it would reduce the restored habitat area. The levee would require more extensive maintenance than would be required for the berm in the proposed program.

Would the alternative be feasible?

This alternative would not be feasible for purposes of CEQA because it would not be feasible to acquire all the land that would be needed to maintain the current level of flood protection (CEQA Guidelines Section 15364). The flood risk management levee that would be needed around the Haynes Cooling Channel to maintain the existing level of flood protection would conflict with existing land uses outside the program area. For example, the Island Village neighborhood north of the Los Alamitos Retarding Basin and the Haynes Generating Station would limit the space available for a flood management levee and the program proponent would not be able to

reasonably acquire, control, or otherwise have access to these areas, making this alternative infeasible.

Summary

This alternative would meet most of the program objectives. However, this alternative has not been carried forward for more detailed review because it would not reduce nor eliminate significant impacts associated with the proposed program and it would not be feasible under CEQA.

5.4.1.3 Expanded Culvert Connection from the San Gabriel River to the South Area

Would the alternative meet most of the program objectives?

This potential alternative meets most of the program objectives because it would restore tidal wetland processes and functions and maximize contiguous habitat areas and buffers.

Would the alternative reduce and/or eliminate significant impacts associated with the proposed program?

This alternative would not reduce and/or eliminate significant impacts associated with the proposed program, and instead would cause additional impacts. Installing a new expanded culvert connection from the South Area to the San Gabriel River would involve additional construction impacts west of the Haynes Cooling Channel, compared to the proposed program. The additional culverts, which would be larger compared to the culverts proposed under the proposed program, would require more extensive long-term maintenance than would be required in the proposed program.

Would the alternative be feasible?

This alternative would be feasible for purposes of CEQA, because it would be capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.

Summary

This alternative would meet most of the program objectives and would be feasible under CEQA. However, this alternative has not been carried forward for more detailed review because it would not reduce nor eliminate significant impacts associated with the proposed program.

5.4.2 Central Area

5.4.2.1 Flood Wall Flood Protection in the Central Area

Would the alternative meet most of the program objectives?

This potential alternative meets some of the program objectives because it would restore tidal wetland processes and functions and maximize contiguous habitat areas and buffers. The footprint of the flood wall would take up less space than the footprint of the levee in the proposed program, which would provide additional space for wetland restoration compared to the proposed program (**Figure 5-5**, *Artistic Renderings of Central Area Perimeter Levee and Flood Wall*). However, the public access trail around the perimeter of the Central Area described in the

proposed program would be infeasible on top of the flood wall due to the costs associated with public safety. Therefore, public access in this alternative would be reduced to one or two overlook locations which would not be consistent with program objectives addressing public access. Similarly, an 18-foot-high flood wall along the perimeter of portions of the Central Area is not consistent with program objectives addressing public access and connecting the community to the wetlands.

Would the alternative reduce and/or eliminate significant impacts associated with the proposed program?

This alternative would likely reduce the significant impacts for air quality associated with the proposed program because a substantially lower amount of fill would be moved on-site as compared to the proposed program. However, modeling would be necessary to confirm this reduction in air quality impacts. The flood wall would be constructed with steel and concrete rather than earth, as is the case of the levee in the proposed program, which would involve fewer truck and tug boat trips. Although not a significant impact, fewer impacts to existing biological resources would occur under this alternative as compared to the proposed program.

Would the alternative be feasible?

This alternative would be feasible for purposes of CEQA, because it would be capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.

Summary

This alternative would reduce and/or eliminate some significant impacts and would be feasible under CEQA. However, this alternative has not been carried forward for more detailed review because it would reduce public access in the Central Area, and not meet all program objectives.

5.4.2.2 Culvert Connection from the San Gabriel River to the Central Area – Managed Culvert Connection

Would the alternative meet most of the program objectives?

This potential alternative meets most of the program objectives because it would restore tidal wetland processes and functions and maximize contiguous habitat areas and buffers.

Figure 5-5 Artistic Renderings of Central Area Perimeter Levee and Flood Wall

Would the alternative reduce and/or eliminate significant impacts associated with the proposed program?

This alternative would not reduce and/or eliminate significant impacts associated with the proposed program. It is likely that agencies with flood management responsibilities will require that the flood protection levees would need to be sized based on the assumption that the gates could fail during a major storm event, so the benefit of using a culvert system to reduce the height of the levees and increase marsh acreage would not be realized. The hydrodynamic modeling (refer to Appendix H) showed that the tide range using culverts would be reduced (at least slightly, depending on the size of the culverts used) compared to the proposed program, which could be considered an impact to the restored habitats.

Would the alternative be feasible?

This alternative would be feasible for purposes of CEQA, because it would be capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.

Summary

This alternative would meet most of the program objectives and would be feasible under CEQA. However, this alternative has not been carried forward for more detailed review because it would not reduce nor eliminate significant impacts associated with the proposed program.

5.4.2.3 Culvert Connection from the San Gabriel River to the Central Area – Full Tide Range Culvert Connection

Would the alternative meet most of the program objectives?

This potential alternative meets most of the program objectives because it would restore tidal wetland processes and functions and maximize contiguous habitat areas and buffers.

Would the alternative reduce and/or eliminate significant impacts associated with the proposed program?

This alternative would not reduce and/or eliminate significant impacts associated with the proposed program. The hydrodynamic modeling (refer to Appendix H) showed that to achieve a full tide range (or close to a full tide range) in the site, water levels under the 100-year flood event would be similar to water levels under the full breach condition. This result indicates that the flood protection levees would need to be sized similarly to the full breach conditions, so the benefit of using a culvert system to reduce the height of the levees and increase marsh acreage would not be realized. Additionally, the hydrodynamic modeling (refer to Appendix H) showed that the tide range using culverts would be reduced (at least slightly, depending on the size of the culverts used) compared to the proposed program, which could be considered an impact to the restored habitats.

Would the alternative be feasible?

This alternative would be feasible for purposes of CEQA, because it would be capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.

Summary

This alternative would meet most of the program objectives and would be feasible under CEQA. However, this alternative has not been carried forward for more detailed review because it would not reduce nor eliminate significant impacts associated with the proposed program.

5.4.2.4 Tidal Connection from Steamshovel Slough to the Central Area

Would the alternative meet most of the program objectives?

This potential alternative meets the program objectives because it would restore tidal wetland processes and functions and maximize contiguous habitat areas and buffers, joining a larger area of wetland to the existing Steamshovel Slough system in the North Area. This could enhance establishment and the spread of native species. The footprint of the levee for this alternative would take up less space than the footprint of the levee in the proposed program, because the existing flood protection along the Los Cerritos Channel is not as high as the flood protection along the San Gabriel River. The smaller footprint would provide additional space for wetland restoration compared to the proposed program.

Would the alternative reduce and/or eliminate significant impacts associated with the proposed program?

This alternative could reduce the significant impact for air quality associated with the proposed program, because a substantially lower amount of fill may be moved on-site as compared to the proposed program. However, modeling would be necessary to confirm this reduction in air quality impacts. Additionally, this alternative would cause new or more impacts compared to the proposed program because connecting the Central Area to Steamshovel Slough would involve creating a tidal connection under 2nd Street, either through a set of culverts or by building a bridge or causeway over an open channel. This ~~w~~could result in extensive construction and transportation impacts.

Although not a significant impact, fewer impacts to existing biological resources could occur under this alternative as compared to the proposed program because of the smaller footprint for the levee. The shorter levees would also reduce the aesthetic impacts compared to the proposed program. Eliminating the connection to the San Gabriel River would prevent the river's contamination and trash from diminishing water quality and habitat in the Central Area. However, the alternative would increase the likelihood of impacts from contamination and trash from the Los Cerritos Channel and decrease the beneficial freshwater stormwater pulses provided by the San Gabriel River.

Would the alternative be feasible?

This alternative would not be feasible for purposes of CEQA because it would not be capable of being accomplished in a successful manner within a reasonable period of time and LCWA cannot

reasonably acquire, control or otherwise have access to the alternative site (CEQA Guidelines Section 15364). This alternative could not move forward for at least 20 years until all the oil operations in the North Area and on the Long Beach City Property site are removed through the Los Cerritos Wetlands Oil Consolidation and Restoration Project. The restoration design for the South Synergy Oil Field site would need to be developed in further detail to explore the feasibility of tidally connecting to the Central Area. Additionally, the feasibility of raising 2nd Street would need to be explored with the City of Long Beach, with considerations made for sea-level rise related hazards, traffic impacts associated with a lengthy construction period, and engineering feasibility. If and once these various variables are better understood, this alternative could be considered feasible and LCWA could choose to move forward with design and implementation. Additionally, LCWA does not have control and cannot reasonably acquire 2nd Street in order to modify the roadway to accommodate a tidal connection, either through culverts or by rebuilding the roadway into a bridge or causeway. The City of Long Beach currently owns and manages the roadway right-of-way. However, should the City of Long Beach grant access to the LCWA, then LCWA could choose to move forward with design and implementation.

Summary

This alternative would meet most of the program objectives. However, this alternative has not been carried forward for more detailed review because it would not reduce nor eliminate significant impacts associated with the proposed program~~, it would impact traffic along 2nd Street,~~ and it would not be feasible under CEQA. However, this alternative is not eliminated from being implemented in the future when other variables are better understood.

5.4.2.5 Tidal Connection from Steamshovel Slough to the Long Beach City Property

Would the alternative meet most of the program objectives?

This potential alternative meets the program objectives because it would restore tidal wetland processes and functions and maximize contiguous habitat areas and buffers. While it would separate the habitats in the Central Area, it would join a larger area of wetland to the existing Steamshovel Slough system in the North Area. This could enhance establishment and the spread of native species while still allowing a connection to the San Gabriel River which would benefit certain species like the Pacific green sea turtle. The footprint of the levee on the Long Beach City Property for this alternative would take up less space than the footprint of the levee in the proposed program, because the existing flood protection along the Los Cerritos Channel is not as high as the flood protection along the San Gabriel River. The smaller footprint would provide additional space for wetland restoration compared to the proposed program. However, the Interim Levee would need to be built to a higher elevation and with a larger footprint than in the proposed program because it would be a permanent feature in this alternative, rather than a temporary feature as in the proposed program.

Would the alternative reduce and/or eliminate significant impacts associated with the proposed program?

This alternative could reduce the significant impact for air quality associated with the proposed program, because a substantially lower amount of fill may be moved on-site as compared to the

proposed program. However, modeling would be necessary to confirm this reduction in air quality impacts. Additionally, this alternative would cause new or more impacts compared to the proposed program. Connecting the Long Beach City Property to Steamshovel Slough would involve creating a tidal connection under 2nd Street, either through a set of culverts or by building a bridge or causeway over an open channel. This would result in extensive construction and transportation impacts.

Although not a significant impact, fewer impacts to existing biological resources could occur under this alternative as compared to the proposed program. The shorter berms would also reduce the aesthetic impacts compared to the proposed program, although impacts would remain due to the flood protection that would still be needed. Eliminating the connection of the Long Beach City Property to the San Gabriel River would prevent the river's contamination and trash from diminishing water quality and habitat in that area. However, the alternative would increase the likelihood of impacts from contamination and trash from the Los Cerritos Channel and decrease the beneficial freshwater stormwater pulses provided by the San Gabriel River.

Would the alternative be feasible?

This alternative would not be feasible for purposes of CEQA because it would not be capable of being accomplished in a successful manner within a reasonable period of time and LCWA cannot reasonably acquire, control or otherwise have access to the alternative site (CEQA Guidelines Section 15364). This alternative could not move forward for at least 20 years until all the oil operations in the North Area and on the Long Beach City Property site are removed through the Los Cerritos Wetlands Oil Consolidation and Restoration Project. The restoration design for the South Synergy Oil Field site would need to be developed in further detail to explore the feasibility of tidally connecting to the Long Beach City Property. Additionally, the feasibility of raising 2nd Street would need to be explored with the City of Long Beach, with considerations made for sea-level rise related hazards, traffic impacts associated with a lengthy construction period, and engineering feasibility. If and once these various variables are better understood, this alternative could be considered feasible and LCWA could choose to move forward with design and implementation. Additionally, LCWA does not have control and cannot reasonably acquire 2nd Street in order to modify the roadway to accommodate a tidal connection, either through culverts or by rebuilding the roadway into a bridge or causeway. The City of Long Beach currently owns and manages the roadway right-of-way. However, should the City of Long Beach grant access to the LCWA, then LCWA could choose to move forward with design and implementation.

Summary

This alternative would meet most of the program objectives. However, this alternative has not been carried forward for more detailed review because it would not reduce nor eliminate significant impacts associated with the proposed program and it would not be feasible under CEQA. However, this alternative is not eliminated from being implemented in the future when other variables are better understood.

~~5.4.2.5~~5.4.2.6 Managed Artificial Flooding in the Central Area

Would the alternative meet most of the program objectives?

This potential alternative would not meet most of the program objectives because it would not restore tidal wetland processes and functions. Permanently pumping water into the site would create an unnatural hydrologic regime and natural processes such as sedimentation and erosion would be missing from the system. Additionally, the alternative would be inconsistent with the program objectives to minimize the need for long-term maintenance activities as the pump station would need to be regularly maintained and operated.

Would the alternative reduce and/or eliminate significant impacts associated with the proposed program?

This alternative would likely reduce the significant impact for air quality associated with the proposed program. The earthen berm would be substantially smaller than the levees associated with the proposed program, and less earthwork would likely reduce impacts associated with program construction pertaining to NO_X emissions. Additional air quality modeling would be needed to confirm that this alternative would reduce air quality emissions.

Although not a significant impact, the smaller berm footprint would reduce permanent impacts to existing biological resources. However, the enhancement of the wetland would be limited without a tidal connection.

Would the alternative be feasible?

This alternative would be feasible for purposes of CEQA, because it would be capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.

Summary

This alternative would likely reduce significant air quality impacts associated with the proposed program and would be feasible under CEQA. However, this alternative has not been carried forward for more detailed review because it would not meet most of the program objectives, since tidal wetlands and processes would not be restored.

5.5 Alternatives Considered and Further Evaluated

As described above, the intent of the alternatives analysis in an EIR is to identify a range of reasonable alternatives to the proposed program that would feasibly attain most of the basic project objectives and would avoid or substantially lessen the significant impacts of the proposed program. Based on the significant environmental impacts of the proposed program, the aforementioned objectives established for the proposed program, and the feasibility of the alternatives considered, the following alternatives to the proposed program are evaluated in this section. As some impacts associated with the alternatives analyzed below would be the same or similar to the proposed program (depending upon the resource area), this chapter should be read in conjunction with the impact analyses contained in Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*, which provides more detailed information on the individual resource

areas and impacts of the proposed program. The Significance Thresholds and the methodology utilized in this chapter are the same as those utilized in Chapter 3, *Environmental Setting, Impacts, and Mitigation Measures*. Therefore, for additional information regarding methodology, reviewers should reference the individual resource chapters for further details.

5.5.1 Alternative 1: No Program (No Build) Alternative

CEQA Guidelines Section 15126.6(e) requires that an EIR evaluate and analyze the impacts of the "No-Project" Alternative. Under Alternative 1, none of the proposed program components would be constructed and implemented and existing conditions would remain unchanged. This alternative assumes the restoration activities and development covered by the Los Cerritos Wetlands Oil Consolidation and Restoration Project would occur. The following would occur under Alternative 1:

- The South Area, which includes the Haynes Cooling Channel site, State Lands Parcel site, South LCWA site, Hellman Retained site, Los Alamitos Pump Station site, and Los Alamitos Retarding Basin site, would continue to exist as under the existing conditions. In particular, the Haynes Cooling Channel would continue to pull water from the Alamitos Bay Marina and discharge water into the San Gabriel River until it is decommissioned as part of the Haynes Generating Station modernization project in 2029. The State Lands Parcel and South LCWA sites would remain as they currently exist. The Hellman Retained site would continue to operate as an active oil field. In addition, the Los Alamitos Retarding Basin would continue to operate as a retention basin as operated by the County of Orange Flood Control District. Furthermore, the Los Alamitos Pump station would continue to operate as a pump station to move the stormwater runoff from the Los Alamitos Retarding Basin into the San Gabriel River. Restricted public access within the South Area would continue to be provided as under existing conditions and the gate on 1st Street would remain as well.
- The Isthmus Area, which includes the Callaway Marsh site, DWP site, Zedler Marsh site, Isthmus LCWA site, and Isthmus Bryant site, would continue to exist as under existing conditions. In particular, the Callaway Marsh site, the Isthmus Bryant site, and DWP site would remain vacant. In addition, the Zedler Marsh site would continue to be enhanced as part of the LCWA Stewardship Program. Furthermore, the Isthmus LCWA site would continue as an active oil field, which would be maintained and operated by the Signal Hill Petroleum Inc., as under existing condition. Existing public access to trails and other public amenities would be maintained as under existing conditions. In addition, the San Gabriel River Trail would be maintained on the south bank of the San Gabriel River.
- The Central Area, which includes a portion of the Pumpkin Patch site, Long Beach City Property site, Central LCWA site, Central Bryant site, and San Gabriel River, would continue to exist as under existing conditions. The Pumpkin Patch site and Long Beach City Property site, in particular, would continue as approved under the Los Cerritos Wetlands Oil Consolidation and Restoration Project EIR (State Clearinghouse Number 2016041083). This would include construction of an aboveground pipeline system from the corner of 2nd Street and Studebaker Road to the Pumpkin Patch site. The Pumpkin Patch site would be remediated and graded, and new oil facilities would be constructed at the site. After 20 years, in the second phase of the project, oil operations would be removed from the Long Beach City Property site and contaminated areas would be remediated. The Long Beach City Property site would remain vacant. The Central LCWA site would continue to operate as an active oil field and the Central Bryant site would continue to operate as a vacant site. The San

Gabriel River levees along the south and north banks of the river would remain intact. Restricted access to the Central LCWA site would be maintained.

- The North Area includes the Northern Synergy Oil Field site, Southern Synergy Oil Field site, and Alamitos Bay Partners site. As part of the Los Cerritos Wetlands Oil Consolidation and Restoration Project, existing oil operations and associated facilities would be consolidated and removed and a wetlands habitat restoration project would be implemented on the Northern and Southern Synergy Oil Field sites. The first phase of the project would be focused on the 76.52-acres Northern Synergy Oil Field site, and provide the conditions necessary for the reestablishment of coastal salt marsh habitat and associated hydrologic, biogeochemical, and habitat functions. The first phase of the project would also include work on the Southern Synergy Oil Field site, including relocating the existing office building on-site to house the Long Beach Visitor Center, and construction of a parking lot, trails, overlook, sidewalk enhancements, and bikeway improvements. After 20 years, in the second phase of the project, all remaining wells would be removed and the 73.07-acres Southern Synergy Oil Field site would be restored to tidal salt marsh by breaching or lowering the earthen berm and removing the sheet pile wall. The Alamitos Bay Partners site would be maintained as an active oil field as with existing conditions.

5.5.2 Alternative 2: Culvert Connection San Gabriel River to the Central Area Alternative

Under Alternative 2, a culvert or set of culverts would be installed within the northern San Gabriel River levee to connect the river to the Central Area rather than breaching the levee as in the proposed program. The following would occur under Alternative 2:

- The South Area, which includes the Haynes Cooling Channel site, State Lands Parcel site, South LCWA site, Hellman Retained site, Los Alamitos Pump Station site, and Los Alamitos Retarding Basin site, would be restored as described for the proposed program. Public access would be improved as described for the proposed program.
- The Isthmus Area, which includes the Callaway Marsh site, DWP site, Zedler Marsh site, Isthmus LCWA site, and Isthmus Bryant site, would be restored as described for the proposed program. Public access would be improved as described for the proposed program.
- The Central Area, which includes the Pumpkin Patch site, Long Beach City Property site, Central LCWA site, Central Bryant site, and San Gabriel River, would be restored similar to the proposed program, except instead of breaching the San Gabriel River to restore tidal connection to the site, a culvert or set of culverts would be installed in the levee to provide tidal connection to the site. The following sections describe the changes from the proposed program that would be included in this alternative.
- The North Area, which includes the Northern Synergy Oil Field site, Southern Synergy Oil Field site, and Alamitos Bay Partners site, would be restored as described for the proposed program. Public access would be improved as described for the proposed program.

5.5.2.1 Phasing

Ecosystem restoration in the Central Area under Alternative 2 would occur in two phases based on land and oil lease ownership, similar to the proposed program.

The near-term phase of Alternative 2 would be focused on the Central LCWA and Central Bryant sites and would provide the conditions necessary for the reestablishment of coastal salt marsh

habitat and associated hydrologic, biogeochemical, and habitat functions. Near-term activities that mirror those in the proposed program would include:

- Relocating or modifying some oil infrastructure and remediation of soils on the Central LCWA site;
- Grading of the sites, including channels, and revegetation of native plants to support a diversity of salt marsh species; and
- Constructing public trails on levees, accessible ramps, and viewpoints, as described in the proposed program.

Near-term activities that would vary from those in the proposed program would include:

- Installing a culvert or set of culverts in the existing levee that currently separates the San Gabriel River from non-tidal portions of the Central LCWA and Central Bryant sites;
- Constructing a new earthen levee (Perimeter Levee) along 2nd Street from the San Gabriel River to the intersection with Studebaker Road to protect areas to the north from flooding, similar to the proposed program, but set to a lower elevation;
- Constructing a new interim earthen levee (Interim Levee) along the western boundary of the Central LCWA site to protect the areas to the west from flooding and to provide continued access to the wells on the Central LCWA site, similar to the proposed program, but set to a lower elevation; and
- Providing protection for the existing wells on the Central LCWA site by either raising the well pads out of the floodplain, similar to the proposed program, but set to a lower elevation, or constructing a berm or flood wall around the wells.

In the long-term, the Long Beach City Property site and the Pumpkin Patch site would be restored to tidal salt marsh as described for the proposed program, including:

- Grading the Long Beach City Property site, including channels, to support a diversity of salt marsh species;
- Removing the northern segment of the Interim Levee on the Central LCWA site to connect the restored habitats on the Central LCWA site to the non-tidal portions of the Long Beach City Property site; and
- Constructing public trails on levees, accessible ramps, stairs, and viewpoints, as described in the proposed program.

Long-term activities that would vary from those in the proposed program would include constructing a new earthen levee (Perimeter Levee) along 2nd Street between the intersection with Studebaker Road to Shopkeeper Road on the Long Beach City Property site and then along Shopkeeper Road to the existing San Gabriel River levee on the Long Beach City Property and Pumpkin Patch sites. The Perimeter Levee would be used to protect areas to the north and west from flooding, similar to the proposed program, but set to a lower elevation.

5.5.2.2 Ecosystem Restoration

Restored Habitats

Alternative 2 would restore connectivity of the San Gabriel River with the Central LCWA, Central Bryant, and Long Beach City Property sites by installing a culvert or set of culverts in the existing levees on the north bank of the river, rather than breaching and lowering the levee as in the proposed program. Alternative 2 would include a shorter and smaller footprint Perimeter Levee when compared to the one in the proposed program, allowing for less impact on existing wetlands.

Hydrology and Grading

In Alternative 2, the new tidal channels would be excavated between the San Gabriel River culvert(s) and the Interim Levee to create a sinuous and branching network of tidal channels through the wetlands. The culvert(s) would be set at an elevation around 0 to 2 feet NAVD.

The hydrodynamic modeling (refer to Appendix H) showed that one 4-foot-diameter culvert would allow an annual tide range of 2.4 feet into the site. This is 1.6 feet less than the modeled proposed program tide range (4.0 feet). The modeling results also showed that six 4-foot-diameter culverts would result in an annual tide range of 3.1 feet, which would only be 0.9 feet less than the proposed program.

As described under the proposed program, Alternative 2 would raise the upland perimeter around the restored wetlands to function as a flood risk management levee, but it would be set to a lower elevation, since the culvert(s) would limit the water elevations in the site. Less fill would be needed to construct the Perimeter and Interim Levees, compared to the proposed program. This would increase the volume of excess material in the near-term (see Table 2-14 in Chapter 2, *Project Description*), which could increase the amount of fill that would need to be stockpiled until the long-term.

Alternative 2 would maintain flood protection for well pads and access roads to existing levels, as discussed in the proposed program, but set to a lower elevation.

5.5.2.3 Flood Risk and Stormwater Management

In Alternative 2, the culvert(s) connecting the San Gabriel River to the Central LCWA site would restrict water levels in the Central Area during large riverine events. During the 100-year event, the hydrodynamic modeling showed water levels would reach 7.7 feet NAVD with one 4-foot-diameter culvert, compared to 14.4 feet NAVD under the proposed program (refer to Appendix H). Six 4-foot-diameter culverts would result in a 100-year water level of 11.0 feet NAVD in the site, according to the model results (refer to Appendix H). Gates could be added to the culvert(s) for maintenance purposes.

The new Perimeter Levee could be set approximately 6.7 feet lower than the proposed program under Alternative 2 with one 4-foot-diameter culvert, or 3.4 feet lower than the proposed program with six 4-foot-diameter culverts. The Perimeter Levee would have a slope of approximately 3:1 horizontal: vertical (H:V) down to restored salt marsh at approximately 6 feet MLLW and the

same slope down to the road on the back, which would give it a footprint of 2.6 acres less than under the proposed program with one 4-foot-diameter culvert, or 1.3 acres less than under the proposed program with six 4-foot-diameter culverts. The culvert(s) would reduce the potential for erosion along the Perimeter and Interim Levees, so buried soil cement or rock protection of the levee core would not be included.

Well pads and access roads would be protected to match the existing level of flood risk protection provided by the San Gabriel River Levees.

5.5.2.4 Public Access and Visitor Facilities

Under Alternative 2, the installation of a culvert or set of culverts rather than breaching the levee would allow for a loop trail to be constructed along the existing San Gabriel River levee and the Perimeter Levee. The trail would be open to the public from dawn to dusk. The road on top of the Interim Levee (north-south between 2nd Street and the San Gabriel River Levee) would not be open to the public due to the oil operations, but could be restricted to docent-led use only with gates on either end, as described in the proposed program.

5.5.2.5 Implementation and Restoration Process

Implementation of the restoration under Alternative 2 would be similar to implementation under the proposed program. However, instead of breaching the northern San Gabriel River levee, a culvert or set of culverts would be installed through the levee. This would likely be done by, first, using steel sheet pile cofferdams in the vicinity of the culvert locations to limit tidal inundation of the construction work. Then concrete box culverts would be installed with precast reinforced concrete (or steel) foundation piles. The construction work would likely involve track-mounted excavators utilizing pile drivers. Alternatively, trenchless technology could be used to push the culvert(s) through the levee. Construction of the culvert(s) would likely take longer than construction of the levee breach in the proposed program.

5.5.2.6 Operation and Maintenance Activities

The new culvert(s) from the San Gabriel River to the Central Area would require annual maintenance to ensure proper operation, similar to current operation and maintenance of the existing structures. Gates and weirs may be adjusted seasonally for habitat management. Obstructions would be removed when necessary. If sedimentation in the channel limits the functionality of the culvert(s), a low ground pressure excavator would be used to remove the sediment. A temporary access route, 35-feet wide, would be created using mats to provide equipment access.

5.6 Analysis Format

In accordance with *CEQA Guidelines* Section 15126.6(d), each alternative is evaluated in sufficient detail to determine whether the overall environmental impacts would be less, similar, or greater than the corresponding impacts of the proposed program. Furthermore, each alternative is evaluated to determine whether the proposed program objectives identified in Chapter 2, *Project Description*, would be mostly attained by the alternative. The proposed program's impacts that

form the basis of comparison in the alternatives analysis are those impacts that represent a conservative assessment of proposed program impacts. The evaluation of each of the alternatives follows the process described below:

a) The net environmental impacts of the alternative after implementation of reasonable mitigation measures are determined for each environmental issue area analyzed in this EIR.

b) Post-mitigation significant and non-significant environmental impacts of the alternative and the project are compared for each environmental issue area as follows:

   - Less: Where the impact of the alternative after feasible mitigation would be clearly less adverse than the impact of the proposed program, the comparative impact is said to be "less."
   - Greater: Where the impact of the alternative after feasible mitigation would be clearly more adverse than the impact of the proposed program, the comparative impact is said to be "greater."
   - Similar: Where the impacts of the alternative after feasible mitigation and the proposed program would be roughly equivalent, the comparative impact is said to be "similar."

c) The comparative analysis of the impacts is followed by a general discussion of whether the underlying purpose for the proposed program, as well as the proposed program's basic objectives would be substantially attained by the alternative.

Table 5-1, *Summary of Program and Alternative Impacts*, provides a summary matrix that compares impacts of the proposed program with the impacts of each of the alternatives analyzed. It is important to note that none of the program alternatives reduces the significant unavoidable impacts associated with air quality, historic architectural resources, archaeological resources, and tribal cultural resources.

TABLE 5-1
SUMMARY OF PROGRAM AND ALTERNATIVE IMPACTS

Environmental Issue	Program Impact	Alternative 1: No Program (No Build)	Alternative 2: Culvert Connection to San Gabriel River with Perimeter Levee
Aesthetics			
Impact AES-1: Scenic Vistas	LTS	LTS (Greater)	LTS (Similar)
Impact AES-2: Scenic Resources	LTS	NI (Less)	LTS (Similar)
Impact AES-3: Regulations Governing Scenic Quality	LTS	NI (Less)	LTS (Similar)
Impact AES-4: Light and Glare	LTS with MM	NI (Less)	LTS with MM (Similar)
Air Quality			
Impact AQ-1: Air Quality Plan	SU for construction; LTS for operation	NI for construction and operation (Less)	SU for construction (Similar); LTS for operation (Similar)
Impact AQ-2: Cumulative Considerable Net Increase	LTS with MM for construction; LTS for operation	NI for construction and operation (Less)	LTS with MM for construction (Similar); LTS for operation (Similar)
Impact AQ-3: Sensitive Receptors	SU for construction; LTS for operation	NI for construction and operation (Less)	SU for construction (Similar); LTS for operation (Similar)
Impact AQ-4: Odors	LTS	LTS (Similar)	LTS (Similar)
Biological Resources			
Impact BIO-1: Candidate, Sensitive or Special-Status Species	LTS with MM	NI (Less)	LTS with MM (Less)
Impact BIO-2: Riparian Habitat or Sensitive Natural Community	LTS with MM	NI (Less)	LTS with MM (Less)
Impact BIO-3: State or Federally Protected Wetlands	LTS with MM	NI (Less)	LTS with MM (Less)
Impact BIO-4: Native Resident or Migratory Fish or Wildlife Species	LTS with MM	NI (Less)	LTS with MM (Less)
Impact BIO-5: Biological Resources Protection Policies	LTS	NI (Less)	LTS (Similar)
Cultural Resources			
Impact CUL-1: Historical Resources	SU	NI (Less)	SU (Similar)
Impact CUL-2: Archaeological Resources	SU	NI (Less)	SU (Similar)
Impact CUL-3: Human Remains	LTS with MM	NI (Less)	LTS with MM (Similar)

TABLE 5-1
SUMMARY OF PROGRAM AND ALTERNATIVE IMPACTS

Environmental Issue	Program Impact	Alternative 1: No Program (No Build)	Alternative 2: Culvert Connection to San Gabriel River with Perimeter Levee
Geology, Soils, and Paleontological Resources			
Impact GEO-1a: Fault Rupture	LTS	NI (Less)	LTS (Similar)
Impact GEO-1b: Seismic Ground Shaking	LTS	NI (Less)	LTS (Similar)
Impact GEO-1c: Seismic-Related Ground Failure	LTS	NI (Less)	LTS (Similar)
Impact GEO-2: Soil Erosion and Topsoil Loss	LTS	NI (Less)	LTS (Less)
Impact GEO-3: Geologic Instability	LTS	NI (Less)	LTS (Similar)
Impact GEO-4: Expansive Soil	LTS	NI (Less)	LTS (Similar)
Impact GEO-5: Septic Tanks	NI	NI (Less)	NI (Similar)
Impact GEO-6: Paleontological Resources	LTS with MM	NI (Less)	LTS with MM (Similar)
Greenhouse Gas Emissions and Energy			
Impact GHG-1: GHG Emissions	LTS	LTS (Less)	LTS (Less)
Impact GHG-2: GHG Regulations	LTS	LTS (Similar)	LTS (Similar)
Impact EN-1: Wasteful, Inefficient, or Unnecessary	LTS	NI (Less)	LTS (Less)
Impact EN-2: Conflict or Obstruct State or Local Plan	LTS	LTS (Similar)	LTS (Similar)
Hazards and Hazardous Materials			
Impact HAZ-1: Routine Transport, Use, Or Disposal	LTS	NI (Less)	LTS (Similar)
Impact HAZ-2: Hazardous Materials Near Schools	NI	NI (Similar)	NI (Similar)
Impact HAZ-3: List of Hazardous Materials	LTS with MM	NI (Less)	LTS with MM (Similar)
Impact HAZ-4: Public Airport or Public Use Airport	NI	NI (Similar)	NI (Similar)
Impact HAZ-5: Wildland Fires	NI	NI (Similar)	NI (Similar)
Hydrology and Water Quality			
Impact HYD-1: Water Quality Standards	LTS with MM	NI (Less)	LTS with MM (Similar)
Impact HYD-2: Groundwater Supplies	LTS	NI (Less)	LTS (Similar)
Impact HYD-3a: Drainage Patterns – Erosion or Siltation	LTS with MM	NI (Less)	LTS with MM (Less)
Impact HYD-3b: Drainage Patterns - Flooding	LTS	LTS (Greater)	LTS (Similar)

TABLE 5-1
SUMMARY OF PROGRAM AND ALTERNATIVE IMPACTS

Environmental Issue	Program Impact	Alternative 1: No Program (No Build)	Alternative 2: Culvert Connection to San Gabriel River with Perimeter Levee
Impact HYD-3c: Drainage Patterns – Stormwater Drainage Systems	LTS	NI (Less)	LTS (Similar)
Impact HYD-3d: Drainage Patterns – Flood Flows	LTS	NI (Less)	LTS (Similar)
Impact HYD-4: Flood Hazards, Tsunami, Seiche	LTS	LTS (Similar)	LTS (Similar)
Impact HYD-5: Water Quality Control Plan	LTS	LTS (Greater)	LTS (Similar)
Land Use and Planning			
Impact LU-1: Applicable Land Use Plan, Policy, or Regulation	LTS	LTS (Greater)	LTS (Similar)
Mineral Resources			
Impact MIN-1: Mineral Resource Loss or Locally Important Mineral Resource Recovery Site Loss	NI	NI (Similar)	NI (Similar)
Noise			
Impact NOI-1: Noise Standard Exceedance	LTS	NI (Less)	LTS (Greater)
Impact NOI-2: Groundborne Vibration	LTS	NI (Less)	LTS (Greater)
Public Services			
Impact PS-1a: Fire Protection	LTS with MM	NI (Less)	LTS with MM (Similar)
Impact PS-1b: Police Protection	LTS	NI (Less)	LTS (Similar)
Impact PS-1c: Parks	LTS	NI (Less)	LTS (Similar)
Recreation			
Impact REC-1: Neighborhood and Regional Parks	LTS	NI (Less)	LTS (Similar)
Impact REC-2: Expansion of Recreational Facilities	LTS	NI (Less)	LTS (Similar)
Transportation			
Impact TRA-1: Program Plan, Ordinance, or Policy	LTS with MM	NI (Less)	LTS with MM (Similar)
Impact TRA-2: CEQA Guidelines section 15064.3, subdivision (b)	LTS	NI (Less)	LTS (Similar)
Impact TRA-3: Traffic Hazards	LTS with MM	NI (Less)	LTS with MM (Similar)

TABLE 5-1
SUMMARY OF PROGRAM AND ALTERNATIVE IMPACTS

Environmental Issue	Program Impact	Alternative 1: No Program (No Build)	Alternative 2: Culvert Connection to San Gabriel River with Perimeter Levee
Tribal Cultural Resources			
Impact TRI-1: Listed or Eligible Tribal Cultural Resource	SU	NI (Less)	SU (Similar)
Impact TRI-2: Tribal Cultural Resource Determined by the Lead Agency	SU	NI (Less)	SU (Similar)
Utilities and Service Systems			
Impact UTL-1: Expanded Facilities	LTS with MM	NI (Less)	LTS with MM (Similar)
Impact UTL-2: Sufficient Water Supplies	LTS	NI (Less)	LTS (Similar)
Impact UTL-3: Adequate Wastewater Treatment Capacity	LTS	NI (Less)	LTS (Similar)
Impact UTL-4: Solid Waste Capacity	LTS	NI (Less)	LTS (Similar)
Impact UTL-5: Solid Waste Regulations	LTS	NI (Less)	LTS (Similar)

NI = No Impact
LTS = Less than Significant
LTS with MM = Less than Significant with mitigation measures
SU = Significant and unavoidable impacts

5.7 Impact Analysis

5.7.1 Alternative 1: No Program (No Build)

5.7.1.1 Aesthetics

Under Alternative 1, the proposed program would not be implemented and existing conditions would remain unchanged on most of the program area. Thus, this alternative would result in fewer impacts to scenic vistas than the proposed program, as it would avoid temporary impacts to scenic vistas from program construction. However, Alternative 1 does not include enhancement and restoration of the Los Cerritos Wetlands complex, which is considered a scenic vista. As such, although construction impacts to a scenic vista would be less than the proposed program, overall operational impacts would be greater since conditions would remain the same. Therefore, as operational impacts, which are not temporary, would be greater under Alternative 1, overall impacts to scenic vistas would be less than significant but greater than the less-than-significant impacts identified for the proposed program.

Similar to the proposed program, this alternative would not result in impacts related to damaging a scenic resource within a state scenic highway, as no state scenic highways are designated within the vicinity of the proposed program. However, without the program, the aesthetic benefits of creating views of natural habitats would not be achieved. While PCH is identified as an eligible state scenic highway, construction would not occur under this alternative and, thus, no scenic resources as viewed from PCH, would be damaged. In addition, as Alternative 1 does not propose any alterations to the program area, it would not conflict with applicable zoning and other regulations governing scenic quality. Given that there would be no construction or new development of a Seal Beach Visitors Center, this alternative would also avoid the temporary impacts to light and glare associated with proposed program during construction and operation. Therefore, there would be no impacts related to damaging a scenic resource within a state scenic highway, consistency with zoning and other regulations governing scenic quality, or light and glare, and impacts would be less than the less-than-significant impacts identified for the proposed program.

5.7.1.2 Air Quality

Under Alternative 1, the proposed program would not be implemented and existing conditions would remain unchanged on most of the program area. The existing oil production facilities located on the Hellman Retained site, Isthmus LCWA site, Central LCWA site, and Alamitos Bay Partners site, would continue to operate. As Alternative 1 does not include any of the construction activities proposed under the proposed program, this alternative would not generate emissions associated with construction and restoration activities. Thus, this alternative would result in no construction emissions, eliminating the significant and unavoidable construction emission impact associated with conflicting and obstructing implementation of the applicable air quality plan and impacts to sensitive receptors. Thus, Alternative 1 would result in less construction impacts than those identified for the proposed program. In addition, the less-than-significant with mitigation impacts related to a cumulative considerable net increase in criteria pollutants during construction would be eliminated and impacts under Alternative 1 would be less than those identified for the proposed program.

Under Alternative 1, the proposed program would not generate new emissions associated with truck trips for maintenance of trails and wetlands and emissions from passenger vehicles from visitors to the program area and existing facilities would continue to operate as they do under existing conditions. As such, there would be no net increases in emissions under this alternative. Therefore, Alternative 1 would not have any impacts related to conflicting with or obstructing implementation of the applicable air quality plan, cumulatively considerable net increase in criteria pollutants, and impacts to sensitive receptors. Operational emissions generated under Alternative 1 would be less than those identified for the proposed program. However, it should be noted that program activities under the proposed program would restore habitats and eventually decommission and remove existing oil operations, potentially resulting in a decrease in emissions in the long-term.

5.7.1.3 Biological Resources

Under Alternative 1, the proposed program would not be implemented and existing conditions would remain unchanged on most of the program area. Thus, there would be no impacts to candidate, sensitive, or special-status plant, wildlife, and/or riparian species or other sensitive natural communities within the program area. Given the lack of restoration under this alternative, no state or federally protected wetlands would be restored and no environmentally sensitive habitat areas (ESHA) would be expanded. This alternative would not interfere with the movement of any native resident, migratory fish, wildlife species, established native resident, wildlife corridors, or impede the use of native wildlife nursery sites, but it would also not enhance or expand these as in the proposed program. In addition, this alternative would not conflict with any local policies or ordinances protecting biological resources or conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local regional, or state habitat conservation plan. Therefore, there would be no impacts related to biological resources, and impacts would be less than the less-than-significant impacts identified for the proposed program. However, there would be no benefits to biological resources, which is one of the main objectives of the proposed program.

5.7.1.4 Cultural Resources

Under Alternative 1, the proposed program would not be implemented and existing conditions would remain unchanged on most of the program area. Given that there would be no ground disturbance, this alternative would avoid the potential impacts associated with historical resources as well as the potential discovery of undocumented cultural resources that were determined to be archaeological resources or discovery of human remains. Therefore, Alternative 1 would eliminate the significant and unavoidable program-level and cumulative impacts related to historical and archaeological resources and the less-than-significant with mitigation impacts identified for human remains under the proposed program.

5.7.1.5 Geology, Soils, and Paleontological Resources

Under Alternative 1, the proposed program would not be implemented and existing conditions would remain unchanged on most of the program area and no structures would be constructed within the program area (beyond those covered by the Los Cerritos Wetlands Oil Consolidation and Restoration Project). Thus, Alternative 1 would not directly or indirectly cause potential

substantial adverse effects from rupture of a known earthquake fault, strong seismic ground shaking, or seismic-related ground failure. In addition, as no construction or ground disturbance would occur under Alternative 1, Alternative 1 would have no impacts related to soil erosion and the loss of topsoil. Furthermore, as with the proposed program, as there would be no changes to oil production under Alternative 1, oil production would continue the current practice of returning the groundwater to the depth levels from which it was extracted, and this alternative would not have any impacts from subsidence and collapse as it relates to geologic instability. Additionally, as Alternative 1 does not include the construction of trails or visitor center (beyond those covered by the Los Cerritos Wetlands Oil Consolidation and Restoration Project), exposure of people to expansive soil impacts on the program area during operation would be unlikely. No septic tanks would be constructed under Alternative 1, as with the proposed program, and Alternative 1 would have no impacts related to septic tanks. Impacts would be less than the less-than-significant impacts identified for the proposed program.

With regard to paleontological resources, as Alternative 1 would not include any ground disturbing activities, the potential to encounter significant paleontological resources would be eliminated as compared to the proposed program. Therefore, there would be no impacts related to paleontological resources, and impacts would be less than the less-than-significant with mitigation impacts identified for the proposed program.

5.7.1.6 Greenhouse Gas Emissions and Energy

Under Alternative 1, the proposed program would not be implemented and existing conditions would remain unchanged on most of the program area. As such, Alternative 1 would not generate greenhouse gas (GHG) emissions associated with the construction and restoration activities or truck trips for maintenance of trails and wetlands and passenger vehicles from visitors to the program area during operation of the proposed program beyond existing operations and maintenance. As such, impacts under Alternative 1 would be less than the less-than-significant impacts identified for the proposed program.

Both the proposed program and Alternative 1 would be consistent with all applicable plans, policies, and regulations related to the reduction of GHG emissions as required by the City of Long Beach and the state. Therefore, impacts associated with GHG emission reduction plans and policies would be similar under Alternative 1 to the less-than-significant impacts identified for the proposed program.

With regard to energy consumption, Alternative 1 would not require energy associated with construction and restoration activities or truck trips for maintenance of trails and wetlands and passenger vehicles from visitors to the program area during operation of the proposed program beyond existing operations and maintenance. While Alternative 1 would continue to require energy associated with existing oil production facilities; new energy demand associated with the development of a Seal Beach Visitor Center and the use of transportation fuels (e.g., diesel and gasoline) from vehicles traveling to and from the program area would not be required, as under the proposed program. Overall, energy usage would be lower under Alternative 1; thus, Alternative 1 would have no impacts related to wasteful, inefficient, or unnecessary consumption of energy resources, and impacts would be less than the less-than-significant impacts identified

for the proposed program. As noted for air quality impacts, above, as the program activities would restore habitats and eventually decommission and remove existing oil operations, there could be a decrease in energy consumption in the long-term. In addition, recreational opportunities provided under the proposed program for the City of Seal Beach and City of Long Beach residents, employees, and visitors, which would reduce transportation-related fuel demand by providing nearby recreational amenities including a visitor center and trails, would not be realized under Alternative 1.

Since both the proposed program and this alternative would comply with applicable energy standards, policies, regulations, impacts to energy standards, policies, and regulations would be similar under Alternative 1 to the less-than-significant impacts identified for the proposed program.

5.7.1.7 Hazards and Hazardous Materials

Under Alternative 1, existing oil production uses would remain unchanged and there would be no potential to create a significant hazard through the routine transport, use, disposal, or upset and accident conditions that release hazardous materials through construction activities, well plugging and abandonment, and removal and relocation of oil pipelines. While Alternative 1 would still require maintenance of existing oil wells and pipelines on the program area, Alternative 1 would not include development of the Seal Beach Visitor Center, which could occasionally use small quantities of cleaning products and paints, solvents, and thinners for routine maintenance. Thus, there would be no impacts under Alternative 1 and impacts would be less than the less-than-significant impacts identified for the proposed program.

As discussed in Section 3.7, *Hazards and Hazardous Materials*, there are no schools located within 0.25 mile of the program area. Therefore, there would be no impacts related to hazardous materials near schools, similar to the proposed program.

While the program area has several individual sites listed on one or more hazardous materials lists for the presence of active, idle, or plugged oil wells, historical releases of contamination, and/or the presence of landfill materials, this alternative would not result in restoration activities or new development of a Seal Beach Visitor Center and, thus, this alternative would not create new significant hazards to the public or environment. Therefore, there would be no impact under Alternative 1 and impacts would be less than the less-than-significant with mitigation impacts identified for the proposed program.

Similar to the proposed program, this alternative would not be located within an airport land use plan nor would the alternative expose people or structures to significant risk involving wildland fires and there would be no impact.

5.7.1.8 Hydrology and Water Quality

Under Alternative 1, the proposed program would not be implemented and existing conditions would remain unchanged on most of the program area. As such, Alternative 1 would not require ground disturbance, vegetation removal and/or grading, levee modifications, public access facilities (beyond those covered by the Los Cerritos Wetlands Oil Consolidation and Restoration

Project), and infrastructure and utility modifications. In addition, no changes would occur to local water bodies. As such, Alternative 1 would not violate any water quality standards and impacts would be less than the less-than-significant with mitigation impacts of the proposed program.

As no construction or operational activities would occur under Alternative 1, Alternative 1 would not require the use of groundwater, which could impede sustainable groundwater management of the basin. Therefore, no impacts would occur under Alternative 1 and impacts would be less than the less-than-significant impacts of the proposed program.

Unlike the proposed program, this alternative would not alter the drainage patterns and, thus, would not result in substantial erosion or siltation, result in flooding on or off site, exceed capacity of existing or planned stormwater drainage systems, or impede or redirect flood flows. However, existing levees along the San Gabriel River do not account for sea-level rise, while the levees proposed under the proposed program would be designed to account for sea-level rise. As such, impacts under Alternative 1 would be less than the less-than-significant with mitigation impacts of the proposed program related to substantial erosion or siltation. In addition, impacts under Alternative 1 would be less than the less-than-significant impacts related to exceeding capacity of existing or planned stormwater drainage systems, or impeding or redirecting flood flows. However, impacts under Alternative 1 would be greater than the less-than-significant impacts related to flooding on or off site.

This alternative would result in similar less-than-significant impacts related to a flood hazard, tsunami, or seiche zone since both this alternative and the proposed program would operate facilities in a tsunami inundation area.

While activities under Alternative 1 would remain unchanged and there would be no potential to conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan, the benefits to water quality would not be realized under this alternative as with the proposed program, which includes implementation of a restoration program that would allow for tidal flows into the vegetated wetlands and would create favorable water quality conditions by limiting retention time and enhancing tidal exchange. Impacts would be less than significant under Alternative 1, but greater than the less-than-significant impacts of the proposed program.

5.7.1.9 Land Use and Planning

While there would be no change to existing uses, Alternative 1 would not include habitat restoration (beyond restoration activities covered by the Los Cerritos Wetlands Oil Consolidation and Restoration Project). As such, Alternative 1 would conflict with land use plans, policies, or regulations related to habitat restoration including the Hellman Ranch Specific Plan, adopted South East Area Development and Improvement Plan (SEADIP), the proposed Southeast Area Specific Plan (SEASP) 2060 (for informational purposes), the California Coastal Act, and Long Beach Local Coastal Program. Impacts would be less than significant under Alternative 1, but greater than the less-than-significant impacts identified for the proposed program.

5.7.1.10 Mineral Resources

Under Alternative 1, extraction of the existing resources would continue to occur, however oil wells would not be plugged and associated oil infrastructure would not be removed. As such, this alternative would not 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, or 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. Impacts would be similar to the less-than-significant impacts identified for the proposed program.

5.7.1.11 Noise

Given that existing conditions would remain unchanged on most of the program area and no restoration activities or new development of a Seal Beach Visitor Center would occur under Alternative 1, impacts related to generation of substantial temporary or permanent increase in ambient noise levels would not occur. As such, impacts would be less than the less-than-significant impacts identified for the proposed program. In addition, this alternative would not result in excessive groundborne vibration or groundborne noise levels. Therefore, related impacts would be less than the less-than-significant impacts identified for the proposed program.

5.7.1.12 Public Services

Under Alternative 1, existing conditions would remain unchanged on most of the program area and restoration activities or new development of a Seal Beach Visitor Center would not occur; thus, the potential increase in demand for fire protection and police protection services would not occur. As such, Alternative 1 would not require new or physically altered government facilities and would have a less-than-significant impact on public services. Impacts under this alternative would be less than the less-than-significant with mitigation impacts identified for the proposed program for fire protection and less than the less-than-significant impacts identified for the proposed program for police protection.

5.7.1.13 Recreation

Under Alternative 1, existing conditions would remain unchanged on most of the program area and restoration activities or new development of a Seal Beach Visitor Center would not occur, thus, temporary construction workers or the number of employees, volunteers, and daytime visitors within the program area would not increase. As such, an increase in the use of existing parks and recreational facilities resulting in substantial physical deterioration of facilities would not occur or be accelerated. Alternative 1 would maintain the program area's existing operations and new recreational facilities, including the Seal Beach Visitor Center, overlooks, pedestrian trails, and potential sidewalk improvements, would not be developed. Thus, the City of Seal Beach and City of Long Beach would not benefit from the increase in recreational uses. However, because this alternative would not increase the use of existing parks and recreational facilities, there would be no impact and impacts would be less than the less-than-significant impacts identified for the proposed program.

5.7.1.14 Transportation

Alternative 1 would not result in the construction-related traffic or additional operations-related traffic associated with the proposed program; therefore, this alternative would not conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. Impacts under Alternative 1 would be less than the less-than-significant impacts identified for the proposed program. However, Alternative 1 would not provide an increase in connectivity, walkability, and safety for pedestrians that would be realized under the proposed programs' installation of new trails along the perimeter of the program areas. Similar to the proposed program, as it relates to the regulations of SB 743 and vehicle miles travelled (VMT), CEQA Guidelines section 15064.3, subdivision (b) is not applicable to Alternative 1 at this time. However, unlike the proposed program, Alternative 1 does not have the potential to generate operational trips. As such, no impacts would occur under Alternative 1 and would be less than the less-than-significant impacts of the proposed program. Given that there would be no restoration activities or new development of a Seal Beach Visitor Center, this alternative would also not increase hazards due to a design feature or incompatible uses. Thus, impacts under Alternative 1 would be less than the less-than-significant impacts identified for the proposed program.

5.7.1.15 Tribal Cultural Resources

Given the cultural resources sensitivity of the program area, construction activities associated with the proposed program could impact tribal cultural resources. This alternative would not include restoration or the construction of any facilities or structures and, thus, would not result in potential construction-related impacts to tribal cultural resources that could occur under the proposed program. No impacts to tribal cultural resources are expected in association with continued operation of existing facilities at the program area. However, the benefit of restoring a natural marsh system as part of the cultural resources of the site would be lost in the no project alternative. This alternative would result in no impact, and would avoid the significant and unavoidable impacts to tribal cultural resources identified for the proposed program.

5.7.1.16 Utilities and Service Systems

Alternative 1 would not result in an increase in water use, would not generate additional wastewater, would not change the existing flood risk and stormwater management elements, and would not increase electricity, natural gas, and telecommunications use. As such, this alternative would not result in the construction of associated facilities or the expansion of existing facilities and there would be no impact under Alternative 1. Impacts would be less than the less-than-significant with mitigation impact related to water infrastructure and less than the less-than-significant impacts related to wastewater infrastructure, stormwater infrastructure, electric infrastructure, or telecommunications infrastructure. In addition, as Alternative 1 would not increase water use or generate additional wastewater, this alternative would not affect water supplies or impact wastewater treatment capacity. Impacts related to sufficient water supplies and adequate wastewater treatment capacity under Alternative 1 would be less than the less-than-significant impacts identified for the proposed program.

Given that there would be no change to existing conditions under this alternative, solid waste disposal needs would not increase and this alternative would continue to comply with all regulations pertaining to solid waste. Therefore, there would be no impact under this alternative, and impacts would be less than the less-than-significant impacts identified for the proposed program.

5.7.1.17 Comparison of Impacts

Alternative 1 would avoid the proposed program's significant and unavoidable construction air quality impacts, historical resource impacts, archeological impacts, and tribal cultural resources impacts. With the exception of impacts related to scenic vistas, odors, GHG emissions, drainage patterns related to flooding on or off site, water quality, and consistency with land use plans, policies, or regulations that would be greater under this alternative, all impacts associated with the remaining environmental issues would be similar or less than those of the proposed program.

5.7.1.18 Relationship of the Alternative to the Project Objectives

No restoration activities or new development of a Seal Beach Visitor Center would be introduced on the program area under Alternative 1 and existing oil production would continue. No oil production facilities would be decommissioned to allow for restoration of tidal wetlands and habitat buffers and no visitor center or public access trails (beyond those covered by the Los Cerritos Wetlands Oil Consolidation and Restoration Project) would be constructed. As a result, none of the proposed program objectives would be achieved by Alternative 1.

5.7.2 Alternative 2: Culvert Connection to San Gabriel River with Perimeter Levee

As described above, under Alternative 2, a culvert or set of culverts would be installed within the northern San Gabriel River levee to connect the river to the Central Area rather than breaching the levee as in the proposed program. As such, all components of this alternative would remain the same as the proposed program except for the change to install a culvert or set of culverts in the levee rather than breach the levee, and to reduce the height and footprint of the Perimeter and Interim Levees in the Central Area. Thus, the analysis contained herein focuses on impacts that could occur within the Central Area as a result of implementation of this alternative.

5.7.2.1 Aesthetics

Installation of the culvert(s) in Alternative 2 would restrict the water levels in the site. As such, the levees proposed within the Central Area would be designed to have a smaller footprint and would be lowered by approximately 3 to 7 feet. As construction and restoration activities under Alternative 2 would require similar construction equipment as the proposed program, impacts to scenic vistas during construction would be similar to those of the proposed program. However, impacts along 2nd Street and Shopkeeper Road would be less during operation of Alternative 2 as compared to the proposed program, as the proposed levees would be lower and would allow for a better view of the Los Cerritos Wetlands complex. Views of the Central Area from the San Gabriel River Levee Bike Trail would not be improved as in the proposed program, since the existing northern San Gabriel River levee would not be breached and lowered. Overall, impacts

related to scenic vistas would be less than significant under Alternative 2 and similar to the less-than-significant impacts identified for the proposed program.

Alternative 2 would include similar alterations to the program area as the proposed program; as such, no scenic resources would be damaged within a state scenic highway and implementation of the alternative would enhance the scenic value of the proposed program. In addition, similar to the proposed program, Alternative 2 would not conflict with applicable zoning and other regulations governing scenic quality, including the City of Seal Beach General Plan, Hellman Ranch Specific Plan, City of Long Beach General Plan, adopted SEADIP, proposed SEASP 2060 (for informational purposes), and City of Long Beach's LCP. Impacts related to damaging a scenic resource within a state scenic highway and consistency with zoning and other regulations governing scenic quality, would be less than significant under Alternative 2 and similar to the less-than-significant impacts identified for the proposed program.

Impacts from light and glare associated with Alternative 2 during construction and operation would be similar to the proposed program as the activities and intensity of light and glare required under both the alternative and proposed program would be similar. Therefore, impacts under Alternative 2 would be less than significant and impacts would be similar to the less-than-significant impacts identified for the proposed program.

5.7.2.2 Air Quality

On a daily basis, the type of equipment used within the program area during construction of Alternative 2 would be similar to the proposed program. As such, construction emissions under Alternative 2 would be similar to the construction emissions under the proposed program. Alternative 2 would have a significant and unavoidable impact as it relates to conflicting and obstructing implementation of the applicable air quality plan and impacts to sensitive receptors during construction. Impacts related to a cumulative considerable net increase in criteria pollutants during construction would be less than significant under Alternative 2 with implementation of Mitigation Measure AQ-1, as with the proposed program. With respect to odors, impacts would be less than significant under Alternative 2 and similar to those of the proposed program.

Alternative 2 would generate similar operational emissions as the proposed program, as operational activities would be similar under both the alternative and the proposed program. As such, impacts related to conflicting and obstructing implementation of the applicable air quality plan, cumulative considerable net increase in criteria pollutants, sensitive receptors, and odors, would be less than significant under Alternative 2 and similar to the less-than-significant impacts identified for the proposed program.

5.7.2.3 Biological Resources

Under Alternative 2, the footprint of the levees would be reduced and there would be 1 – 3 acres less encroachment into the existing wetland habitat areas. Impacts related to candidate, sensitive, or special-status species, riparian habitat or sensitive natural communities, state or federally protected wetlands, and native resident or migratory fish or wildlife species would be less-than-

significant with mitigation and less than the less-than-significant with mitigation impacts identified for the proposed program. However, Alternative 2 would create 1.5 acres less marsh, compared to the proposed program, since the San Gabriel River levee would not be breached and reduced to the marsh plain elevation. Additionally, the hydrologic processes in a natural tidal marsh along a river would be restricted by the culverts, so the marsh would not experience the same high water levels as it would under the proposed program. The tide range would be reduced 1 to 2 feet compared to the proposed program.

As Alternative 2 would include the same habitat restoration activities as the proposed program, this alternative would not conflict with any local policies or ordinances protecting biological resources or conflict with the provisions of an adopted Habitation Conservation Plan, Natural Community Conservation Plan, or other approved local regional, or state habitat conservation plan. Impacts would be less than significant under Alternative 2 and similar to the less-than-significant impacts identified for the proposed program.

5.7.2.4 Cultural Resources

Similar to the proposed program, construction under this alternative would require ground disturbance; thus, there would be the potential to impact and encounter historical resources, archaeological resources, and human remains. As such, Alternative 2 would implement similar mitigation measures as the proposed program. However, as with the proposed program, even with implementation of mitigation measures, Alternative 2 would have significant and unavoidable program-level and cumulative impacts related to historical resources and archaeological resources and impacts related to human remains would be less than significant with mitigation, as with the proposed program. Impacts under Alternative 2 would be similar to the impacts identified for the proposed program.

5.7.2.5 Geology, Soils, and Paleontological Resources

Operational activities under Alternative 2 include the Seal Beach Visitors Center, which would not be located within a fault zone and would implement the regulatory requirements of the California Building Code. No change to the oil operators would occur under Alternative 2 within the Central Area. In addition, with regard to the existing oil fields, Alternative 2 does not include changes to the existing injection and extraction of oil and produced water. Over time, these oil wells and associated pipelines would be plugged or removed and the operators would be required to comply with the California Geologic Energy Management Division (formerly the Department of Conservation's Division of Oil, Gas, and Geothermal Resources) regulations for these activities. With implementation of regulatory requirements, Alternative 2 would have less than significant impacts related to fault rupture, seismic ground shaking, seismic-related ground failure, geologic instability, and expansive soils. Impacts under Alternative 2 would be similar to the less-than-significant impacts identified for the proposed program.

As with the proposed program, since Alternative 2 would exceed one acre, Alternative 2 would be required to comply with the *NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities* (Order 2009-0009-DWQ, NPDES No. CAS000002; as amended by Orders 2010-0014-DWQ and 2012-006-DWQ) (Construction

General Permit), the *Long Beach Storm Water Management Program Manual*, and the *Seal Beach Grading and Stormwater Pollution Prevention Implementation Manual*, the compliance of which would serve to reduce impacts associated with soil erosion during construction of Alternative 2. In addition, during operation, the change to the installation of a set of culverts rather than breaching the existing San Gabriel River levee would result in less erosion during storm events in the Central Area. Impacts related to soil erosion and loss of top soils under Alternative 2 would be less than significant and less than the less-than-significant impacts identified for the proposed program.

Similar to the proposed program, Alternative 2 does not include the construction or operation of septic tanks or alternative waste water disposal systems, resulting in no impacts. Impacts under Alternative 2 would be similar to the impacts identified for the proposed program.

Similar to the proposed program, construction under this alternative would require ground disturbance; thus, there would be the potential to impact and encounter paleontological resources. As such, Alternative 2 would implement similar mitigation measures as the proposed program. With implementation of mitigation, impacts related to paleontological resources would be less than significant with mitigation. Impacts would be similar under Alternative 2 as compared to the less-than-significant with mitigation impacts identified for the proposed program.

5.7.2.6 Greenhouse Gas Emissions and Energy

While operational activities and resulting emissions would be similar under Alternative 2 to the operational emissions of the proposed program, construction emissions under Alternative 2 would be reduced as installation of the culverts within the San Gabriel River levee would reduce the overall required soils movement during construction, which would reduce the overall number of tug boats and/or haul truck trips needed to move soil off site. Total GHG emissions would decrease under Alternative 2 and GHG emissions would not exceed the GHG threshold of 10,000 metric tons of carbon dioxide equivalent per year ($MTCO_2e$/year) for industrial projects. Impacts would be less than significant under Alternative 2 and less than the less-than-significant impacts identified for the proposed program.

As with the proposed program, Alternative 2 would utilize construction contractors that would be in compliance with the same regulations as the proposed program. In addition, during operation, workers and visitors to the program area would utilize vehicles that comply with State motor vehicle emissions standards and the visitor center buildings would be built to the CALGREEN standards, as with the proposed program. Similar to the proposed program, Alternative 2 would provide improved public access to the wetlands both on foot and by bicycle. As Alternative 2 includes the installation of culverts rather than breaching the levee, this would allow for a loop trail to be constructed along the existing San Gabriel River levee and the Perimeter Levee, which would serve to contribute to the non-automotive transportation network and would further reduce transportation-related air pollutants and GHG emissions. Impacts under Alternative 2 as it relates to consistency with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions would be less than significant and similar to the less-than-significant impacts identified for the proposed program.

Operational activities would be similar under Alternative 2 as with the proposed program, and Alternative 2 would generate an energy demand similar to the proposed program; however, the levees would be smaller and, therefore, require less fill. Overall transportation fuel usage would decrease during construction of Alternative 2 as this alternative would require fewer tug boat and/or haul truck trips. As with the proposed program, construction trucks would be required to comply with fuel saving regulations such as the USEPA Phase 2 standards. During operation, Alternative 2 would incorporate similar green building measures as the proposed program. As such, Alternative 2 would continue to not result in wasteful, inefficient, and unnecessary consumption of building energy or transportation usage during construction and operation of Alternative 2 and impacts would be less than significant. However, impacts under Alternative 2 would be less than the less-than-significant impacts identified for the proposed program due to the reduction in tug boat/haul truck trips.

As with the proposed program, Alternative 2 would generally include the same construction and operational activities. As such, Alternative 2 would be consistent with energy efficiency standards in the City of Seal Beach municipal code, City of Long Beach municipal code, and CALGreen Code. Alternative 2 would also not conflict with the Southern California Association of Governments (SCAG) *2016–2040 Regional Transportation Plan and Sustainable Communities Strategy* (RTP/SCS) general goals and strategies of increasing accessibility to natural areas, preserving open space, and encouraging active transportation (e.g., bicycling and walking) thereby minimizing transportation fuel demand. As noted previously, since Alternative 2 includes the installation of culverts rather than breaching the levee, this would allow for a loop trail to be constructed along the existing San Gabriel River levee and the Perimeter Levee, which would add to the improved public access of the proposed program, and would further reduce transportation-related fuel demand. Alternative 2 would have a less than significant impact with regard to conflicting with or obstructing a state or local plan for renewable energy or energy efficiency and impacts would be similar to the less-than-significant impacts identified for the proposed program.

5.7.2.7 Hazards and Hazardous Materials

As construction and operational activities under Alternative 2 would be similar to the proposed program, including overall construction activities, well plugging and abandonment, removal of oil pipelines, relocation of oil pipelines, restoration of wetland habitat, operations of oil wells and pipelines, and construction of the Seal Beach Visitor Center, Alternative 2 would comply with the appropriate existing regulations and policies. As such, Alternative 2 would result in less-than-significant impacts related to the routine transport, use, or disposal of hazardous materials, similar to the proposed program.

As with the proposed program, Alternative 2 would not be located within one-quarter mile of a school, would not be within two miles of a public airport or public use airport, and would not be within or near a very high or high fire hazard severity zone; therefore, no impacts would occur. Impacts under Alternative 2 would be similar to the impacts identified for the proposed program.

As the program area of Alternative 2 would be the same as the proposed program, several individual sites within the program area of Alternative 2 would be listed on one or more hazardous materials lists for the presence of active, idle, or plugged oil wells; historical releases

of contamination; and/or the presence of landfill materials. As such, Alternative 2 would comply with existing regulations and would implement similar mitigation measures as the proposed program to reduce the potential for harmful exposure to hazardous materials. Impacts under Alternative 2 would be less than significant with mitigation, and would be similar to the less-than-significant with mitigation impacts identified for the proposed program.

5.7.2.8 Hydrology and Water Quality

Installation of the culvert or set of culverts within the existing San Gabriel River levee would change the hydrology of the Central Area.

With regard to violating water quality standards or waste discharge, construction activities under Alternative 2 would be similar to those of the proposed program. As such, construction activities under Alternative 2 would be required to comply with the Construction General Permit for the State and the County MS4 Permit required as part of the permitting process. With regard to contaminated water and sediment from upstream sources, upstream sources that have the potential to impact water quality, these sources have identified watershed control measures that help jurisdictions meet the MS4 permit requirements and improve water and sediment quality in the rivers and channels. The concentration and loading of the water quality constituents from the watershed will be reduced through compliance with the reissued MS4 Permit, TMDLs, and the WMPs. Additionally, the culverts could be outfitted with trash racks to reduce trash coming into the Central Area, which would improve water quality in the Central Area. The potential for significant adverse impacts to the program would, therefore, be significantly reduced.

Reconnections of water bodies with poor water quality under Alternative 2 could also impact channels and marshes within the program area for Alternative 2 which may impact biological resources/beneficial uses. Alternative 2 would implement similar mitigation measures as the proposed program, the implementation of which would ensure monitoring and adaptive management is conducted to recognize and address any erosion, deposition, or sediment quality issues. Similar to the proposed program, since it is likely that sediment in certain areas of the program area will require remediation before restoration, remediation undertaken under Alternative 2 would improve conditions and be a benefit to groundwater quality. Restoration of Alternative 2 would also not impact ocean water quality as any sediment placed in an ocean disposal site would only be placed if it met the standards of the Ocean Disposal – Testing Manual. Based on the above, impacts related to water quality standards would be less than significant with mitigation, and similar to the less-than-significant with mitigation impacts identified for the proposed program.

As with the proposed program, Alternative 2 could include use of groundwater supplies, however, construction water supply needs would be temporary and are unlikely to be substantial. In addition, while operation of Alternative 2 would generate a demand for water supplies, water would be supplied through the City of Seal Beach and Long Beach Water District, and, as such, would not deplete groundwater supplies or impede sustainable groundwater management of the basin, similar to the proposed program. Impacts under Alternative 2 would be less than significant, and similar to the less-than-significant impacts of the proposed program.

Post-construction, Alternative 2 would reconnect the San Gabriel River to the Central Area, which could cause erosion of the marsh during a large storm event and could deliver sediment-laden runoff further down the river or to the ocean. If this sediment deposited in the San Gabriel River or the entrance of Alamitos Bay, it could impact flood management or navigation. However, the sediment dynamics analysis (refer to Appendix I) showed that the erosion of the Central Area during a 100-year storm event under the proposed program is expected to be minimal and Alternative 2 would result in even less erosion due to the culvert(s) limiting velocities inside the site. Additionally, Alternative 2 would implement similar mitigation measures as the proposed program, the implementation of which would ensure monitoring and adaptive management is conducted to recognize and address any erosion or deposition issues. Impacts under Alternative 2 would be less than significant after mitigation and less than the proposed program.

Alternative 2 would reconnect the San Gabriel River to the restored wetland floodplain by grading the Central Area to marshplain elevations and installing a culvert or set of culverts in the levees along the river. The expansion of the floodplain could increase water levels upstream, downstream, and at the site during storm events, thereby increasing off-site flooding. Hydrodynamic modeling of the proposed program (refer to Appendix H) showed that Alternative 2 would lower water levels in the San Gabriel River compared to existing conditions due to the extra flood storage in the site. Within the site under Alternative 2, water levels would increase compared to existing conditions, but the Perimeter Levee would be designed to maintain or increase the level of flood protection, similar to the proposed program. Impacts under Alternative 2 would be less than significant and similar to the proposed program.

Alternative 2 would include replacement of stormwater storage volume by creating low areas (e.g., basins or swales) between the roads and the proposed levee in the Central Area, as provided under the proposed program. These storage basins or bioswales would be sized to accommodate the local area drainage. These basins would also function as water quality treatment measures for a portion of the runoff from the existing paved areas. All drainage features throughout the program area would be designed in accordance with NPDES MS4 permit requirements. The potential impacts would be less than significant.

By design, Alternative 2 would alter existing drainage patterns of the site to allow for increased flooding within the targeted restoration areas in pursuit of mimicking pre-development conditions, while also providing flood protection of off-site properties through the construction of levees, berms, or flood walls. The levees, berms, or flood walls would be constructed in accordance with 33 U.S.C. Section 408 permit requirements. Therefore, Alternative 2 would alter drainage patterns and areas that would be susceptible to flooding, but would not impede or redirect flood flows to off-site areas. As a result, the potential impact related to altered drainage patterns and flood flows would be less than significant.

As with the proposed program, Alternative 2 would be located within a tsunami inundation zone. Alternative 2 would include flood protection measures that would be designed to limit flooding to the intended habitat areas consistent with pre-restoration conditions and provide sufficient protection to off-site areas. In addition, there would not be any storage of substantive quantities of

hazardous materials anywhere within the program area of Alternative 2 such that there would be risk of release from program inundation. Otherwise, the program area is not located adjacent to an enclosed or semi-enclosed water body such that there would be no risk of seiche waves that could affect the site. Impacts under Alternative 2 would be less than significant and similar to the less-than-significant impacts of the proposed program.

The Los Cerritos Channel and San Gabriel River, which are both located within the program area of Alternative 2, are both listed as impaired waterbodies for a number of constituents through the 303(d) and TMDL programs. Implementation of the proposed restoration program under Alternative 2 would allow for tidal flows into the program area, improving water quality conditions through vegetated wetlands and by limiting retention time and enhancing tidal exchange. The culvert(s) would also minimize the amount of sediment that comes into the Central Area and deposits on the restored program area during high storm flow events. As a result, Alternative 2, similar to the proposed program, would not conflict with or obstruct implementation of the water quality control plan, but would actually be a benefit to water quality. Impacts under Alternative 2 would be less than significant and similar to the less-than-significant impacts of the proposed program.

5.7.2.9 Land Use and Planning

Restoration under this alternative would include similar activities in the Program area as the proposed program and would require similar approvals. As with the proposed program, Alternative 2 would not conflict with land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect, including the Seal Beach General Plan, Seal Beach Municipal Code, Hellman Ranch Specific Plan, Long Beach General Plan, Long Beach Municipal Code, adopted SEADIP, proposed SEASP 2060 (for informational purposes), Long Beach Bicycle Master Plan, AELUP, SCAG 2016–2040 RTP/SCS, the California Coastal Act, and Long Beach Local Coastal Program. Impacts would be similar to the less-than-significant impacts identified for the proposed program.

5.7.2.10 Mineral Resources

Oil production would continue on the Central, Isthmus, and South Areas until the operations cease. Once the oil production ceases, the oil wells would be plugged, the associated infrastructure would be removed, and no economic resources would remain accessible within these areas. Therefore, there would be no impact under Alternative 2 and impacts would be similar to those identified for the proposed program.

5.7.2.11 Noise

Similar to the proposed program, Alternative 2 would require the use of heavy equipment during the construction activities on site and the type of equipment used would be similar to the equipment used for the development of the proposed program. One exception would be the equipment associated with the installation of the culvert(s) within the San Gabriel River levee, which would require the use of vibratory pile drivers. While vibratory pile drivers would produce greater noise as compared to the proposed program, the cities of Seal Beach and Long Beach exempt noise generated by construction activities during daytime hours depending on the day of

the week. As with the proposed program, construction of Alternative 2 would occur within these defined daytime hours and would not generate a substantial increase in ambient noise levels in the vicinity of the proposed program in excess of standards established in the local general plan or noise ordinance. Nonetheless, construction of Alternative 2 would implement recommended noise reduction measures similar to the proposed program. While overall required tug boat and/or haul truck trips would be reduced under Alternative 2 compared to the proposed program, since the levees would be smaller and, therefore, require less fill, impacts on a daily basis would be similar to those of the proposed program. As such, off-site construction traffic noise under Alternative 2 would similarly not generate a substantial increase in ambient noise levels in the vicinity of the proposed program in excess of standards established in the local general plan or noise ordinance. With regard to noise during operation, as operational activities under Alternative 2 would be similar to those of the proposed program, Alternative 2 would not generate a substantial increase in ambient noise levels in the vicinity of the proposed program in excess of standards established in the local general plan or noise ordinance. Impacts to noise during construction and operation under Alternative 2 would be less than significant, but greater than the less-than-significant impacts identified under the proposed program due to the use of vibratory pile drivers during construction.

With regard to vibration impacts during construction, the proposed program assumed that no rock blasting with explosives or pile driving would be used during program construction. However, under Alternative 2, vibratory pile drivers would need to be used for the installation of culverts within the San Gabriel River levee. This would increase the vibration generated during construction of Alternative 2. The operation of heavy equipment generates vibrations that propagate though the ground and diminish in intensity with distance from the source. Residences were conservatively assumed to be 50 feet from the program area boundary. Vibratory pile drivers would have a vibration level of 0.17 in/sec peak particle velocity (PPV) at a reference distance of 25 feet (FTA, 2018). Therefore, Alternative 2 would generate vibration levels at 50 feet that would not exceed the structural damage potential criteria of 0.5 in/sec PPV or exceed the vibration criteria for human annoyance of 0.04 in/sec PPV. Residences are located as close as approximately 50 feet outside of the program area boundary, and program restoration activities with the operation of heavy equipment (i.e., bulldozer) would not occur at the program area boundary. With regard to vibration during operation, as operational activities under Alternative 2 would be similar to those of the proposed program, vibration associated with operation of the program would be below the structural damage and human annoyance criteria. Therefore, the potential vibration impacts for structural damage at off-site residences and human annoyance during construction and operation of Alternative 2 would be less than significant, but greater than the less-then-significant impacts identified for the proposed program due to the use of vibratory pile drivers required for development of Alternative 2.

5.7.2.12 Public Services

As construction and operational components under Alternative 2 would be similar to the proposed program, there would be a similar potential increase in demand for fire protection and police protection services. Both Alternative 2 and the proposed program would result in a small incremental increase in demand for fire and police protection services. Similar to the proposed

program, this alternative, would not require new or physically altered government facilities. Impacts under Alternative 2 would be similar to the less-than-significant with mitigation impacts identified for the proposed program for fire protection and similar to the less-than-significant impacts identified for the proposed program for police protection.

5.7.2.13 Recreation

Similar to the proposed program, Alternative 2 would include the development of new recreational facilities, including the Seal Beach Visitor Center, overlooks, pedestrian trails, and potential sidewalk improvements, and would improve recreational resources in the City of Seal Beach and City of Long Beach. As noted above, since Alternative 2 includes the installation of a culvert or set of culverts rather than breaching the levee, this would allow for a loop trail to be constructed along the existing San Gabriel River levee and the Perimeter Levee and would allow for visitors to view areas within the proposed program that were once inaccessible areas on site, and gain better views of the on-site wetland habitat. Thus, impacts under Alternative 2 would be less than significant and similar to the less-than-significant impacts identified for the proposed program.

5.7.2.14 Transportation

As the height and footprint of the Perimeter and Interim Levees would be reduced under Alternative 2, compared to the proposed program, fewer tug boat and/or haul truck trips would be required overall; all other components of construction and operation under Alternative 2 would be similar to the proposed program. On a daily basis, Alternative 2 would be expected to require roughly the same level of construction effort and the number of construction vehicles as the proposed program and operation of Alternative 2 would be the same as the proposed program. As with the proposed program, Alternative 2 would implement mitigation during construction which would require the preparation and implementation of a traffic control plan and would serve to reduce impacts during construction. Impacts under Alternative 2 related to consistency with a program plan, ordinance, or policy addressing the circulation system as well as impacts related to increasing hazards would be less than significant with mitigation and similar to the less-than-significant impacts identified for the proposed program. As VMT produced under Alternative 2 would be similar to that of the propose program, impacts related to consistency with CEQA Guidelines section 15064.3, subdivision (b) would also be less than significant and similar to the less-than-significant impacts identified for the proposed program.

5.7.2.15 Tribal Cultural Resources

Similar to the proposed program, construction under this alternative would require ground disturbance; thus, there would be the potential to encounter tribal cultural resources. As such, Alternative 2 would implement similar mitigation measures as the proposed program. However, even with implementation of these mitigation measures, impacts to tribal cultural resources would be significant and unavoidable under Alternative 2. Impacts would be similar under Alternative 2 as compared to the impacts identified for the proposed program.

5.7.2.16 Utilities and Service Systems

As Alternative 2 would require similar construction and operational activities as the proposed program, water demand, wastewater generation, design of the on-site stormwater drainage facilities, electricity demand, and telecommunication demand would be the same under Alternative 2 as with the proposed program. As such, Alternative 2 would not result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. As with the proposed program, Alternative 2 would implement mitigation to reduce temporary pedestrian and traffic impacts during construction of water distribution lines and connections to the public main. As such, impacts would be less than significant with mitigation under Alternative 2. In addition, as water demand and wastewater generation during construction and operation of Alternative 2 would be similar to the proposed program, impacts related to available water supplies and capacity of wastewater treatment providers would be less than significant. Furthermore, as solid waste generation under Alternative 2 would be similar to that of the proposed program, impacts related to solid waste capacity of local infrastructure and consistency with federal, state, and local management and reduction statutes and regulations related to solid waste would be less than significant. All impacts analyzed under utilities and service systems for Alternative 2 would be similar to those of the proposed program.

5.7.2.17 Comparison of Impacts

As described above, under Alternative 2, a culvert or set of culverts would be installed within the northern San Gabriel River levee to connect the river to the Central Area rather than breaching the levee as in the proposed program. Additionally, the height and footprint of the Perimeter and Interim Levees would be reduced, compared to the proposed program. As such, all components of this alternative would remain the same as the proposed program except for the change to install a culvert or set of culverts rather than breach the levee in the Central Area and to reduce the height and footprint of the levees. Impacts related to noise and vibration were found to be greater under Alternative 2, while impacts related to soil erosion and top soil, GHG emissions, and wasteful, inefficient, and unnecessary consumption of energy would be less than the impacts under the proposed program. Impacts related to biological resources related to candidate, sensitive or special-status species, riparian habitat or sensitive natural communities, state or federally protected wetlands, native residential or migratory fish or wildlife species would be less than the impacts under the proposed program, but Alternative 2 would also create less wetland habitat than the proposed program because a portion of the levee along the San Gabriel River would not be removed and restored to wetlands. All impacts associated with the remaining environmental issues would be similar to impacts associated with the proposed program.

5.7.2.18 Relationship of the Alternative to the Project Objectives

Similar to the proposed program, Alternative 2 would meet all of the Project Objectives, in that it contains the same components as the proposed program.

5.8 Environmentally Superior Alternative to the Proposed Program

CEQA Guidelines Section 15126.6(e)(2) indicates that an analysis of alternatives to a project shall identify an Environmentally Superior Alternative among the alternatives evaluated in the EIR. The *CEQA Guidelines* also state that should it be determined that the No Program (No Build) Alternative is the Environmentally Superior Alternative, then the EIR shall identify another Environmentally Superior Alternative among the remaining alternatives.

A comparative summary of the environmental impacts anticipated under each alternative with the environmental impacts associated with the proposed program is provided above in Table 5-1, on page 5-28. A more detailed description of the potential impacts associated with each alternative is provided above. Pursuant to *CEQA Guidelines* Section 15126.6(c), the analysis presented above addresses the ability of the alternatives to "avoid or substantially lessen one or more of the significant effects" of the proposed program.

As previously stated, the intent of the alternatives analysis is to reduce the significant impacts of a project. Implementation of the proposed program would result in significant and unavoidable impacts on a program level with regard to emissions of NO_X, which would exceed the threshold for localized impacts to sensitive receptors. As the proposed program would have a localized impact from NO_X emissions, the proposed program would also have a significant impact related to consistency with the AQMP. In addition, the proposed program would have a significant and unavoidable impact related to historical resources, archaeological resources, and tribal cultural resources.

The No Program (No Build) Alternative would eliminate all of the significant impacts of the proposed program, including those related to consistency with the AQMP, localized emissions during construction, historical resources, archaeological resources, and tribal cultural resources, as there would be no change to the existing site conditions. As the No Program (No Build) Alternative eliminates the proposed program's significant impacts, it is determined to be the Environmentally Superior Alternative. In accordance with the *CEQA Guidelines* requirement to identify an Environmentally Superior Alternative other than the No Program (No Build) Alternative, Alternative 2 would reduce program impacts to biological resources related to candidate, sensitive or special-status species; riparian habitat or sensitive natural communities; state or federally protected wetlands; and native residential or migratory fish or wildlife species, and soil erosion and top soil, GHG emissions, and wasteful, inefficient, and unnecessary consumption of energy; however, Alternative 2 would not eliminate the significant impacts related to consistency with the AQMP, localized emissions during construction, historical resources, archaeological resources, and tribal cultural resources. In addition, impacts related to noise and vibration would be greater under Alternative 2. While the No Program (No Build) Alternative reduces impacts to a greater degree than the proposed program, in accordance with CEQA, the EIR is required to identify an Environmentally Superior Alternative other than the No Program (No Build) Alternative; as such, Alternative 2 is selected as the Environmentally Superior Alternative.

5.9 References

Environmental Science Associates (ESA). 2017. *Los Cerritos Wetlands Oil Consolidation and Restoration Project, Final Environmental Impact Report*, November 2017.

Federal Transit Administration (FTA). 2018. *Transit Noise and Vibration Impact Assessment Manual*, September.

Moffatt & Nichol. 2015. *Los Cerritos Wetlands Final Conceptual Restoration Plan*.

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Appendix B

Draft Monitoring and Adaptive Management Plan (MAMP) Framework

Introduction

The purpose of this hydrodynamics and water and sediment quality Monitoring and Adaptive Management Plan (MAMP) is to provide a framework for the Los Cerritos Wetlands Restoration (Program) for monitoring, assessing, and managing potential hydrodynamic and water and sediment quality impacts to biological resources and human health from and to the program after construction. These potential impacts have been identified and discussed in the Sediment Dynamics and Sediment Budget Analysis Report (ESA 2020a), the Hydrodynamic Modeling Technical Report (ESA 2020b), the Sediment and Water Quality Investigation Technical Report (ESA 2019), and the Draft Programmatic Environmental Impact Report (PEIR; ESA 2020c). Due to a number of unknown factors regarding existing sediment quality and post-project processes, post-construction monitoring and assessment will be needed to confirm that impacts remain less than significant. In the case where impacts are indicated based on comparisons to regulatory thresholds, adaptive management measures will be needed. This framework provides a summary of the potential post-construction impacts, the program features that are being taken to make them less than significant, and the monitoring program that will be the basis for continued assessment of these features. Adaptive management measures are also presented that would be taken if impacts are identified based on multiple lines of evidence. This framework meets the requirements of the CEQA process and provides the basis to develop a more detailed final MAMP.

Monitoring and Adaptive Management Framework

Figure 1 presents the MAMP framework that has been developed based on answering the following key questions for impacts from and to the program:

Impacts from the program

- Has the program increased deposition in the San Gabriel River to a point that could cause flooding?
- Is the site experiencing erosion that could threaten levee stability?
- Have exposure and/or migration of legacy constituents above thresholds in marsh sediments resulted in potential impact to biological resources?

Impacts to the program area

- Have dry weather flows and stormwater from the watershed and adjacent lands resulted in accumulation of constituents in sediments within wetlands at concentrations that result in a significant impact to biological resources or human health?

Current Monitoring

This MAMP has been developed with the recognition that existing monitoring can provide information to inform adaptive management of the Los Cerritos Wetlands Restoration project. The City of Long Beach conducts conditions surveys of the Alamitos Bay entrance as well as sediment sampling. Additionally, Los Angeles County and the Los Angeles County Flood

Control District (LACFCD) lead the Alamitos Bay/Los Cerritos Channel Coordinated Integrated Monitoring Program (CIMP). Thirteen cities and the LACFCD manage the Lower San Gabriel River CIMP. CIMPs assesses compliance with the MS4 Permit and measures the effectiveness of pollutant control measures.

Cooperation with regional monitoring programs is also important, as these programs provide developed standard protocols, baseline data, and the ability to compare to other estuaries in Southern California. The regional program includes the Southern California Bight Regional Monitoring program, which has a coastal wetland assessment component. This assessment framework can be used in combination with the framework presented in this MAMP to provide multiple lines of evidence to assess the health of the wetlands and inform management actions. Collaboration with these regional programs is fundamental to the development of the final MAMP, which will include reference to these programs and the methods, protocols, and baseline data developed under these programs.

Summary of Potential Impacts, Planned Mitigation Measures, and Effectiveness Monitoring

Potential hydrodynamic impacts may originate from the program due to increased deposition or erosion caused by the reconnection of the San Gabriel River to the Central Area and expansion of the connection to the South Area. Water and sediment quality impacts may originate from the program due to site grading that could cause exposure of sediment containing legacy constituents above regulatory thresholds. Impacts to sediment and water quality within the program may result from constituent loading from stormwater runoff from the watershed and surrounding urbanized areas adjacent the program area.

These and other potential impacts are summarized in Table 1 and categorized as either “impacts from the program” or “impacts to the program area.” Table 1 also summarizes the planned program features to avoid potential impacts from the program. The regional watershed measures to address the impacts to the program are also summarized. Watershed measures are the responsibility of the Permittees and listed parties to the applicable total maximum daily loads (TMDL) enforced through the municipal separate storm sewer system (MS4) stormwater permit. In the final column of Table 1, the planned monitoring to confirm the effectiveness of these features is summarized.

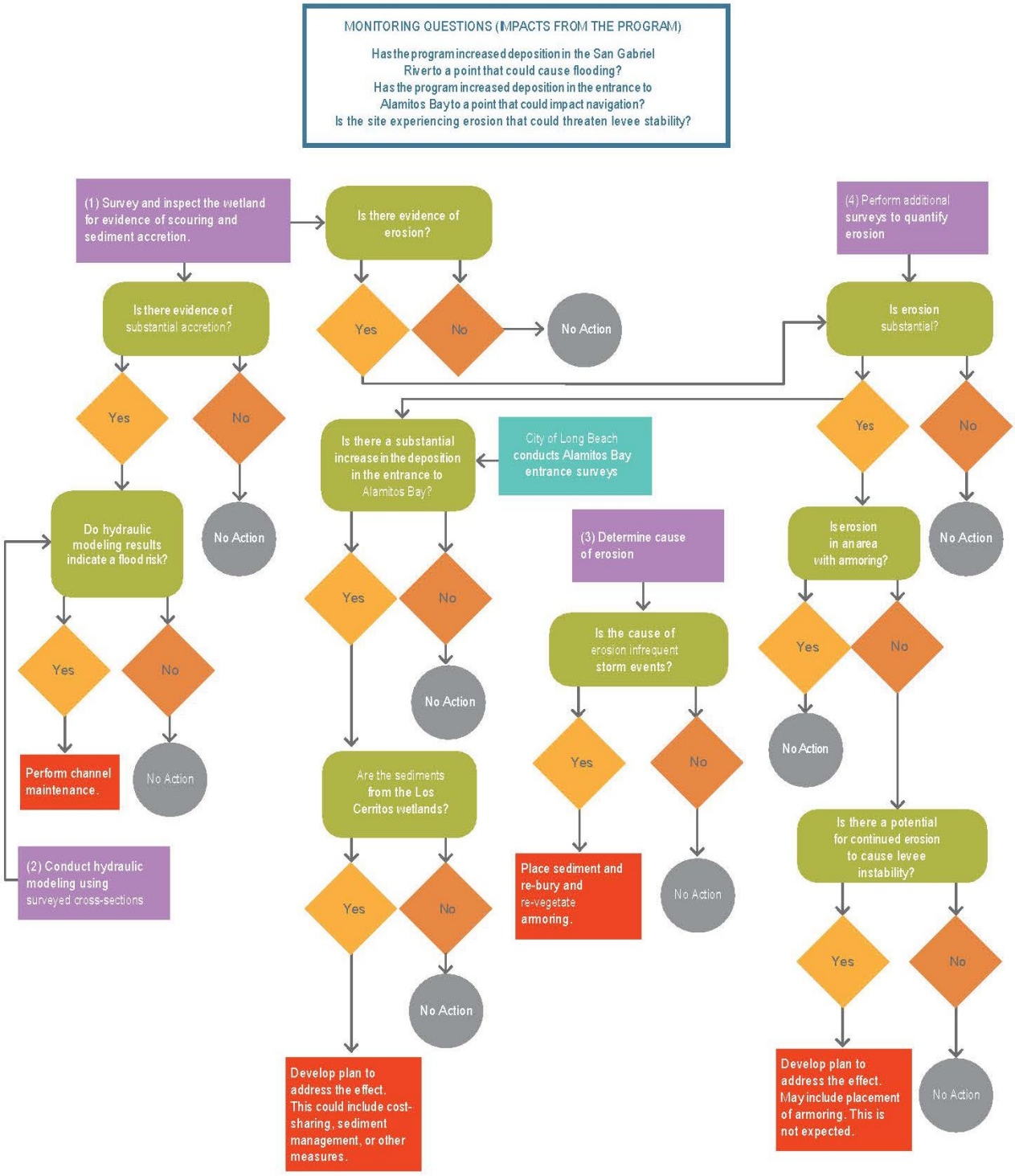
TABLE 1: SUMMARY OF POTENTIAL IMPACTS, MITIGATION MEASURES, AND EFFECTIVENESS MONITORING

Potential Impacts	Planned Program Features or Watershed Management Measures	Planned Post-Construction Monitoring to Assess Effectiveness of Mitigation Measures
"From the Program"		
Channel Deposition – Deposition in the San Gabriel River or entrance to Alamitos Bay could cause flooding or increase the amount of dredging for navigation	**New Levees in the Central Area** – The proposed levees in the Central Area are designed to accommodate some level of channel deposition and maintain flood protection. The Hydrodynamic Modeling Technical Report shows that the program increases the freeboard on the levees as proposed. The exact height of the levees with be refined during project-level analysis and include assessment of the maintenance limit that would maintain the current level of flood protection.	**Channel Cross-Section Monitoring** – Based on annual channel surveys, any locations with substantial channel deposition would be identified and channel cross-sections would be surveyed. The survey results would be compared to the maintenance limits established for the project. If channel surveys show that channel dimensions are reduced below the established maintenance limit in any location along the channel, the potential effect of the deposition on flood levels would be assessed. This assessment would include updating the hydraulic model with the surveyed channel dimensions to test whether the deposition would negatively affect flood performance. This assessment would be overseen by a qualified licensed professional civil engineer. If flood performance was found to be impacted, channel maintenance would be performed. If no impact was found, surveys would continue to be performed with an adjusted focus on areas of deposition. **Alamitos Bay Monitoring** – The City of Long Beach performs regular monitoring of elevations in the Alamitos Bay entrance. If significant erosion is observed in the program area, surveys would be performed to quantify the amount of erosion. Monitoring data from the harbor entrance would be assessed in coordination with the City of Long Beach to determine if a corresponding significant increase in deposition in the harbor entrance occurred. If such an assessment indicates that erosion from the wetlands could have potentially caused a significant increase in deposition, additional sampling of sediment deposits in the harbor entrance channel would be performed to assess sediment properties and compare them against sediment properties in the program area of erosion. If the project partners determine that erosion due to the program caused a significant increase in deposition in the entrance channel, then the partners would coordinate and agree to a plan to accommodate the increase in sediment deposition. This could include cost-sharing proportional to the increase in deposition, sediment management measures to re-use/replace deposited sediment within the program area, or other measures.

Potential Impacts	Planned Program Features or Watershed Management Measures	Planned Post-Construction Monitoring to Assess Effectiveness of Mitigation Measures
Channel Erosion – Erosion or migration of the channel could threaten levee stability	**Erosion Protection** – The program would provide erosion protection by realigning the flood risk management levees to the perimeter of the Central Area around the restored wetlands and restoring a wide vegetated floodplain that slopes from wetland to upland habitats along the new perimeter levees. This broad marshplain is expected to reduce storm flow depths and velocities near the new levees, thereby reducing the potential for levee erosion. Some gradual channel migration and periodic localized bank erosion and sedimentation would be expected to occur as is typical for natural river and estuary systems. The restoration is designed so that (1) this level of change would be acceptable for the habitat restoration and flood risk management and (2) the channel would not require regular maintenance. During project-level design, erosion protection features may be included to address areas where higher flows do occur and scour potential is increased.	**Erosion Monitoring** – Levees and channel banks in the Central Area would be inspected for erosion. Any locations of significant erosion would by assessed for potential effects. Inspection and assessment should be performed by a qualified licensed professional civil engineer. In any locations where erosion is observed, the area would be assessed to determine if the erosion is negatively affecting the levee integrity. If negative effects are determined, a plan would be developed, which could include actions such as placement of armoring or buried armoring. Note that this is not expected. If any locations of significant channel bank erosion are observed, the areas would be assessed for potential continued erosion that could negatively affect habitat or adjacent levees/infrastructure. If negative effects were determined, a plan would be developed, which could include actions such as placement of armoring or buried armoring. This is not anticipated.
Erosion of marsh sediments with legacy constituents – Legacy constituents at concentrations above thresholds could become exposed and/or migrate through stormwater runoff or new channel scouring.	**Pre-Construction Sediment Sampling** – A pre-construction sampling analysis plan would identify sediments with high levels of constituents and designate those sediments for burial or use in less effected habitats. As part of the final permit and design process, pre-construction sampling and analysis of sediment for legacy constituents that will be exposed or used as foundation material for the wetlands and upland habitat will be performed. This pre-construction sampling will provide additional representative characterization to address any potential impacts from identified legacy constituents above threshold levels that pose a significant impact to biological resources and human health. The testing and analysis will also meet dredge material characterization requirements for marine placement. The results of this sampling and analysis will be used to develop the sediment management specifications for the program.	**Monitoring of Marsh Sediment Quality** – Potential impact will be monitored in coordination with Permittees' TMDL monitoring of the San Gabriel River. The TMDL monitoring of the channel will be supplemented by sampling of sediment in new wetland channels subject to erosion and accumulation of migrated sediment and analyzed for legacy constituents (metals, PCBs, DDT, PAHs) and compared to TMDL sediment criteria. If the results indicate concentrations of these legacy constituents exceed the criteria, toxicity and benthic surveys will be conducted and results compared to Sediment Quality Objectives (SQOs). Further testing to identify the source of these constituents will be performed to confirm these results and the source of the constituents. Management action will be taken based on results of the analysis, confirmation sampling, and source identification studies.

Potential Impacts	Planned Program Features or Watershed Management Measures	Planned Post-Construction Monitoring to Assess Effectiveness of Mitigation Measures
Deposition of sediments with high constituents in the marsh – Constituents that are hydrophobic such as many metals, pesticides, and PAH will adsorb to sediment that is carried by stormwater to the wetland and settle out, potentially impacting the existing and restored wetland biological resources.	**Tidal Channel Design** – The program has been designed to allow for natural flushing and circulation within wetland channels to improve water quality. **Stormwater Treatment Best Management Practices (BMPs) –** The program will implement BMPs to collect and treat stormwater from outfalls that discharge directly to the wetlands. Bioswales are planned along the Central Area perimeter levee to remove sediment and constituents from runoff from the adjacent roadway.	**Monitoring of Watershed Storm Flows and Dry Weather Flows** – The Permittees under the Harbor Toxics TMDL will continue to monitor water and sediment quality from the watershed at the mouth of the San Gabriel River to track progress toward and confirm attainment of load reductions and TMDL targets. **Monitoring of Wetland Channel Sediment Quality** – Long-term monitoring of existing and new wetland channels, which are subject to stormwater discharge, will be performed in accordance with approach outlined in this MAMP. The TMDL monitoring of the river will be supplemented with sampling of sediment in existing and new wetland channels, which are subject to accumulation of migrated sediment from watershed and adjacent property, analyzed for legacy constituents (metals, PCBs, DDT, PAHs), and compared to TMDL sediment criteria. If the results indicate concentrations of these legacy constituents exceed the criteria, toxicity and benthic surveys will be conducted and results compared to Sediment Quality Objectives (SQOs). Further testing will be performed to confirm these results and determine the source of the constituents (Is the source from the watershed, site, or adjacent properties?). Management action will be taken based on results of the analysis, confirmation sampling and source identification studies. If stormwater is determined to be the source, additional BMPs may be implemented.

Figure 1
Accretion and Erosion Monitoring and Adaptive Management Flow Chart



Accretion and Erosion Framework Steps

As presented in Figure 1, the MAMP framework provides steps that are to be taken in coordination with other monitoring efforts. The steps of the framework are highlighted in purple, which differ from the current monitoring elements, in teal. Each step includes decision points that determine if the next step is taken or if no further action is needed. The decision points are shown in Figure 1 as questions in green with yes or no responses.

Step 1: Erosion and Accretion Monitoring. The framework begins with program monitoring for evidence of scouring and sediment accretion. These site inspections and surveys are to be conducted on an annual basis.

Step 2: Hydraulic Modeling. If the surveys conducted in Step 1 show that the San Gabriel River has experienced enough accretion to reach the maintenance limits of the channel, hydraulic modeling will be conducted to determine any potential impacts to flooding. This assessment would include updating the hydraulic model with the surveyed channel dimensions to test whether the deposition negatively affects flood performance. This assessment would be overseen by a qualified licensed professional civil engineer.

Management Actions. If hydraulic modeling shows the accretion in the channel could cause flooding, channel maintenance would be performed.

Step 3: Quantify Erosion. In areas where the inspection in Step 1 shows substantial erosion, the erosion would be quantified through additional surveys.

Step 4: Assess Cause of Erosion. In areas where the inspection in Step 1 shows substantial erosion (as determined by Step 3) the cause of the erosion would be evaluated. A licensed civil engineer would assess whether erosion is due to an infrequent event and whether placement of sediment to re-bury and re-vegetate is likely to be sustainable. This assessment may include continuing focused monitoring.

Management Actions. If the erosion is determined to be due to infrequent storm events, sediment may be placed and re-vegetation could occur. If the erosion is occurring in an area without armoring, armoring could be placed to protect levee stability. This is not expected.

Step 5. Sediment Sampling. If surveys conducted by the City of Long Beach show an increase in the deposition in Alamitos Bay during the same period that substantial erosion from the marsh has been observed, sediment sampling will be conducted to determine sediment properties in the marsh. These properties will be compared to data from the City of Long Beach in the marina entrance to determine if the increased sediment is a result of the program.

Management Actions. If sediment sampling shows the increase in deposition or lowered sediment quality in the marina entrance is due to the program, then the partners will coordinate and agree to a plan to accommodate the increase in sediment deposition. This could include cost-sharing proportional to the increase in deposition, sediment management measures to re-use/replace deposited sediment within the program area, or other measures.

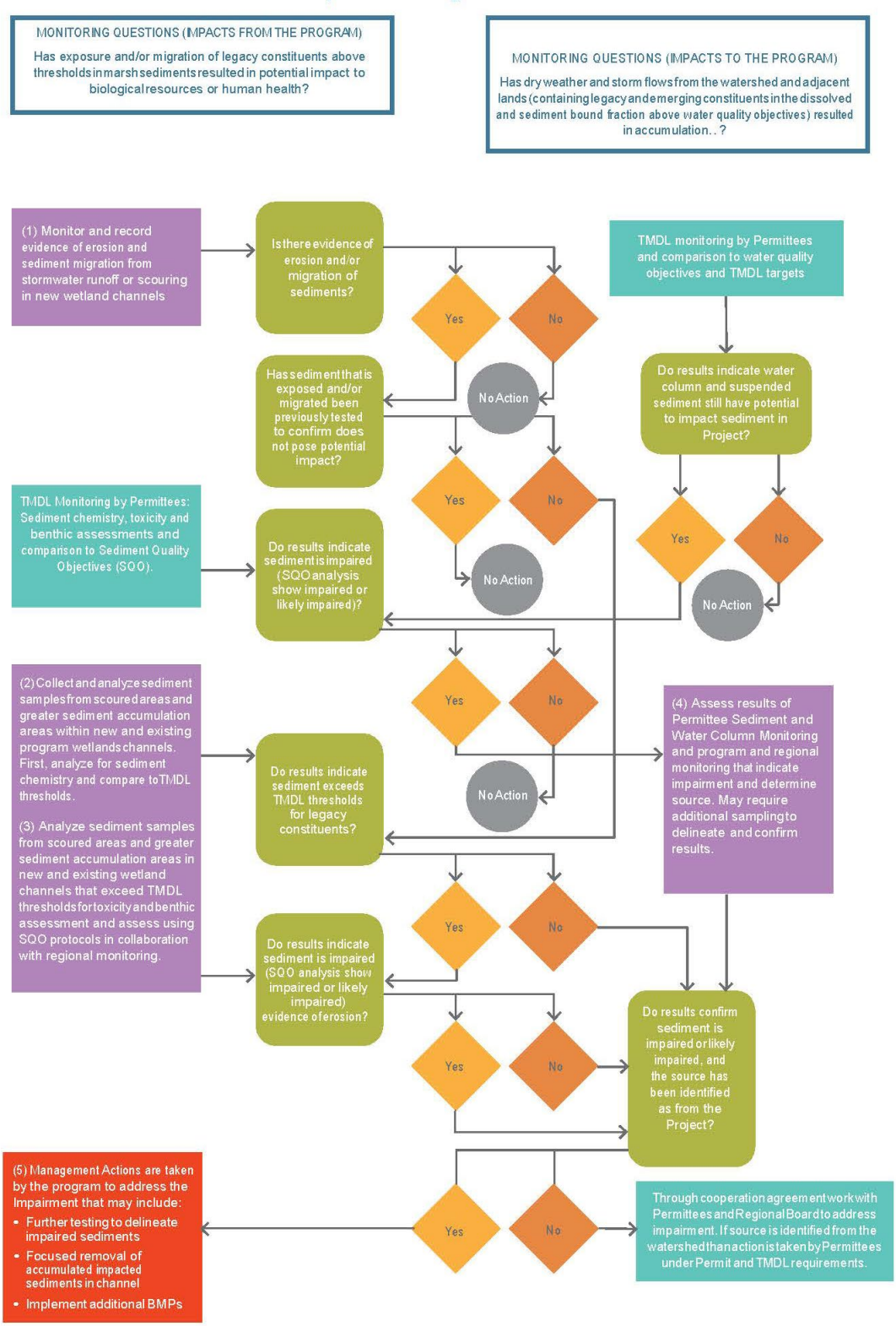
Water and Sediment Quality Framework Steps

Step 1: Erosion and Accretion Monitoring. The framework begins with program monitoring of the wetland channels for evidence of scouring and sediment accretion (Figure 2). These site inspections are to be conducted on an annual basis. Evidence of scouring or accumulation of sediments in new channels will be identified and recorded. The observed or likely source of the sediment that has accumulated will be assessed and recorded. Potential observations of scouring and erosion and likely potential sources are listed in the table below:

Example Potential Observations	Potential Likely Sources
Accumulation of sediments in existing or new wetland channels near observed stormwater runoff outfall or erosion in upland area	• Stormwater runoff from adjacent land that may or may not be managed through program BMPs • Stormwater from upland area that has • channelized and eroded existing soils
Accumulation of sediments in wetland channels in areas that are predicted for higher sediment accretion from the watershed with no evidence of local channel scouring	• Watershed storm flows
Accumulation of sediments in wetland channels in areas that are predicted for higher sediment accretion from the watershed, but also show evidence of local channel scouring	• Watershed storm flows • Localized scouring of wetland channels
Scouring of the San Gabriel River observed and accumulation of sediments in adjacent and downstream wetland channels	• San Gabriel River sediments
Accumulated sediment in new channels with multiple observations of San Gabriel River and wetland channel scouring and likely loading from the watershed	• Watershed storm flows • Localized scouring of wetland channels • San Gabriel River sediment

These observational data are to be used in combination with previous baseline and pre-construction testing of sediments to determine if additional action is needed. If previous testing indicated no potential impact from sediments in areas that have been exposed, or in accumulated sediments from a known site source, then no further action is needed. If exposure or accumulated sediment is from an on- site source that has not been characterized, then further program monitoring is needed. This additional program monitoring would be conducted in coordination with the results of the Permittees TMDL monitoring of the San Gabriel River water column and sediments. If the TMDL monitoring identifies through SQO assessment that the sediments are impaired or likely impaired, than these results will inform further program monitoring as outlined in the framework in Figure 2.

Figure 2
Water and Sediment Quality Monitoring and Adaptive Management Flow Chart



Step 2: Sediment Testing. If the erosion and accretion monitoring and review of existing sediment quality data indicate further monitoring is required, then the second step would include the sampling and analysis of targeted sediment within wetlands channels. For this step the analysis will be limited to chemical analysis of legacy and identified new constituents such as synthetic pyrethroid pesticides. The concentrations of these constituents will be compared to TMDL sediment quality targets based on the effects range low (ER-Ls) or other applicable thresholds for the emerging pollutants.

Step 3: Toxicity and Bioassessment Testing. If the ER-L targets or thresholds are exceeded, further analysis of the sediment will be conducted to include toxicity and benthic bioassessment to assess the sediments using SQO methods.

Step 4. Determine Source. If the sediment is identified through the SQO process to be impaired or likely impaired, then the next step would be conducted. This step includes an assessment of all the data from the various monitoring programs and identification of the likely or known sources of the constituents that are predominant in resulting in the impaired condition. This may require additional monitoring and testing. For example, to determine the sources of sediment impairment in accumulated sediment in new wetland channels, evaluation of the chemistry data may indicate that the presence of synthetic pyrethroid pesticides above the L_{50} based threshold. Further testing of the sediments could indicate that the sediment results in a toxic response to marine arthropods. Toxicity identification evaluations (TIE) testing could then indicate that the toxicity is due to these pesticides. Since these pesticides have only recently been introduced and heavily use (last 10 years), the analysis could conclude that the source of sediment was from recent watershed or adjacent urbanized land storm flows. The analysis would show that the sediment is likely from the watershed where these pesticides are used.

Management Actions. Management actions will be taken if the results of steps 1 through 4 confirm sediment is impaired or likely impaired, or linked to fish tissue exceedance, and the source has been identified as from the Project. Management actions that may be taken by the Project to address the impairment include:

- **Further testing to delineate impaired sediments** – further delineation of the sediment that contains constituents that are resulting in impairment may be needed to limit the extent and depth of sediment to be managed.

- **Focused removal of impacted sediments in channel –** following delineation of the sediments that contain concentrations above the thresholds and result in SQO identified impaired or likely impaired conditions, management actions may require focused removal of sediment. Sediment removal would be balanced with impacts to sensitive species and habitat within the wetlands channels. No sediment removal outside the channels is recommended due to the potential impact to habitat.

- **Implementation of Additional BMPs –** additional BMPs to treat stormwater from adjacent lands that discharge to the wetlands may be needed to remove constituents that continue to accumulate in sediments within the wetland channels.

Management actions will also be taken if the results indicate that the sources of impaired or likely impaired sediments or fish tissue exceedance are from constituents present in storm and/or dry flows from the watershed. For these management actions, the Project will work with Permittees and the Los Angeles Regional Water Quality Control Board through cooperation agreements to address the impairment. If the source of the impairment is identified directly due dry weather or storm flows from the Ballona watershed, and from constituents under an existing TMDL, than action will be taken by Permittees under Permit and TMDL requirements.

Summary

This framework outlines the monitoring and assessment elements needed to determine if Project features and watershed actions are effective in addressing potential impacts to biological resources or human health. This framework also uses monitoring to assess sources, if impacts are determined through comparison to established thresholds and compliance targets. As Program features address potential accretion, erosion, and water and sediment quality impacts, the monitoring outlined in the framework is to assess the effectiveness of these features. In addition, this framework addresses the potential unknowns that include the potential erosion and accretion of sediments, the potential exposure and migration of sediment that has not been previously characterized and contains constituents above the thresholds, and the potential accumulation of emerging pollutant from the watershed that are not addressed in the current TMDL, such as synthetic pyrethroid pesticides. This monitoring and adaptive management framework therefore provides an additional Program feature to mitigate for the uncertainties that are not fully addressed by the Program or through the existing monitoring for the watershed and Alamitos Bay.